BRANTLEY ENGINEERING, LLC

February 7, 2022

Mr. Hart, P.G.
Florida Department of Environmental Protection (FDEP)
2600 Blairstone Road, MS 4500
Tallahassee, Florida 32399

Subject: **Final Certification Report for**
Cell 14 Construction and Quality Certification Report
J.E.D. Solid Waste Management Facility (WACS #89544)
St. Cloud, Osceola County, Florida
FDEP Construction Permit No. 0199726-031-SC-01

Dear Mr. Hart:

Brantley Engineering, LLC is writing to provide documentation and certification of the Cell 14 Construction project for the JED Solid Waste Management Facility (JED facility) located in Osceola County, Florida.

Based on our monitoring of the construction and installation activities involved with this project and the field and laboratory testing conducted throughout the project, it is our professional opinion that the Cell 14 Construction project was performed in general accordance to the project requirements and according to the design drawings and technical specifications. This certification report summarized the Construction and Quality Assurance (CQA) activities performed by Brantley Engineering, LLC during construction of the Cell 14 Disposal Area at the JED facility. The CQA activities were performed to confirm that the construction materials and procedures were in compliance with the Construction Permit No. 0199726-031-SC-01 issued by the Florida Department of Environmental Protection (FDEP) and in accordance with Chapter 62-701, Solid Waste Management Facilities, Florida Administrative Code (FAC).

This report has been uploaded to the FDEP FTP/website in its entirety. FDEP form #62-701.900(2) titled *Certification of Construction Completion of a Solid Waste Management Facility,* duly completed and signed, has also been uploaded to the FDEP FTP/website.

If you have any questions or need additional information regarding this certification, please contact me at (678)-427-2533 or Mr. Kirk Wills with Waste Connections at (813) 388-1026.

Sincerely,
Brantley Engineering, LLC

Allan S. Brantley, Florida PE#68030
President

ALLAN S. BRANTLEY LICENSE No 68030 STATE OF FLORIDA PROFESSIONAL ENGINEER
ASB 2-7-22

Cc: Kirk Wills – WCN
Attachments

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Reset Form | Print Form

Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion of a Solid Waste Management Facility
Effective Date May 19, 1994

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: 0199726-031-SC-01 County: Osceola

Name of Project: Cell 14 Construction

Name of Owner: Waste Connections of Osceola County, LLC

Name of Engineer: Brantley Engineering, LLC

Type of Project: Construction of a Class I Landfill Disposal Cell (Cell 14); Including: Geosynthetics Installation, Storm Water Devices, and Leachate Collection System.

Cost: Estimate $ 5 Million Actual $ 5.1 Million

Site Design Quantity: Approx 6,500 ton/day Site Acreage: 363 Acres

Deviations from Plans and Application Approved by DEP (attach additional pages as needed):

Leachate pipes were flushed and partially video inspected as authorized by Rule 62-701.500 (8)(h). Rule 62-701.500 (8)(h) indicates water pressure cleaned or inspected by video recording.

Address and Telephone No. of Site: 1501 Omni Way, St. Cloud, Florida 34773
Tel: (407) 891-3720

Name(s) of Site Supervisor: Kory Broussard, (337) 230-0365

Date Site inspection is requested: As soon as possible

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: 0199726-031-SC-01 Dated: September 7, 2016

Date: February 7, 2022

ALLAN S. BRANTLEY LICENSE No 68030 STATE OF FLORIDA PROFESSIONAL ENGINEER
ASB 2-7-22

Signature of Professional Engineer

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FINAL CERTIFICATION REPORT
JED CELL 14 CONSTRUCTION

J.E.D. SOLID WASTE MANAGEMENT FACILITY
OSCEOLA COUNTY, FLORIDA

PREPARED FOR:

WASTE CONNECTIONS OF OSCEOLA COUNTY, LLC
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
Tel: (407) 891-3720

WASTE CONNECTIONS
Connect with the Future

PREPARED BY:

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Brantley
Engineering, LLC

Submitted: February 7, 2022

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1 INTRODUCTION

1.1 Overview

This certification report summarizes the Construction Quality Assurance (CQA) activities performed by Brantley Engineering, LLC during construction of Cell 14 at the J.E.D. Solid Waste Management (JED) facility, a Class I landfill, located in Osceola County, Florida. The JED facility is owned by Waste Connections of Osceola County, LLC (WCOC), a Waste Connections Company (WCN). The CQA activities performed by Brantley included monitoring of:

- earthwork construction;
- geosynthetics installation;
- leachate management system construction; and
- miscellaneous activities associated with development and ongoing operation of the landfill.

The CQA activities were performed to confirm that the construction materials and procedures were in compliance with Solid Waste Construction Permit No. 0199726-031-SC-01, issued by Florida Department of Environmental Protection (FDEP) and in accordance with Chapter 62-701, Solid Waste Management Facilities, Florida Administrative Code (FAC).

Cell 14 was constructed in accordance with the above-mentioned permit and associated permit drawings. This certification report was prepared for Kirk Wills, Southern Region Engineer with WCN. The report was prepared by Allan Brantley, PE, and reviewed by Sam Nejad, PE, both of Brantley Engineering, LLC.

1.2 Report Organization

The remainder of the certification report is organized as described below.

- Section 2 provides a brief description of the project;
- Section 3 presents a summary of the CQA program;
- Section 4 provides a description of the CQA monitoring and testing activities performed during earthwork related construction activities in Cell 14;
- Section 5 provides a description of the CQA monitoring and testing activities performed during the geosynthetics installation in Cell 14;
- Section 6 provides a description of the CQA monitoring and testing activities performed during construction of the leachate collection system in Cell 14;
- Section 7 presents a description of the CQA monitoring and testing performed during miscellaneous construction activities associated with development and ongoing operation of the landfill; and

- Section 8 presents a summary of the observations resulting from the CQA monitoring and testing activities performed by Brantley and a certification statement signed and sealed by a professional engineer registered in the State of Florida.

A List of CQA Monitoring and Liner Installation Personnel for this project are included in Appendix A. Pre-Construction Soils Laboratory Testing Results are included in Appendix B. Soils Field Testing Results are included in Appendix C. The Manufacturer's Quality Control Certificates are included in Appendix D. Conformance Test Results are included in Appendix E. Subgrade Acceptance Certificates are included in Appendix F. Geomembrane Installation logs for the Secondary Layer and Primary Layer are included in Appendices G and H, respectively. The Florida JetClean Report for leachate collection line cleaning verification is included in Appendix I. Daily Field Monitoring Reports of construction activities are included in Appendix J. Project Photos of major construction activities are included Appendix K. The Sump Pump and Control Panel Functionality Certification Letter is included in Appendix L. Record drawings for Top of Subgrade As-Built, Secondary Layer 60 Mil HDPE As-Built, Primary Layer 60 Mil HDPE As-Built, Top of Protective Cover Sand As-Built, and the Final Topographic As-Built are included in the Project Figures section of this report.

2 PROJECT DESCRIPTION

2.1 General

The JED facility is located in eastern Osceola County, Florida, west of highway U.S. 441, approximately 6.5 miles south of Holopaw. The landfill facility is connected to highway U.S. 441 by a 2.86-mile paved access road, which was constructed as part of the overall project site development.

The JED facility comprises a total of approximately 2,179 acres. The landfill footprint at final build-out is approximately 363 acres and consists of a total of 23 landfill cells that provide available waste capacity for approximately 25 years. Cell 14 is the first cell to be constructed as part of the Phase 5 development with a footprint of approximately 19.6 acres (Cells 14&15 comprise the Phase 5 area). This report primarily addresses the CQA activities performed during construction of Cell 14.

2.2 Construction Activities

This certification report pertains to CQA monitoring and testing activities performed for construction of Cell 14. The construction of Cell 14 included earthwork, liner system installation, and leachate collection system construction as indicated in the Cell 14 Construction Drawings prepared for the construction of Cell 14. The Cell 14 design incorporates a double-liner system and other engineering controls that meet or exceed the requirements of Chapter 62-701, FAC. The Cell 14 liner system consists of the following components (from top to bottom):

- minimum 24-in thick liner protective soil layer;
- primary geocomposite drainage layer, consisting of a high-density polyethylene (HDPE) geonet with a needle-punched, non-woven geotextile heat bonded to each side, hereafter referred to as primary geocomposite;
- primary liner, consisting of a 60-mil thick textured HDPE geomembrane;
- primary geosynthetic clay liner (GCL) within the sump area consisting of an internally reinforced composite, composed of granular sodium bentonite encapsulated between a needle-punched non-woven geotextile and a woven geotextile;
- secondary geocomposite drainage layer, consisting of a HDPE geonet with a needle-punched, non-woven geotextile heat bonded to each side, hereafter referred to as secondary geocomposite;
- secondary liner, consisting of a 60-mil thick textured HDPE geomembrane;
- secondary GCL consisting of an internally reinforced composite, composed of granular sodium bentonite encapsulated between a needle-punched non-woven geotextile and a woven geotextile; and

- minimum 6-in thick prepared liner subbase.

The Cell 14 leachate collection system consists of the following components:

- one (1) 8-in nominal diameter HDPE perforated leachate collection pipe surrounded by gravel aggregate and non-woven geotextile filter fabric installed along the cell floor as part of the primary leachate collection system;
- one (1) 6-in nominal diameter HDPE perforated leachate collection pipe surrounded by gravel aggregate and non-woven geotextile filter fabric installed within the cell as part of the secondary leak detection system;
- two (2) 24-in nominal diameter HDPE primary sump risers and associated sections of 24-in nominal diameter HDPE perforated leachate sump pipes;
- one (1) 24-in nominal diameter HDPE secondary sump riser and associated section of 24-in nominal diameter HDPE perforated leachate sump pipe; and
- leachate pumps, piping, valves, and system controls.

Cell 14 also included a gas collection system constructed on top of the primary liner and included the following components:

- 6-in nominal diameter HDPE perforated pipes wrapped in the primary geocomposite at the limit of liner on the North, South and West sides of Cell 14 and associated valves at the termination on West side of the cell for future connection to the GCCS System; and
- 8-in nominal diameter HDPE perforated pipe set within the top of the primary sump gravel for future connection to the GCCS System.

3 CONSTRUCTION QUALITY ASSURANCE PROGRAM

3.1 General

The scope of CQA monitoring, testing, and documentation services performed by Brantley during the construction of Cell 14 at the JED facility included review of documents, field CQA operations, and preparation of this final certification report which includes record drawings for the liner system. These activities are described in the following sections of this report.

Brantley provided the CQA monitoring, testing, and documentation for this project. Geosyntec Consultants, Inc. provided the original design and construction drawings. A list of personnel involved in construction of Cell 14 at the JED facility is included in Appendix A of this report.

Earthwork activities associated with the Cell 14 construction commenced on April 8, 2021. The liner system installation in Cell 14 commenced on July 20, 2021 and substantially completed on November 4, 2021. Protective soil layer placement in Cell 14 commenced on September 23, 2021 and substantially completed on November 23, 2021. Construction of Cell 14 (described in this certification report) was substantially completed on December 21, 2021.

3.2 Related Documents

The CQA activities conducted by Brantley were intended to satisfy the requirements of the following documents:

- Solid Waste Construction Permit No. 0199726-031-SC-01;
- Technical Specifications, Cell 14 Construction, JED Facility, prepared and submitted by Geosyntec Consultants, dated April 12, 2021;
- Construction Quality Assurance (CQA) Plan, J.E.D. Solid Waste Management Facility Cell 14, prepared and submitted by Geosyntec Consultants, dated April 12, 2021;
- Construction drawings titled J.E.D. Solid Waste Management Facility, St. Cloud, Florida, Cell 14 Construction, January 2021, signed April 12, 2021, prepared by Geosyntec Consultants.

All of the above documents are collectively referred to in this certification report as the CQA Documents. During construction, minor deviations were made to these documents to include clarifications to the intent of the design and to accommodate existing site conditions or preferred construction techniques. However, no substantial changes were made to the CQA Documents.

3.3 Field CQA Operations

The CQA activities performed by Brantley personnel during the Cell 14 construction are listed in the following subsections.

Earthwork:

- collected samples of soils used as general fill to construct the subgrade and liner subbase in Cell 14 for testing at an off-site geotechnical laboratory;
- collected samples of soils used for protective soil layer for testing at the off-site geotechnical laboratory;
- reviewed and evaluated geotechnical laboratory test results to ensure compliance with the requirements of the CQA Documents;
- monitored placement, grading, and compaction of earthwork related construction activities;
- tested in-situ density, moisture content, and percent compaction of earthwork related construction activities to ensure compliance with the requirements of the CQA Documents;
- notified Contractor of areas that need additional compaction based on failing in-situ tests and re-testing these areas to ensure compliance with the requirements of the CQA Documents; and
- monitored anchorage of the geosynthetics in the perimeter anchor trenches.

Geosynthetics:

- monitored delivery, storage, and tracked the inventory of geosynthetic materials delivered for the project;
- coordinated the collection of geosynthetic conformance samples from in-plant sources or delivered rolls and forwarded samples to an off-site geosynthetics testing laboratory;
- collected and reviewed geosynthetic manufacturers' quality control (MQC) certification documents and geosynthetic laboratory conformance test results to verify compliance with the requirements of the CQA Documents;
- monitored installation of geosynthetic materials in Cell 14 including trial seams, production seaming, nondestructive testing, and repair operations; and
- performed destructive testing of geomembrane seams at the minimum frequency required by the CQA Documents.

Leachate Collection System:

- reviewed quality control (QC) documents of materials used in the leachate collection system, geotechnical laboratory conformance test results on aggregate samples, and

geosynthetic laboratory conformance test results on geotextile filter/separator fabric samples to verify compliance with the requirements of the CQA Documents; and

- monitored construction of the leachate collection system in Cell 14.

Miscellaneous Activities:

- monitored pressure cleaning of the Cell 14 leachate collection system piping;
- monitored installation of the piping associated with the base/perimeter gas collection system; and
- monitored installation of sump risers, concrete surface pads, leachate pumps, leachate piping and system controls.

During construction activities involving monitoring and/or testing, the observations made and results obtained by Brantley CQA personnel were compared with the requirements of the CQA Documents. In the event of deficiencies in construction practices and/or materials, the construction manager and the appropriate Contractor were notified to take appropriate corrective actions. The corrective actions were monitored and/or tested by CQA personnel to confirm compliance with the requirements of the CQA Documents.

3.4 Certification Report and Record Drawings

Record drawings for Cell 14 liner subbase, primary and secondary geomembrane panel layouts, liner protective soil cover, and the leachate collection and removal system piping, and this CQA certification report were prepared as the final task of the CQA program for construction of Cell 14. The record drawings are included in the Project Figures section of this report. This certification report summarizes the CQA activities performed by Brantley.

During construction of Cell 14, CQA monitoring and testing activities were documented by CQA personnel in Daily Field Reports found in Appendix J of this report. QC certificates for the geosynthetics, other construction materials, and surveyor's data were provided to Brantley for review. These and other construction-related documents are maintained by WCOC and Brantley, and will be made available for FDEP review upon request. Results of CQA monitoring and testing activities that are critical with respect to the satisfactory performance of Cell 14 at the JED facility and protection of the surrounding environment have been summarized in a tabular form in this certification report.

3.5 Project Personnel

Major personnel or representatives of the firms involved in the project are as follows:

Owner:	Waste Connections of Osceola County, LLC
	Kirk Wills, Southern Region Engineer
	Kory Broussard, District Manager

CQA Consultant:	Brantley Engineering, LLC.
	Allan Brantley, PE, Engineer of Record/CQA Project Manager
	Kevin Lesley, CQA Site Manager
	Andrew Vickers, CQA Technician
	Sam Nejad, CQA Technician
	Justin Preston, CQA Technician
Earthwork Contractor:	Gulfstream Building Group, Inc. (GBG) and Florida Environmental Services (FES)
	Scott Holmes, Project Manager (GBG)
	Corey Kirton, Site Project Manager (FES)
	William Hair, Soils Superintendent (FES)
Geosynthetics Installer:	Comanco Environmental Corp., Plant City, FL
	Thomas Topp, Project Manager
	Elizabeth Surface, Project Engineer
	Gerardo Ruiz, Geosynthetics Superintendent
Surveyor:	BSM & Associated, Inc., Okeechobee,
	Ricky Barnes, PSM
Geotechnical Laboratories:	Excel Geotechnical Testing, Roswell, GA
	Nader Rad, Ph.D., P.E., Project Manager
Geosynthetics Laboratory:	TRI/Environmental, Inc., Anaheim, CA
	Christian Sebastian, Project Manager

4 CQA – EARTHWORK

4.1 General

Brantley monitored earthwork related to the Cell 14 construction and other miscellaneous construction activities. Earthwork activities related to Cell 14 included construction of the perimeter berm on the west side of Cell 14, construction of the intercell berm on the south side of Cell 14, construction of subgrade and 6-inch thick liner subbase, installation of the protective soil layer, and anchorage of the geosynthetic components of the double-composite liner system.

The materials used to construct Cell 14 included general fill and protective soil. General fill was used to construct the perimeter berm, intercell berm, subgrade and 6-inch thick liner subbase in Cell 14, and to anchor the geosynthetics. Protective soil was used for the minimum 2-ft thick protective soil layer over the geosynthetic liner system.

CQA personnel observed the earthwork related construction activities and tested the soils to confirm that the material properties conformed to the CQA Documents, maximum lift thicknesses were not exceeded, and compaction requirements were met. During construction, geotechnical soil tests were performed at off-site geotechnical laboratories under the supervision of Dr. Nader S. Rad, P.E. The off-site geotechnical laboratory utilized was Excel Geotechnical Testing (EGT), Roswell, Georgia.

4.2 Soil Source and Requirements

The general fill and protective layer soils were obtained from the Borrow Area C located just east of the leachate collection ponds. Representative samples of general fill and protective layer soils were obtained and tested to verify conformance with specified material requirements in the CQA Documents. The geotechnical tests were performed to confirm that the following requirements were met for the general fill and protective layer soils:

- *General Fill:* classified as SP and SP-SM in accordance with the Unified Soil Classification System (USCS) per ASTM D 2487 and was relatively free of debris, foreign objects, large rock fragments, organic matter, and other deleterious materials. Additionally, general fill used as liner subbase in Cell 14 was free of sharp materials or materials larger than 0.5 inches.
- *Protective Layer Soils:* classified as SP and SP-SM in accordance with the USCS; had maximum particle size of 0.5 inches; typically had fines content of less than 10 percent; and were relatively homogeneous soils free of deleterious materials. Regardless of the classification, protective layer soil was required to exhibit a hydraulic conductivity no less than 1.0×10^{-3} cm/sec when tested in accordance with ASTM D 2434.

A description of the geotechnical tests performed on placed materials and results of these tests are presented below.

4.3 CQA Monitoring and Testing

Brantley's CQA personnel monitored the placement and/or compaction of soils as described in Section 3. Brantley had personnel on site on a full-time basis during completion of major earthwork activities.

As part of the CQA activities, geotechnical testing was performed on the soils used for the construction of Cell 14. Testing was performed at an off-site geotechnical laboratory (Section 3.5).

The following geotechnical tests were performed:

- in-situ nuclear moisture/density tests on compacted lifts of general fill (the tests were performed in accordance with ASTM D 2922 for density and ASTM D 3017 for moisture content);
- in-situ density tests using the drive cylinder method (ASTM D 2937) to compare to the density tests results obtained using the nuclear gauge;
- moisture content tests on general fill in accordance with ASTM D 2216;
- standard Proctor compaction tests on general fill in accordance with ASTM D 698;
- grain-size analysis or fines content determination in accordance with ASTM D 422, ASTM C 136, or ASTM D 1140;
- hydraulic conductivity tests on the protective layer soils in accordance with ASTM D 2434; and
- interface friction tests, as discussed in the CQA Documents.

Brantley supplied one Humboldt Model #HS-5001SD nuclear gauge (Serial No. 6638) that was used to perform the moisture/density tests. The gauge was calibrated daily prior to use by the "standard count" method. These counts were recorded on a standard count log. The in-situ density tests using the drive cylinder method (ASTM D 2937) were performed periodically and compared with the density test results obtained using the nuclear gauge to ensure that the gauge was functioning properly.

4.4 General Fill

CQA personnel monitored the excavation (from the Borrow Area C), placement, and compaction of general fill, which was used to construct the Cell 14 perimeter berm, intercell berm, subgrade, 6-in thick liner subbase, and anchorage of geosynthetics. CQA personnel assessed existing subgrade to confirm that unsuitable materials were removed. General fill-related activities performed by the Contractor consisted of the following:

- proof rolled subgrade to detect soft or loose zones using articulated off-road dump trucks;
- excavated and hauled general fill from Borrow Area C using tracked excavators and articulated off-road dump trucks, respectively;
- placed and spread general fill in relatively thin lifts using bulldozers;
- compacted general fill using smooth drum and sheep foot rollers;
- scarified the surface of each compacted lift using tracks of a bulldozer prior to placement and compaction of subsequent lifts; and
- surveyed the limits and elevations of the compacted general fill (As-built survey drawings from the surveyor are included in the Project Figures section of this report.

General fill was required to be compacted to at least 95 percent of the corresponding standard Proctor (ASTM D 698) maximum dry unit weight. The tests performed on compacted general fill materials are discussed below. The CQA laboratory reports for the general fill samples are included in Appendix B-Section 1.

4.4.1 Standard Proctor Tests

Standard Proctor tests were performed to evaluate the percent compaction from the measured in-situ densities of compacted general fill. Standard Proctor tests were required to be performed at a minimum frequency of 1 test per 25,000 cubic yards (cyd) of compacted general fill.

Fourteen (14) Standard Proctor tests were performed during construction for approximately 346,711 cyd of compacted general fill placed as part of the Cell 14 construction. The laboratory results are provided in Appendix B-Section 1. The actual CQA test frequency of 1 test per 24,765 cyd (approx.) of compacted general fill exceeds the minimum testing frequency required by the CQA Documents.

4.4.2 Density and Percent Compaction

In-situ nuclear moisture/density tests were required to be performed at a frequency of 5 tests per acre per lift for earthwork performed using general fill (equivalent to approximately 1 test per 215 cyd). If the density test failed to meet the minimum compaction requirements, the Contractor reworked and re-compacted the area surrounding the failure and the area was retested by CQA personnel. The procedure was repeated until satisfactory moisture/density test results were obtained at each test location.

Approximately 346,711 cyd of general fill were used to construct Cell 14. The in-situ nuclear moisture/density tests performed to evaluate the compaction of general fill in Cell 14 are presented in Appendix C. A total of 1,987 nuclear moisture/density tests were performed, which correspond to a CQA test frequency of 1 test per 174 cyd (approx.) of compacted general fill which exceeds the minimum testing frequency required by the CQA Documents.

4.4.3 Grain Size Analyses and USCS Classification

Grain-size distribution analyses (ASTM D 422) were performed to evaluate the USCS classification (ASTM D 2487) of general fill materials used to construct Cell 14. Grain size distribution analyses and USCS classification were required to be performed at a minimum frequency of 1 test per 10,000 cyd of compacted general fill.

Thirty-five (35) grain size distribution analyses and USCS classification were performed during construction for approximately 346,711 cyd of compacted general fill placed as part of the Cell 14 construction. The actual CQA test frequency of 1 test per 9,906 cyd (approx.) of compacted general fill meets the minimum testing frequency required by the CQA Documents. The grain size distribution analyses and USCS classification performed during construction of Cell 14 are presented in Appendix B-Section 2. As noted, the general fill materials used to construct Cell 14 are classified as SM or SP-SM in accordance with the USCS classification.

4.4.4 Drive Cylinder Tests

In-situ moisture/densities were measured using the drive cylinder method (ASTM D 2937) periodically to verify the moisture/density test results obtained using the nuclear gauge. One hundred fourteen (114) moisture/densities were measured using the drive cylinder method for the general fill used to construct Cell 14 and are presented in Appendix C. A drive cylinder was collected for approximately every 17 nuclear density tests performed, meeting the minimum testing frequency required by the CQA Documents. As noted, the densities measured using the two methods were in general agreement.

4.4.5 Anchorage of Geosynthetics

Brantley CQA personnel periodically monitored the method of anchorage for the geosynthetic materials along the perimeter berm (on east side of Cell 14) and the intercell berm between Cell 14 and future Cell 14. Along the north and east side of Cell 14, each layer of geosynthetics was tied into the respective layer of geosynthetics from Cell 8, Cell 9, and Cell 13. The construction sequence for the anchor trenches was as follows:

- a 2-ft deep by 2-ft wide (minimum) trench was excavated approximately 2 feet from the inside crest of perimeter berm and 6 feet from the inside crest of the intercell berm;
- the geosynthetic components were then placed in and depending upon the material, across the bottom of the anchor trench and ballasted with sandbags; and
- the anchor trench was backfilled with general fill and compacted.

A small, low ground pressure, tracked excavator, hand shovels and brooms were used to carefully remove the existing protective cover soil from an approximate 7-ft wide swath along the length of the north and east side of Cell 14 where the geosynthetic layers of the adjacent existing Cell 12 and Cell 13 were to be tied into. When the Installer was ready to deploy the

secondary GCL along the tie-in area, the following tie-in activities were performed: (i) the existing primary geosynthetic components (primary geocomposite and primary geomembrane) and the secondary geocomposite were cut open and folded back to expose the secondary liner, and (ii) the similar geosynthetic components from Cell 14 were overlapped, fastened, or welded to the existing adjacent geosynthetic components as shown in Detail E3 on Sheet 7 of 18 of the Construction Drawings and as described in Section 5.

4.5 Protective Soil Layer

Protective soil was used to cover the geosynthetic components of the liner system in Cell 14. The minimum thickness of the protective soil layer atop the geosynthetic components of the liner system in Cell 14 was 2 feet.

Sandy soils from the Borrow Area C were used as protective soil. CQA personnel monitored the placement of the protective soil in Cell 14. The construction sequence of protective soil layer was as follows: (i) articulated dump trucks hauled the sandy soils from Borrow Area C to Cell 14, and (ii) the sandy soils were placed and spread using low ground pressure bulldozers.

During placement of the protective soil, CQA personnel monitored the Contractor's activities such that the risk of damage to the underlying geosynthetics was minimized. CQA personnel also confirmed that at least a 2-ft thick layer of sandy soils was maintained over the geosynthetics where the Contractor operated the dozer equipment. A minimum 3-ft thick layer of sandy soils was maintained where the articulated off-road dump trucks operated. Brantley also reviewed the certified survey for the protective cover soil layer, submitted by the Contractor, to ensure compliance with the CQA Documents.

Grain-size distribution analyses (ASTM D 422), soil classification in accordance with USCS (ASTM D 2487), and hydraulic conductivity (ASTM D 2434) tests were performed on samples of protective soil at an off-site geotechnical laboratory. Grain-size distribution analyses, soil classification, and hydraulic conductivity tests were performed at a minimum frequency of 1 test per 5,000 cyd of in-place protective soil.

A total of approximately 60,690 cyd of protective soil was placed in Cell 14. Thirteen (13 grain-size distribution analyses (and USCS classification) and hydraulic conductivity tests were performed on the protective layer soils placed in Cell 14. The CQA laboratory reports for the protective soil samples are included in Appendix B-Section 2. The actual CQA test frequencies of 1 test per 4,668 cyd (approx.) for grain-size distribution analyses, USCS classification, and hydraulic conductivity met the minimum testing frequencies required by the CQA Documents. As noted, the measured hydraulic conductivities of protective soil exceeded the minimum hydraulic conductivity of 1.0×10^{-3} cm/sec required by the CQA Documents.

5 CQA – GEOSYNTHETICS

5.1 General

Brantley monitored the installation of the geosynthetic components of the double composite liner system in Cell 14, as described in Section 2. The on-site CQA personnel would monitor typical activities such as; deployment, seaming, pressure testing, vacuum testing, trial welds, repairs, and destructive sampling.

5.2 CQA of Geosynthetic Clay Liner

5.2.1 Conformance Testing and Documentation

A geosynthetic clay liner (GCL) was used in construction of the secondary liner system, and primary liner system within the sump area in Cell 14. Bentomat ST GCL, manufactured by Colloid Environmental Technologies Company (CETCO) was used for the project. Conformance samples of the GCL were collected (from the rolls produced for the project) by TRI, which coordinated with the manufacturer to collect the CQA samples at CETCO's manufacturing plant. TRI also performed the CQA conformance testing in accordance with the CQA Documents on the samples of the GCL collected.

The MQC certificates and test results, and the CQA conformance test results were reviewed by CQA personnel and were found to be in compliance with the CQA Documents. The GCL MQC certificates have been included in Appendix D-Section 1.

A total of four (4) CQA conformance samples were tested for approximately 936,000 square feet (ft^2) of GCL delivered to the site for installation in Cell 14. The actual CQA test frequency of 1 test per 234,000 ft^2 of GCL exceeded the minimum testing frequency of 1 test per 270,000 ft^2 required by the CQA Documents. As a minimum, one conformance sample was tested during CQA from each lot of GCL supplied for the project. The CQA laboratory test results for the GCL conformance samples have been included in Appendix E-Section 1.

The hydraulic conductivity of GCL was tested using deionized water as the permeant fluid during MQC and CQA testing. Comparison studies using deionized water and leachate from the JED facility were performed previously for Cells 1 and 4. It was determined that the measured hydraulic conductivity of GCL using leachate as the permeant fluid was less than the measured hydraulic conductivity of GCL using deionized water as the permeant fluid, i.e., it is conservative to measure the hydraulic conductivity of GCL using deionized water.

5.2.2 Field Monitoring Activities

5.2.2.1 Delivery and On-Site Storage

Upon delivery, GCL rolls were unloaded in an area located southeast of the Cell 14 construction area, stacked on an elevated soil berm, and covered with plastic tarps. The rolls were typically transported on site by an off-road forklift equipped with a stinger bar. CQA

personnel periodically monitored the Installer's delivery, unloading, and storage procedures and observed that the GCL was handled in an appropriate manner. The CQA personnel also compared the roll numbers of the GCL rolls delivered to the manufacturer's bill of lading. An inventory of the rolls delivered for the project was maintained by the CQA personnel. This inventory also includes the rolls that were approved for installation based on MQC and CQA test results and the rolls that were used during construction. Only approved rolls were incorporated into the work.

5.2.2.2 Deployment

Prior to GCL deployment, the Installer signed a certificate of acceptance for the liner subbase, which is included in Appendix F. The GCL rolls were lifted using a stinger bar attached to a skid steer w/forklift attachment. The rolls were deployed by inserting a spreader bar attached to a low-ground pressure, track-mounted skid steer vehicle and unrolled. Panels were re-positioned as necessary using laborers.

CQA personnel monitored the deployment of the GCL rolls. During deployment, the CQA personnel checked for the following:

- manufacturing defects;
- damage that may have occurred during shipment, storage, and handling; and
- damage resulting from installation activities.

If any materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations to verify conformance with the requirements of the CQA Documents.

CQA personnel also periodically monitored the deployment of the GCL as well as its condition after installation to ensure that the Installer followed the following procedures:

- the GCL was unrolled and placed in a manner which kept the GCL in sufficient tension to avoid excessive wrinkling and was securely anchored in the anchor trench or ballasted with sand bags;
- the rolls were deployed with the woven geotextile in contact with the geomembrane;
- adjacent GCL panels were overlapped a minimum of 6 inches along the length of the panels and 12 inches along the width of the panels and granular bentonite was added between overlap along the width of panels and repaired areas;
- measures were taken to keep the GCL free of contamination and protected from premature hydration; and
- geomembrane installation immediately followed installation of the GCL.

Any observed holes or tears in the GCL were repaired by the Installer by placing a patch of the same material over the hole or tear and at a distance of at least 1 foot beyond the edges of

the hole or tear. Granular bentonite was added around the damaged area prior to overlaying the patch material. In areas where premature hydration of the GCL was detected, the GCL was removed and replaced with new material.

5.3 CQA of Textured Geomembrane

5.3.1 Conformance Testing and Documentation

A 60-mil textured HDPE geomembrane was installed as primary and secondary liners in Cell 14. The 60-mil textured geomembrane, Micro Spike double sided HD, was supplied by AGRU America, Inc., (Agru). Conformance samples of textured geomembrane were collected (from the rolls produced for the project) by TRI, which coordinated with the manufacturer to collect the CQA samples at Agru's manufacturing plant. TRI also performed the CQA conformance testing in accordance with the CQA Documents on the samples of textured geomembrane collected.

The MQC certificates and test results and the CQA conformance test results were reviewed by CQA personnel and were found to be in compliance with the CQA Documents. The geomembrane MQC certificates and conformance test results are included in Appendices E and F, Section 2, respectively.

A total of nineteen (19) CQA conformance samples were tested for approximately 1,875,420 ft^2 of textured geomembrane delivered to the site for installation in Cell 14. The actual CQA test frequency of 1 test per 98,706 ft^2 for the textured geomembrane exceeded the minimum frequency of 1 test per 100,000 ft^2 required by the CQA Documents. As a minimum, one conformance sample was tested during CQA from each resin lot supplied for the project. The CQA laboratory test results for the geomembrane conformance samples have been included in Appendix E-Section 2.

5.3.2 Field Monitoring Activities

5.3.2.1 Delivery and On-Site Storage

Upon delivery to the site, geomembrane rolls were stored in an area located south of the Cell 14 construction area (i.e., future Cell 14 footprint) and stacked on an elevated soil berm. The rolls were typically transported by an off-road forklift with a spreader bar attachment or using the nylon slings which were attached to each roll. CQA personnel periodically monitored the Installer's delivery, unloading, and storage procedures to ensure that the material was handled in an appropriate manner. CQA personnel also compared the roll numbers of the geomembrane rolls delivered to the manufacturer's bill of lading. An inventory of the rolls delivered for the project was maintained by the CQA personnel. This inventory also includes the rolls approved for installation based on MQC and CQA test results and the rolls used during construction. Only approved rolls were incorporated into the work.

5.3.2.2 Deployment

The geomembrane rolls were lifted using a spreader bar attached to a track-mounted skid steer vehicle with forklift attachment. The panels were deployed by unrolling the geomembrane rolls using the low-ground pressure, track-mounted skid steer vehicle with forklift attachment. The individual panels were re-positioned as necessary using laborers.

CQA personnel monitored the deployment of each geomembrane panel. During deployment, the CQA personnel checked for the following:

- manufacturing defects;
- damage that may have occurred during shipment, storage, and handling; and
- damage resulting from installation activities, including damage as a consequence of panel placement, seaming operations, or weather.

If any materials were observed to be damaged or deficient, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed and documented the repair locations to verify compliance with the CQA Documents. Details of the geomembrane panel deployment were recorded by CQA personnel on panel deployment logs, which are included in Appendices H and I, Section 1, for Secondary and Primary respectively.

5.3.2.3 Trial Seams

Prior to production seaming, the Installer prepared geomembrane trial seams for each piece of seaming equipment to be used. Additional trial seams were prepared approximately every five hours or when field conditions changed. CQA personnel evaluated the trial seams as follows:

- trial seams were welded under similar conditions as production seaming;
- test strips were cut from the trial seams at random locations with a die press;
- five (5) test strips were tested using a field tensiometer and compared to the passing criteria for the tests, which were as follows:

  Fusion

  - *Peel tests - a minimum bonded seam strength of 91 lb/in (inside/outside); and*
  - *Shear test - a minimum bonded seam strength of 120 lb/in.*

  Extrusion

  - *Peel test - a minimum bonded seam strength of 78 lb/in; and*
  - *Shear test - a minimum bonded seam strength of 120 lb/in.*

If trial welds failed, the machine or welding process was adjusted and a new trial seam was prepared. The new sample was tested to ensure compliance with the above strength requirements. The procedure was repeated, as needed, until passing results were obtained.

Trial seam samples were not archived. Details of the trial seams, including the trial seam test results, are included in Appendices H and I, Section 2, for Secondary and Primary, respectively.

5.3.2.4 Production Seams

Geomembrane production seaming operations were monitored by CQA personnel. The majority of the geomembrane production seams were fabricated using double-track fusion welders. Seam repairs were made using hand-held extrusion welders. Rub sheets were periodically used during production seaming to provide a clean surface to weld over. During or after fabrication, the geomembrane seams were visually examined for workmanship and continuity. Geomembrane fusion seaming logs are included in Appendices H and I, Section 3 for Secondary and Primary, respectively. Geomembrane extrusion seaming logs are included in Appendices H and I, Section 4 for Secondary and Primary, respectively.

5.3.3 Nondestructive Seam Testing

5.3.3.1 Scope

Nondestructive testing of geomembrane seams was monitored by CQA personnel. All geomembrane seams were nondestructively tested for continuity by the Installer using the air pressure procedure for double-track fusion seams and the vacuum-box test procedure for extrusion welded seams. Failed air pressure seams, if applicable, were capped and then retested using vacuum-box test methods after determining the failed seam length. Leaks identified using the vacuum-box method were repaired and retested as described in Section 5.3.5.

5.3.3.2 Air Pressure Testing

Accessible double-track fusion seams were nondestructively tested using the air pressure test. The procedure used by the Installer for air pressure testing was as follows:

- visually observed the integrity of the annulus of the section of seam being tested and isolated the section by sealing the ends using heat and pressure;
- inserted the needle of the pressure test apparatus into the annulus at one end of the seam;
- inflated the annulus to a gauge pressure between 25-30 psi with an air pump and maintained the gauge pressure for at least 5 minutes;
- repaired faulty areas in accordance with Section 5.3.5 if the pressure loss exceeded 3 psi or if the pressure did not stabilize; and

- confirmed airflow through the entire annulus by releasing the air from the seam at the opposite end from where the needle was inserted.

5.3.3.3 Vacuum-Box Testing

The vacuum-box was used by the Installer to nondestructively test extrusion seams and repairs. The procedure used by the Installer for vacuum testing was as follows:

- wetted a strip of seam with a soapy solution;
- placed the vacuum-box assembly over the wetted area, closed the bleed valve and opened the vacuum valve;
- forced the box onto the sheet until vacuum was observed;
- examined the seam through the viewing window for a period of approximately 20 seconds for the occurrence of air bubbles;
- removed the assembly and continued the process over the entire length of the seam; and
- recorded the location of any leaks.

Nondestructive seam air pressure test results are presented in Appendices H and I, Section 6 for Secondary and Primary, respectively. Nondestructive vacuum box test results are presented in Appendices H and I, Section 5 for Secondary and Primary, respectively. If nondestructive testing indicated that repairs were necessary, repairs were made in accordance with procedures presented in Section 5.3.5. All repairs were tested using the vacuum-box test procedure.

5.3.4 Destructive Seam Sample Testing

5.3.4.1 Scope

CQA personnel identified and collected geomembrane seam samples for destructive testing in accordance with the CQA Documents. These samples were tested at an off-site geosynthetics laboratory. For a destructive seam sample to be considered as passing, the seam strength criteria described in Section 5.3.2.3 had to be met for at least four out of the five test specimens obtained from the sample. Additionally, if one non-FTB failure was observed, the average of the five test specimens had to meet the specified strength criterion.

5.3.4.2 Sampling Procedures

Prior to the removal of the full seam sample, two geomembrane test strips were taken by the Installer from either end of the proposed destructive sample. Each strip was peel-tested in the field. If the peel samples exhibited passing results, the adjacent destructive seam sample was removed and tested. At each destructive seam sample location, a test sample measuring approximately 12 inches across the seam and 42 inches along the seam was obtained. The

sample was divided into three pieces and distributed to: (i) the off-site geosynthetics laboratory for testing, (ii) the Installer, and (iii) the Owner as an archive sample.

5.3.4.3 Test Results

Laboratory testing of geomembrane seam samples was performed in accordance with the CQA Documents. For destructive seam testing, five 1-in wide test specimens were removed from the destructive seam sample using a die press. Five test specimens were peel-tested for adhesion strength using a calibrated tensiometer. For fusion seams, peel tests were performed on both the bottom (inside track) and top (outside track) edges. Additionally, five specimens were tested for shear strength. The seam acceptance/rejection criteria described in Sections 5.3.2.3 and 5.3.4.1 were used to evaluate the destructive seam samples.

The CQA laboratory destructive test results for the secondary and primary liner have been included in Appendices H and I, Section 7 respectively. For the primary liner installed in Cell 14, ninety-one (91) destructive seam samples were tested for a total fusion seam length of 41,664 linear ft. (approx.). This corresponds to an approximate sample frequency of 1 per 458 lf of fusion seam. For secondary liner installed in Cell 14, eighty-seven (87) destructive seam samples were tested for a total fusion seam length of 41,070 linear feet (approx.). This corresponds to an approximate sample frequency of 1 per 472 lf of seam. For the primary liner in Cell 14, six (6) destructive seam samples were tested representing extrusion repairs. The tie seam was fusion welded instead of an extrusion weld. For the secondary liner in Cell 14, eight (8) destructive seam samples were tested for a total extrusion seam length of 1,579 linear ft. (approx.). This corresponds to an approximate sample frequency of 1 per 1978 lf of extrusion seam. The actual destructive seam test frequencies exceeded the minimum frequency of 1 per 500 lf of production seams required by the CQA Documents.

A total of 178 destructive fusion seam samples and 15 destructive extrusion seam samples were tested during the installation of the geomembrane liners. Seams identified by a failing destructive seam sample were tracked in both directions (i.e., seam welded before "B" and after "A" the location of the failing destructive sample) in accordance with the CQA Documents until passing destructive seam samples were achieved. The section of the seam between passing destructive seam samples was capped. There were no failing destructive seam samples for this project.

5.3.5 Geomembrane Repairs

The repair procedures presented in this subsection were used by the Installer to patch holes and tears, spot-extrude impact damage or other minor defects, and for grinding and extrusion welding small sections of failed fusion seams (if the exposed edge was accessible). In the cases where patches or caps were used to repair the damaged geomembrane (i.e., small holes, tears, or on seams which failed nondestructive or destructive testing), an approximately 12-in. wide capping strip was used.

During the repair or panel tie-in operations, the following procedures were implemented:

- technicians and seaming equipment used were required to pass trial welds;
- patches or caps extended at least 6 in. beyond the edge of the defect and all corners were rounded; and
- repairs were tested using vacuum box and visually observed for continuity.

Repair summary logs prepared by Brantley during CQA activities are included in Appendices H and I, Section 5 for secondary and primary liner, respectively. Record drawings illustrating layout of panels, location of seams, destructive samples, and repairs are included in the Project Figures section of this report.

5.4 CQA of Secondary Geocomposite

5.4.1 Conformance Testing and Documentation

The secondary geocomposite used was Transnet 270-2-6 manufactured by SKAPS. Secondary geocomposite conformance samples were collected (from the rolls produced for the project) by TRI, which coordinated with the manufacturer to collect the CQA samples at the SKAPS' manufacturing plant. TRI also performed the CQA conformance testing on the samples of the secondary geocomposite collected.

The MQC certificates and test results and the CQA conformance test results were reviewed by CQA personnel and were found to be in compliance with the CQA Documents. The results of the MQC and CQA conformance tests results for the 323 rolls (936,700 ft^2) produced for the project are provided in Appendices E and F, Section 3, respectively.

A total of five (5) CQA conformance samples were tested for approximately 936,700 ft^2 of secondary geocomposite delivered to the site for installation in Cell 14. The actual CQA test frequency of 1 test per 187,340 ft^2 of the secondary geocomposite meets the minimum frequency of 1 test per 200,000 ft^2 required by the CQA Documents for transmissivity, ply adhesion, mass per unit area, grab strength, and trapezoidal tear strength. Note that both sides of the geotextile component were tested for mass per unit area, grab strength, and trapezoidal tear strength. In addition, four (4) of these five (5) samples were tested for apparent opening size and permittivity. The actual CQA test frequency of 1 test per 468,350 ft^2 of the secondary geocomposite meets the minimum frequency of 1 test per 500,000 ft^2 required by the CQA Documents for apparent opening size and permittivity. A minimum of one conformance sample was tested during CQA from each geocomposite lot.

The transmissivity of the secondary geocomposite was measured under compressive stresses of 700 psf for 24 hours and 15,000 psf for 100 hours. The tests were performed with the secondary geocomposite sandwiched between two 60-mil HDPE textured geomembranes. The transmissivity of the secondary geocomposite reported is the minimum transmissivity measured during the 24 and 100-hour tests.

The CQA laboratory test results for the secondary geocomposite conformance samples have been included in Appendix E-Section 3.

5.4.2 Field Monitoring Activities

5.4.2.1 Delivery and On-Site Storage

Upon delivery to the site, secondary geocomposite rolls were stored in an area located south of the Cell 14 construction area (i.e., future Cell 14 footprint) and stacked on an elevated soil berm. The rolls were typically transported by an off-road forklift. CQA personnel periodically monitored the Installer's delivery, unloading, and storage procedures to ensure that the material was handled in an appropriate manner.

CQA personnel also compared the roll numbers of the secondary geocomposite rolls delivered to the Manufacturer's bill of lading. An inventory of the rolls delivered for the project was maintained by the CQA personnel. This inventory also includes the rolls that were approved for installation based on MQC and CQA test results and the rolls that were used during construction of Cell 14. Only approved rolls were incorporated into the work.

5.4.2.2 Deployment

CQA personnel monitored the deployment of the secondary geocomposite for manufacturing defects, damage that may have occurred during shipment, storage, and handling, and damage resulting from installation activities. If the materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations to verify conformance with the CQA Documents.

CQA personnel periodically monitored the deployment of the secondary geocomposite, as well as its condition after installation, to confirm that the Installer took measures to:

- securely anchor the geocomposite in the anchor trench or ballast it with sand bags;
- unroll the geocomposite down the slope (i.e., rolls were aligned perpendicular to the leachate leak detection corridor) in a manner that kept the panel in sufficient tension to avoid excessive wrinkling;
- avoid entrapment of dust, stones, or other objects that would damage or clog the geocomposite;
- avoid damaging the underlying geomembrane during deployment;
- overlap the bottom geotextile edges;
- secure the geonet component of adjacent geocomposite panels with nylon fasteners, installed along the panel at maximum 5-ft spacing on slopes greater than 10 percent and 10-ft spacing on the cell floor, and at 1-ft spacing on end seams; and
- overlap and continuously sew the upper geotextile edges.

Any observed holes in the geotextile component of the secondary geocomposite were repaired by placing a patch of non-woven geotextile over the hole that extended at least one foot beyond the edge of the hole. These patches were continuously thermally bonded to the undamaged portion of the geocomposite. This method was also used along the tie-in at the toe of the slope and along trimmed panels. Any observed holes or tears in the geonet component of the composite were repaired by the Installer by placing a patch of the same material over or under the hole or tear, at least 2-ft beyond the edges of the hole or tear. These patches were secured using nylon fasteners, followed by thermal bonding of the uppermost geotextile of the patch to the undamaged portion of the geocomposite.

5.5 CQA of Primary Geocomposite

5.5.1 Conformance Testing and Documentation

The primary geocomposite used was Transnet 330-2-8 manufactured by SKAPS Industry (SKAPS). The primary geocomposite conformance samples were collected by TRI, which coordinated with the manufacturer to collect the CQA samples at the SKAPS' manufacturing plant in Commerce, Georgia. TRI also performed the CQA conformance testing on the samples of primary geocomposite collected.

The MQC certificates and test results and the CQA conformance test results were reviewed by CQA personnel and found to be in compliance with the CQA Documents. The MQC and CQA conformance test results for 380 rolls (936,700 ft²) of primary geocomposite are provided in Appendices E and F, Section 3, respectively.

A total of five (5) CQA conformance samples were tested for approximately 936,700 ft^2 of primary geocomposite delivered to the site for installation in Cell 14. The actual CQA test frequency of 1 test per 187,340 ft^2 of the primary geocomposite meets the minimum frequency of 1 test per 200,000 ft^2 required by the CQA Documents for transmissivity, ply adhesion, mass per unit area, grab strength, and trapezoidal tear strength. Note that both sides of the geotextile component were tested for mass per unit area, grab strength, and trapezoidal tear strength. In addition, four (4) of these five (5) samples were tested for apparent opening size and permittivity. The actual CQA test frequency of 1 test per 468,350 ft^2 of the primary geocomposite meets the minimum frequency of 1 test per 500,000 ft^2 required by the CQA Documents for apparent opening size and permittivity. A minimum of one conformance sample was tested during CQA from each geocomposite lot.

The transmissivity of the primary geocomposite was measured under compressive stresses of 700 psf for a period of 24 hours, and 15,000 psf for a period of 100 hours. The tests were performed with the primary geocomposite sandwiched between 60-mil textured geomembrane and the soil actually used as part of the protective soil layer. The transmissivity of the primary geocomposite reported is the minimum transmissivity measured during the 24 and 100-hour tests.

The CQA laboratory test results for the primary geocomposite conformance samples have been included in Appendix E-Section 3.

5.5.2 Field Monitoring Activities

5.5.2.1 Delivery and On-Site Storage

Upon delivery to the site, primary geocomposite rolls were stored in an area located south of the Cell 14 construction area (i.e., future Cell 14 footprint) and stacked on an elevated soil berm. The rolls were typically transported by an off-road forklift. CQA personnel periodically monitored the Installer's delivery, unloading, and storage procedures to ensure that the material was handled in an appropriate manner.

CQA personnel also compared the roll numbers of the primary geocomposite rolls delivered to the manufacturer's bill of lading. An inventory of the rolls delivered for the project was maintained by the CQA personnel. This inventory also includes the rolls that were approved for installation based on MQC and CQA test results and the rolls that were used during construction. Only approved rolls were incorporated into the work.

5.5.2.2 Deployment

CQA personnel monitored the deployment of the primary geocomposite for manufacturing defects, damage that may have occurred during shipment, storage, and handling, and damage resulting from installation activities. If the materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations to verify conformance with the CQA Documents.

CQA personnel periodically monitored the deployment of the primary geocomposite, as well as its condition after installation, to confirm that the Installer took measures to:

- securely ballast the geocomposite with sand bags;
- unroll the geocomposite down the slope (i.e., rolls were aligned perpendicular to the slope contours) in a manner that kept the panel in sufficient tension to avoid excessive wrinkling;
- avoid entrapment of dust, stones, or other objects that would damage or clog the geocomposite;
- avoid damaging the underlying geomembrane during deployment;
- overlap the bottom geotextile edges;
- secure the geonet component of adjacent geocomposite panels with nylon fasteners, installed on a maximum 5-ft spacing on slopes greater than 10 percent and 10-ft on the cell floor and at 1-ft spacing on end seams; and
- overlap and continuously sew the upper geotextile edges.

Any observed holes in the geotextile component of the primary geocomposite were repaired by placing a patch of non-woven geotextile over the hole that extended at least one foot beyond the edge of the hole. These patches were continuously thermally bonded to the undamaged portion of the geocomposite. This method was also used along the tie-in at the toe of the slope and along trimmed panels. Any observed holes or tears in the geonet component of the composite were repaired by the Installer by placing a patch of the same material over or under the hole or tear, at least 2-ft beyond the edges of the hole or tear. These patches were secured using nylon fasteners, followed by thermal bonding of the uppermost geotextile of the patch to the undamaged portion of the geocomposite.

5.6 CQA of Non-Woven Geotextile

5.6.1 Conformance Testing and Documentation

A non-woven geotextile was used as filter fabric to surround the aggregate in the leachate collection and leak detection system corridors and as a separator in the Cell 14 leachate sump. The GE180 8-oz/yd^2, needle-punched, non-woven geotextile was manufactured by SKAPS.

The CQA conformance sample for the non-woven geotextile were collected by TRI, which coordinated with the manufacturer to collect the CQA samples at the SKAPS' manufacturing plant in Commerce, Georgia. TRI performed the CQA conformance testing on the sample of the non-woven geotextile collected.

The MQC certificates and test results and the CQA conformance test results were reviewed by CQA personnel and were found to be in compliance with the CQA Documents. The results of the MQC and CQA conformance tests are presented in Appendices E and F, Section 4, respectively.

One (1) CQA conformance sample was tested for approximately 82,800 ft^2 (eight rolls) of the non-woven geotextile delivered to the site for installation in Cell 14. The actual CQA test frequency of 1 test per 82,800 ft^2 of non-woven geotextile exceeded the minimum testing frequency of 1 test per 100,000 ft^2 required by the CQA Documents for mass per unit area, grab strength, trapezoidal tear strength, puncture resistance, and static puncture strength. In addition, this sample was also tested for apparent opening size and permittivity. The actual CQA test frequency of 1 test per 82,800 ft^2 of non-woven geotextile exceeded the minimum frequency of 1 test per 200,000 ft^2 required by the CQA Documents for apparent opening size and permittivity. The CQA laboratory test results for the geotextile conformance sample have been included in Appendix E-Section 4 of this report.

5.6.2 Field Monitoring Activities

5.6.2.1 Delivery and On-Site Storage

Upon delivery to the site, non-woven geotextile rolls were stored in an area located south of the Cell 14 construction area (i.e., future Cell 14 footprint) and stacked on an elevated soil

berm. The rolls were typically transported by an off-road forklift. CQA personnel periodically monitored the Installer's delivery, unloading, and storage procedures to ensure that the material was handled in an appropriate manner.

CQA personnel also compared the roll numbers of the geotextile rolls delivered to the manufacturer's bill of lading. An inventory of the rolls delivered for the project was maintained by the CQA personnel. This inventory also includes the rolls that were approved for installation based on MQC and CQA test results and the rolls that were used during construction. Only approved rolls were incorporated into the work.

5.6.2.2 Deployment

CQA personnel monitored the deployment of the non-woven geotextile rolls for manufacturing defects; damage that may have occurred during shipment, storage, and handling; and damage resulting from installation activities. If any materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations to verify conformance with the requirements of the CQA Documents.

After deployment of the geotextile, CQA personnel observed that the Installer overlapped geotextile panels end-to-end a minimum of 24 inches and continuously sewed the 6-in overlap.

5.7 Interface Friction Testing

As discussed in Section 2, the liner system in Cell 14 consists (from top to bottom) of the protective soil layer, primary geocomposite, primary geomembrane liner, secondary geocomposite, secondary geomembrane liner, secondary GCL and prepared subbase. Tests were performed in accordance with the CQA Documents to evaluate the interface shear strength for the various components of the liner system and the internal strength of the GCL. All tests for interface shear strength and the internal strength of the GCL were performed by TRI.

The interface shear and the internal strength tests were performed as part of CQA testing. The tests were performed using samples of geosynthetics collected from rolls that were actually installed in Cell 14. The soils for the protective soil layer and liner subbase were obtained from the Borrow Area C and were similar to the sandy soils used in construction. The following rolls of geosynthetics were used for the CQA interface shear and the internal strength tests:

- GCL – Roll #338
- Textured geomembrane – Roll #GTD0067930046 and Roll#GTD0067930055
- Primary geocomposite – Roll #010351020191 and Roll #GTD0067930046
- Secondary geocomposite – Roll #0103151010162

The interfaces between the various components of the liner system and the internal strength of the GCL were tested at normal stresses of 5,000, 10,000, and 15,000 psf. Peak (at small displacement) and residual (at large displacements) shear strengths were measured at each normal stress. The interface shear tests were conducted under wetted/saturated conditions. GCL was soaked and consolidated prior to testing. The following liner system interfaces were tested:

- (Case1): Protective soil layer / primary geocomposite / textured geomembrane / secondary geocomposite
- (Case 2): Textured geomembrane / secondary geocomposite / textured geomembrane / GCL (non-woven side down) / subbase soil
- Internal strength of the GCL

The peak interface shear strength of the GCL and components was measured at an effective friction angle of 18.6^{o} (Case 1) and 18.8^{o} (Case 2) which exceeds the minimum CQA Document requirements of 12.3^{o}. The large displacement interface shear strength was measured at an effective angle of 9.4^{o} (Case 1) and 9.8^{o} (Case 2).

The peak internal shear strength of the GCL was measured at an effective friction angle of 29.4^{o} which exceeds the minimum CQA Document requirements of 12.3^{o}. The large displacement internal shear strength was measured at an effective angle of 0°.

The CQA laboratory interface test results have also been included in Appendix E-Section 5 of this report.

6 CQA – LEACHATE COLLECTION AND REMOVAL SYSTEM

6.1 General

This section includes CQA activities performed during construction of the leachate collection and removal system in Cell 14 and a leachate manhole (MH-12) and header pipe installed between Cell 14 sump risers and the tie in to the existing header pipe from Cell 12 as shown in the construction drawings.

The leachate collection system in Cell 14 consists of a primary and a secondary leachate collection system and sumps. The primary leachate collection system included an 8-in diameter SDR 11 HDPE perforated leachate collection pipe surrounded by gravel aggregate and geotextile filter fabric. The secondary system was the same as the primary, except a 6-in SDR 11 HDPE perforated pipe was used. There is one collection trench located within Cell 14.

For the primary and secondary leachate collection systems, the leachate collection pipe was provided with two rows of ½-inch perforations in the bottom 1/3 of the pipe section. Granular drainage materials meeting the requirements of #57 stone (per ASTM D 448) was used as the gravel aggregate. An 8-oz/yd^2 needle-punched, non-woven geotextile was used as the filter fabric.

Two (2) cleanouts (one for the primary system and one for the secondary system) were installed along the inside slope of the perimeter berm from the sump in Cell 14 to maintain the leachate collection system piping. The primary cleanout was constructed using 8-in diameter SDR 11 HDPE pipe and fitted with a blind flange. The secondary cleanout was constructed similarly, but with 6-in diameter pipe.

The Cell 14 sump included gravel beds covered with geotextile separator fabric and three sump upslope risers. The gravel beds for the primary and secondary sumps were separated by the primary liner system. Granular drainage materials meeting the requirements for #4 stone (per ASTM D 448) were used in the drainage beds. The primary drainage bed was separated from the overlying liner protective layer by an 8-oz/yd^2 needle-punched, non-woven geotextile separator fabric. Two primary and one secondary sump risers were installed in the Cell 14 sump. The sump risers were constructed using 24-in diameter SDR 17 HDPE pipe and included a perforated cap at the sump end and a bolted flanged top lid. The horizontal section (or collection segment) of the sump riser pipes were perforated to allow leachate to flow into the pipe.

The Cell 14 sump area also included a primary GCL extending along the toe of the perimeter berm and approximately 50 feet outward from the toe.

Leachate from Cell 14 will be collected in the leachate collection system in the central leachate corridor, and will gravity flow to the Cell 14 sump. Leachate will be pumped from

the sump risers through the leachate transmission line to the leachate storage area. To control the pumping and transfer of leachate, a sump control panel was installed as part of the leachate system in Cell 14.

Brantley's CQA personnel monitored the construction of the leachate collection system within Cell 14 and the leachate transmission header line from Cell 14 to the existing tie in to the existing header pipe from Cell 12, including installation of MH-12 and the leachate header line stubout for future Cell 14. The field monitoring and testing activities performed by the CQA personnel during construction of the leachate collection system and the leachate transmission line are discussed below. After construction of the leachate collection system was complete, the primary collection pipes were pressured cleaned by Florida JetClean, of Lutz, Florida. A report from Florida JetClean verifying the system to be free flowing and not obstructed is included in Appendix I of this report.

6.2 HDPE Pipe

All pipes used in the construction of the leachate collection system were SDR 11 HDPE pipes except for the sump risers, which were constructed using SDR 17 HDPE pipes. The MQC certificates for the HDPE pipes were reviewed by the CQA personnel and were found to be in compliance with the requirements of the CQA Documents.

HDPE pipe sections were joined using butt-fusion welding and electro fusion coupler techniques. CQA personnel monitored the butt-fusion welding techniques to ensure that industry-accepted procedures were used during construction. CQA personnel also verified the diameter of and perforation details (size, number of rows, orientation) for the different pipes used in the leachate collection system.

6.3 Granular Drainage Materials

Granular drainage materials meeting the requirements of #57 stone (per ASTM D 448) were used in Cell 14 primary and secondary leachate collection systems. Granular drainage materials meeting the requirements of #4 stone (per ASTM D 448) were used in the Cell 14 leachate sump area. The #4 and #57 granular drainage materials were supplied by Conrad Yelvington Distributors, Inc. out of Orlando, Florida.

The QC certificates and test results were reviewed by CQA personnel and were found to be in compliance with the CQA Documents. The hydraulic conductivity (per ASTM D 2434) of the #57 stone was measured to be 21 cm/sec, which exceeded the CQA Documents requirement of 1 cm/sec. The hydraulic conductivity (per ASTM D 2434) of the #4 stone was measured to be 32 cm/sec, which exceeded the CQA Documents' requirement of 10 cm/sec. Carbonate content tests (per ASTM D 3042) were performed on the #57 and #4 stone granular drainage materials during the QC testing. The #57 and #4 stone used in construction of the leachate collection system were found to be almost insoluble (less than 1 percent soluble) to

6N hydrochloric acid. The results of the MQC and CQA conformance tests are presented in Appendix D-Section 5 and Appendix B-Section 3, respectively.

CQA personnel monitored the placement of the granular drainage material to ensure: (i) the underlying geosynthetics were not damaged; (ii) the perforated pipes were properly surrounded by the drainage materials and the geotextile; and (iii) the drainage materials were placed in accordance with the requirements of the CQA Documents.

6.4 Pressure Testing

The leachate header pipe installed between the Cell 14 sump up to the existing tie in to the existing leachate header pipe from Cell 12, including MH-14, and up to the leachate header line stubout for future Cell 16 was pressure tested to detect any leaks or defective pipe joints. The hydrostatic pressure testing was performed by filling the leachate transmission line segments and pressurizing them. The hydrostatic pressure of ~130 psi was maintained for at least 1 hour after an initial 3 hour expansion phase. No drop in the hydrostatic pressure was observed during the 1 hour test period. Additionally, the HDPE manhole was tested for leaks by means of exfiltration testing. No leaks were observed as the required full depth water level was maintained.

6.5 Sump Pumps and Control Panel

Leachate collected in the leachate sumps will be extracted and pumped to the leachate storage area by two 5-hp electric EPG model WSDPT 46-2 SurePumps located in the primary sump risers and one 1.5-hp electric EPG model WSDPT 12-2 SurePump located in the secondary sump riser. The pumps are controlled by a control panel located at the Cell 14 sump near the top of the sump risers. The sump pumps and the associated control panel were supplied by EPG Companies, Inc., (EPG), Rogers, Minnesota.

This facility is currently working with Duke Power for the installation of a new Power Pole. Due to delays in completing this work, final power to the leachate pumps and controls may be a few weeks out or more. A portable generator will be used for start-up of the cell sump pumps and control panel in the event that the permanent power is not established. Once power (either generator or permanent) has been established, final test will be performed shortly thereafter to confirm proper operation of the pumps and controls. Once this is completed, a final certification letter from an EPG representative (Sullivan Environmental) will be submitted to verify functionality for warranty protection.

- Sump pumps will be tested in place by flooding the Cell 14 sump. Each pump will be connected to a piping assembly containing a pressure gauge, meter valve, and a flow meter. The pumps will be turned on and the pressure and flow rate of each pump will be recorded. The pressure and flow rate data for each pump will be compared to the pump curves provided by EPG.

- Transducer settings will be checked to confirm that the pumps and alarms are functioning and activating correctly.
- The installed system components will be visually checked for compliance with the requirements set forth in the project documents.

7 CQA – OTHER CONSTRUCTION ACTIVITIES

7.1 Overview

Brantley provided CQA monitoring, testing and documentation for miscellaneous activities associated with the development and ongoing operation of the JED facility. The CQA activities associated with the construction of the Cell 14 not previously discussed herein include the installation of a storm water drainage structure and a geomembrane flap installed along the Cell 14 perimeter berm and intercell berm to minimize methane gas migration into the surrounding soils beyond the lined limits.

7.2 Storm Water Drainage Structure

Three storm water drainage structures (Structures A-24", B-30", & C-24") were installed in the perimeter berm on the west side of Cell 14 in accordance with the CQA Documents. The pre-cast concrete storm water drainage structures were manufactured by American Concrete Industries, Inc., in Fort Pierce, Florida. The shop drawing supplied by the manufacturer was reviewed by the CQA personnel and were found to be in compliance with the CQA Documents.

7.3 Geomembrane Flap at Intercell Berm

A 40-mil HDPE geomembrane flap (approximately 10 feet wide) was installed along the Cell 14 intercell berm (South End) and the Cell 14 perimeter berm (West End). The geomembrane flap was extrusion welded to the 60-mil primary geomembrane, brought up through the protective cover, and extended back toward the cell on top of the protective cover approximately 6 feet. The primary geocomposite drainage layer was brought up to the flap tie in and wrapped around two (2) 6-inch perforated HDPE gas collection pipes (on the south side) and one (1) 4-inch HDPE gas collection pipe (on the west side). The exposed geomembrane flap was held in place with sandbags. This geomembrane flap is intended to minimize methane gas migration.

7.4 Landfill Gas System

An 8-inch landfill gas side-slope riser was installed in between the two 24-inch primary sump risers and extends down into the sump gravel to help with gas collection. A 6-inch perforated HDPE gas collection pipe extends along the tie in to the existing landfill on the north side and along the south side (running west to east from the manifold for ~250 linear feet) and are wrapped in the primary geocomposite. A second 6-inch solid HDPE gas collection pipe extends adjacent to the 6-inch perforated pipe for the 250 linear feet and then transitions into a 6-inch perforated pipe extending all the way to the east. A manifold system was constructed in the northwest corner and southwest corner of Cell 14 as per detail 7A and 7B on Sheet 10 of the construction drawings to tie in all of the gas collection system pipes and to allow for

future tie-in to the overall landfill gas collection system. A 4-inch perforated HDPE gas collection pipe was installed along the western side (running north and south) just inside of the geomembrane flap as discussed above in section 7.3 and is connected to each of the manifold systems. An 8-inch perforated HDPE gas collection pipe was installed along the western side (running north and south) at the toe of slope and is connected to each end of the manifold systems. This pipe is embedded in gravel to facilitate condensate drainage and wrapped in geotextile fabric.

8 SUMMARY

Observation of the construction of Cell 14 at the JED facility was performed by Brantley during the period of April 5, 2021 and December 23, 2021. During this time, CQA personnel monitored the installation of the following components:

- earthwork (Cell 14 subgrade, liner subbase, intercell berms, sump area, protective soil layer, and miscellaneous earthwork);
- geosynthetics in Cell 14; and
- leachate management system (leachate collection and removal system and tie into the existing leachate transmission system).

During construction of the above components, CQA personnel verified that performance and conformance testing was performed at the frequencies required by the CQA Documents and that the installation met or exceeded the requirements of the CQA Documents. CQA personnel also verified that conditions or materials identified as not conforming to the CQA Plan were replaced, repaired, and/or retested, as described in this report.

The results of the CQA activities undertaken by Brantley as described in this report indicate that Cell 14 was constructed in general accordance with the CQA Documents and the solid waste permit issued for the JED facility.

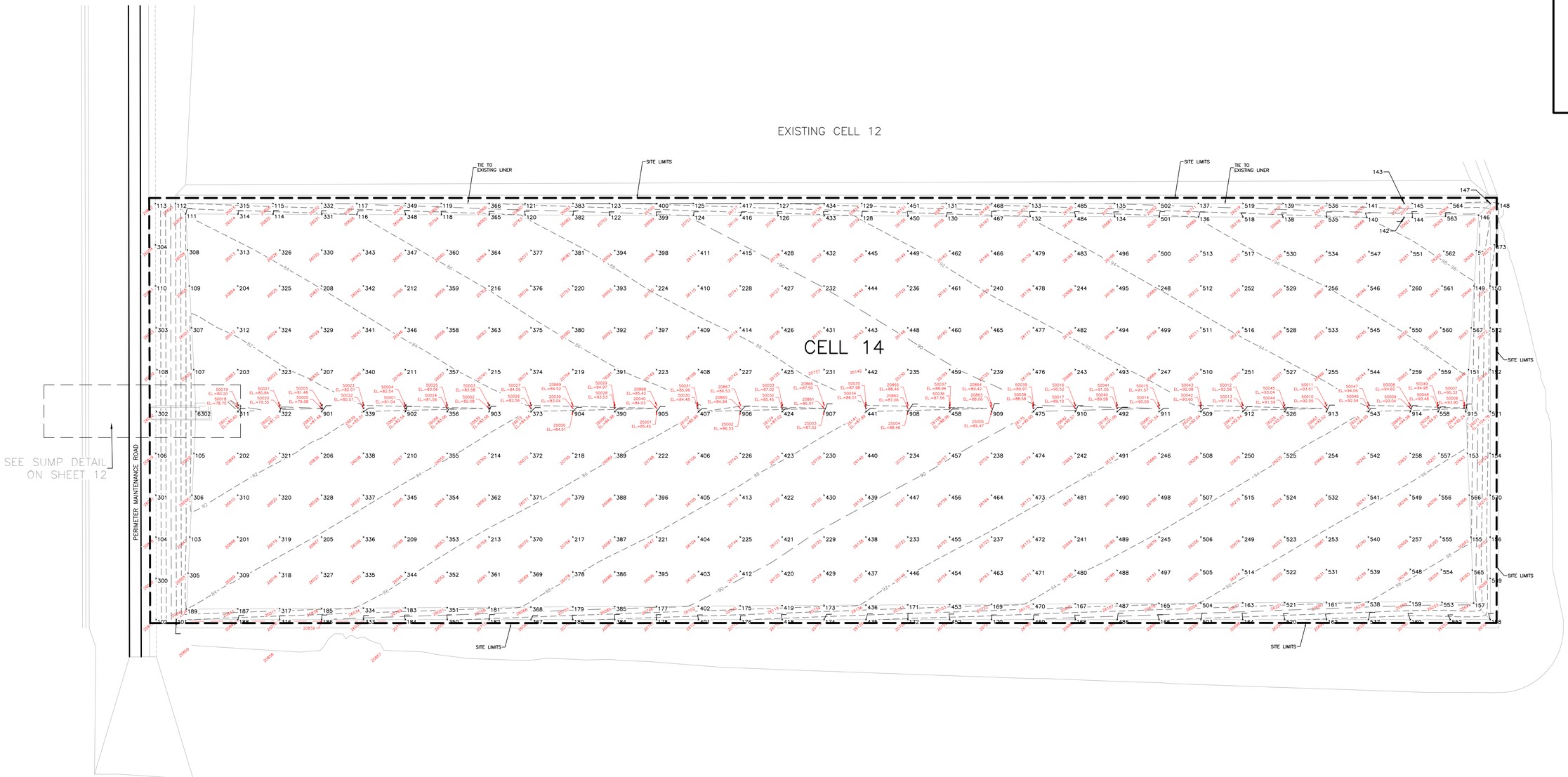
Allan Brantley, Florida P.E. #68030
Certifying Engineer-of-Record

PROJECT FIGURES

Figure 1
Asbuilt Top of Subbase

SUBBASE ASBUILT GRAPHIC

CELL 14- FIGURE 1



LEGEND:

1000	ASBUILT SUBBASE POINT NUMBER
1000	DESIGN POINT NUMBER
EL.	ADDITIONAL ELEVATION SHOWN ALONG TRENCH
_ _ _ _ _ _	ASBUILT SUBBASE CONTOUR

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 INCH = 60 FT.
(INTENDED DISPLAY SCALE)

SEE FIGURE 2 FOR CONTROL POINT TABLE

BSM & ASSOCIATES
LAND SURVEYING SERVICES
80 SE 31st Lane, Okeechobee, FL 34974
ricky.barnes@bsmsurvey.com
863.484.8324
LB 8155

BY:

REVISIONS:

DATE:

CAD G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\
REF G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MGO1
FLD JF | FB./PG. BSM #8/20 | DATE 11/17/21
OFF BHM
CKD REB | SHEET 3 | DWG 21-138 ASBUILT PROTECTIVE COVER SURVEY

FIGURE 1
CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE FACILITY
1501 OMNI WAY
ST. CLOUD, FLORIDA

Figure 2
Asbuilt Top of Subbase and Top of Protective Cover
Control Point Table

CELL 14
FIGURE 2

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
101	1353209.14	623996.19	88.00	20845	88.08	0.08	21084	90.76	2.68
102	1353209.10	623972.18	96.00	20817	95.98	0.02	21083	98.06	2.08
103	1353307.73	624012.44	82.52	20847	82.52	0.00	21071	84.56	2.04
104	1353307.73	623972.01	96.00	20818	95.99	0.01	21082	98.05	2.06
105	1353407.73	624017.31	80.84	20850	80.80	0.04	21072	82.89	2.09
106	1353407.73	623971.84	96.00	20819	95.96	0.04	21081	98.01	2.05
107	1353507.73	624017.15	80.84	20852	80.90	0.06	21074	82.91	2.01
108	1353507.73	623973.16	95.50	20820	95.51	0.01	21080	97.54	2.03
109	1353607.73	624011.94	82.52	20855	82.54	0.02	21075	84.54	2.00
110	1353607.73	623971.50	96.00	20821	95.94	0.06	21079	98.01	2.07
111	1353693.82	624007.45	83.97	20824	84.03	0.06	21076	86.03	2.00
112	1353706.32	623995.32	88.00	20823	88.08	0.08	21077	90.09	2.01
113	1353706.28	623971.33	96.00	20822	96.00	0.00	21078	98.03	2.03
114	1353693.52	624111.85	85.00	20825	84.96	0.04	20920	87.04	2.08
115	1353706.32	624111.81	89.27	20826	89.21	0.06	20921	91.27	2.06
116	1353693.23	624211.85	86.00	20828	85.99	0.01	20923	88.09	2.10
117	1353706.32	624211.80	90.36	20827	90.27	0.09	20922	92.35	2.08
118	1353692.94	624312.85	87.00	20764	86.95	0.05	20926	89.04	2.09
119	1353706.32	624312.78	91.46	20829	91.37	0.09	20927	93.51	2.14
120	1353692.66	624412.85	88.00	20763	88.06	0.06	20929	90.06	2.00
121	1353706.32	624412.80	92.55	20830	92.53	0.02	20928	94.56	2.03
122	1353692.37	624513.85	89.00	20752	88.94	0.06	20932	91.03	2.09
123	1353706.32	624513.81	93.66	25006	93.64	0.02	20933	95.64	2.00
124	1353692.08	624613.85	90.00	20751	90.08	0.08	20935	92.08	2.00
125	1353706.32	624613.80	94.75	25007	94.81	0.06	20934	96.81	2.00
126	1353691.79	624714.85	91.00	20740	91.05	0.05	20938	93.05	2.00
127	1353706.32	624714.81	95.85	25008	95.88	0.03	20939	97.88	2.00
128	1353691.50	624814.85	92.00	20739	92.10	0.09	20941	94.10	2.00
129	1353706.32	624814.79	96.94	20814	96.98	0.04	20940	98.98	2.00
130	1353691.21	624915.85	93.00	20728	93.09	0.09	20944	95.09	2.00
131	1353706.32	624915.81	98.04	20813	98.07	0.03	20945	100.07	2.00
132	1353690.93	625015.85	94.00	20727	94.04	0.04	20947	96.04	2.00
133	1353706.32	625015.79	99.13	20713	99.03	0.10	20946	101.14	2.11
134	1353690.64	625116.85	95.00	20687	94.95	0.05	20950	97.04	2.09
135	1353706.32	625116.80	100.23	20712	100.13	0.10	20951	102.23	2.10
136	1353690.35	625216.85	96.00	20686	96.05	0.05	20953	98.05	2.00
137	1353706.32	625216.79	101.32	20711	101.25	0.07	20952	103.37	2.12
138	1353690.06	625317.85	97.00	20669	97.09	0.09	20958	99.09	2.00
139	1353706.32	625317.80	102.42	20710	102.32	0.10	20959	104.41	2.09
140	1353689.77	625417.85	98.00	20668	98.01	0.00	20961	100.01	2.00
141	1353706.32	625417.79	103.51	20709	103.44	0.07	20960	105.52	2.08
142	1353689.64	625462.25	98.44	25009	98.43	0.01	20962	100.43	2.00
143	1353706.32	625462.25	104.00	20708	103.91	0.09	20965	106.02	2.11
144	1353689.64	625472.25	98.44	20651	98.48	0.04	20963	100.48	2.00
145	1353706.32	625472.25	104.00	20707	103.93	0.07	20964	106.02	2.09
146	1353692.46	625551.30	99.38	20650	99.48	0.10	21105	101.49	2.01
147	1353706.32	625565.16	104.00	25010	104.00	0.00	21104	106.00	2.00
148	1353706.32	625575.16	104.00	20706	104.10	0.10	20990	106.10	2.00
149	1353607.73	625545.78	97.86	20649	97.91	0.05	20991	99.91	2.00
150	1353607.73	625565.16	104.35	20705	104.25	0.10	20989	106.39	2.14
151	1353507.73	625539.27	96.06	20648	96.16	0.10	20992	98.17	2.01
152	1353507.73	625565.16	104.70	20704	104.60	0.10	20988	106.70	2.10
153	1353407.73	625538.05	96.05	20643	96.12	0.07	20993	98.12	2.00
154	1353407.73	625565.16	105.05	20703	104.95	0.10	20987	107.05	2.10
155	1353307.73	625542.19	97.82	20642	97.89	0.07	20994	99.89	2.00
156	1353307.73	625565.16	105.40	20702	105.47	0.07	20986	107.47	2.00
157	1353228.84	625545.46	99.22	20641	99.31	0.09	20995	101.31	2.00
158	1353209.14	625565.16	105.75	20701	105.80	0.05	20985	107.80	2.00
159	1353230.41	625469.75	98.44	20659	98.50	0.06	20996	100.50	2.00
160	1353209.14	625469.75	105.53	20700	105.53	0.00	20984	107.53	2.00
161	1353229.81	625369.75	97.45	20660	97.53	0.08	20997	99.53	2.00

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
162	1353209.14	625369.75	104.34	20699	104.32	0.02	20983	106.36	2.04
163	1353229.21	625269.75	96.46	20677	96.54	0.08	20998	98.54	2.00
164	1353209.14	625269.75	103.15	20698	103.05	0.10	20982	105.11	2.06
165	1353228.61	625169.75	95.47	20678	95.53	0.06	20999	97.53	2.00
166	1353209.14	625169.75	101.96	20697	101.86	0.10	20981	103.97	2.11
167	1353228.01	625069.75	94.48	20695	94.58	0.10	21000	96.63	2.05
168	1353209.14	625069.75	100.77	20696	100.79	0.02	20980	102.79	2.00
169	1353227.41	624969.75	93.49	20722	93.59	0.10	21001	95.61	2.02
170	1353209.14	624969.75	99.58	20721	99.48	0.10	20979	101.60	2.12
171	1353226.81	624869.75	92.50	20733	92.60	0.10	21029	94.62	2.02
172	1353209.14	624869.75	98.39	20720	98.48	0.09	21093	100.48	2.00
173	1353226.21	624769.75	91.51	20734	91.56	0.05	21030	93.61	2.05
174	1353209.14	624769.75	97.20	20719	97.18	0.02	21092	99.27	2.09
175	1353225.61	624669.75	90.52	20745	90.59	0.07	21039	92.60	2.01
176	1353209.14	624669.75	96.01	20718	95.91	0.10	21091	98.04	2.13
177	1353225.01	624569.75	89.53	20746	89.63	0.10	21040	91.65	2.02
178	1353209.14	624569.75	94.82	20717	94.87	0.05	21090	96.91	2.04
179	1353224.41	624469.75	88.54	20757	88.62	0.08	21049	90.62	2.00
180	1353209.14	624469.75	93.63	20716	93.63	0.00	21089	95.66	2.03
181	1353223.82	624369.75	87.55	20758	87.63	0.08	21050	89.63	2.00
182	1353209.14	624369.75	92.44	20715	92.42	0.02	21088	94.50	2.08
183	1353223.22	624269.75	86.56	20769	86.57	0.00	21059	88.63	2.06
184	1353209.14	624269.75	91.25	20714	91.27	0.02	21087	93.29	2.02
185	1353222.62	624169.75	85.57	20838	85.65	0.08	21060	87.65	2.00
186	1353209.14	624169.75	90.06	20839	89.99	0.07	21086	92.14	2.15
187	1353222.02	624069.75	84.58	20843	84.64	0.06	21069	86.65	2.01
188	1353209.14	624069.75	88.87	20842	88.78	0.09	21085	90.94	2.16
189	1353221.65	624008.24	83.97	20846	84.02	0.05	21070	86.14	2.12
201	1353307.73	624069.75	83.10	20848	83.07	0.03	21068	85.15	2.08
202	1353407.73	624069.75	81.37	20849	81.35	0.02	21067	83.41	2.06
203	1353507.73	624069.75	81.37	20853	81.33	0.04	21066	83.37	2.04
204	1353607.73	624069.75	83.10	20854	83.06	0.04	21065	85.14	2.08
205	1353307.73	624169.75	84.10	20837	84.09	0.01	21061	86.15	2.06
206	1353407.73	624169.75	82.37	20836	82.31	0.06	21062	84.41	2.10
207	1353507.73	624169.75	82.37	20832	82.43	0.06	21064	84.46	2.03
208	1353607.73	624169.75	84.10	20831	84.06	0.04	20924	86.13	2.07
209	1353307.73	624269.75	85.10	20768	85.16	0.06	21058	87.16	2.00
210	1353407.73	624269.75	83.37	20767	83.38	0.01	21057	85.41	2.03
211	1353507.73	624269.75	83.37	20766	83.38	0.01	21055	85.40	2.02
212	1353607.73	624269.75	85.10	20765	85.13	0.03	20925	87.13	2.00
213	1353307.73	624369.75	86.10	20759	86.20	0.10	21051	88.21	2.01
214	1353407.73	624369.75	84.37	20760	84.39	0.02	21052	86.39	2.00
215	1353507.73	624369.75	84.37	20761	84.42	0.05	21054	86.42	2.00
216	1353607.73	624369.75	86.10	20762	86.09	0.01	20930	88.15	2.06
217	1353307.73	624469.75	87.10	20756	87.16	0.06	21048	89.16	2.00
218	1353407.73	624469.75	85.37	20755	85.41	0.04	21047	87.43	2.02
219	1353507.73	624469.75	85.37	20754	85.45	0.08	21045	87.45	2.00
220	1353607.73	624469.75	87.10	20753	87.16	0.06	20931	89.16	2.00
221	1353307.73	624569.75	88.10	20747	88.09	0.01	21041	90.13	2.04
222	1353407.73	624569.75	86.37	20748	86.39	0.02	21042	88.41	2.02
223	1353507.73	624569.75	86.37	20749	86.44	0.06	21044	88.44	2.00
224	1353607.73	624569.75	88.10	20750	88.17	0.07	20936	90.17	2.00
225	1353307.73	624669.75	89.10	20744	89.08	0.02	21038	91.10	2.02
226	1353407.73	624669.75	87.37	20743	87.34	0.03	21037	89.38	2.04
227	1353507.73	624669.75	87.37	20742	87.29	0.08	21035	89.38	2.09
228	1353607.73	624669.75	89.10	20741	89.08	0.02	20937	91.13	2.05
229	1353307.73	624769.75	90.10	20735	90.20	0.10	21031	92.20	2.00
230	1353407.73	624769.75	88.37	20736	88.35	0.02	21032	90.44	2.09
231	1353507.73	624769.75	88.37	20737	88.38	0.01	21034	90.43	2.05
232	1353607.73	624769.75	90.10	20738	90.04	0.06	20942	92.12	2.08
233	1353307.73	624869.75	91.10	20732	91.18	0.08	21028	93.18	2.00

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CAD G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\
REF G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MGO1
FLD HW, DF FB, PG. BSM #8/20
OFF BHM DATE 12/09/21
CKD REB SHEET 5 DWG 21-138 FIGURE 2 TABLE

FIGURE 2
ASBUILT TOP OF SUBBASE & TOP OF PROTECTIVE COVER CONTROL POINT TABLE CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE MANAGEMENT FACILITY

CELL 14
FIGURE 2
(CONTINUED)

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
234	1353407.73	624869.75	89.37	20731	89.37	0.00	21027	91.39	2.02
235	1353507.73	624869.75	89.37	20730	89.36	0.01	21025	91.42	2.06
236	1353607.73	624869.75	91.10	20729	91.09	0.01	20943	93.15	2.06
237	1353307.73	624969.75	92.10	20723	92.14	0.04	21002	94.15	2.01
238	1353407.73	624969.75	90.37	20724	90.41	0.04	21022	92.41	2.00
239	1353507.73	624969.75	90.37	20725	90.41	0.04	21024	92.41	2.00
240	1353607.73	624969.75	92.10	20726	92.20	0.10	20948	94.22	2.02
241	1353307.73	625069.75	93.10	20694	93.13	0.03	21003	95.13	2.00
242	1353407.73	625069.75	91.37	20693	91.39	0.02	21021	93.40	2.01
243	1353507.73	625069.75	91.37	20689	91.38	0.01	21019	93.45	2.07
244	1353607.73	625069.75	93.10	20688	93.13	0.03	20949	95.17	2.04
245	1353307.73	625169.75	94.10	20679	94.10	0.00	21004	96.17	2.07
246	1353407.73	625169.75	92.37	20680	92.37	0.00	21017	94.42	2.05
247	1353507.73	625169.75	92.37	20684	92.36	0.01	20955	94.40	2.04
248	1353607.73	625169.75	94.10	20685	94.07	0.03	20954	96.17	2.10
249	1353307.73	625269.75	95.10	20676	95.11	0.01	21005	97.16	2.05
250	1353407.73	625269.75	93.37	20675	93.39	0.02	21016	95.42	2.03
251	1353507.73	625269.75	93.37	20671	93.33	0.04	20956	95.36	2.03
252	1353607.73	625269.75	95.10	20670	95.10	0.00	20957	97.16	2.06
253	1353307.73	625369.75	96.10	20661	96.16	0.06	21006	98.16	2.00
254	1353407.73	625369.75	94.37	20662	94.42	0.05	21013	96.42	2.00
255	1353507.73	625369.75	94.37	20666	94.27	0.10	20967	96.39	2.12
256	1353607.73	625369.75	96.10	20667	96.02	0.08	20966	98.10	2.08
257	1353307.73	625469.75	97.10	20658	97.09	0.02	21007	99.12	2.03
258	1353407.73	625469.75	95.37	20657	95.42	0.05	21012	97.45	2.03
259	1353507.73	625469.75	95.37	20653	95.33	0.04	20968	97.41	2.08
260	1353607.73	625469.75	97.10	20652	97.04	0.06	20969	99.14	2.10
300	1353258.42	623972.10	96.00	26000	95.99	0.02	27000	98.06	2.07
301	1353357.73	623971.93	96.00	26001	95.98	0.03	27001	98.03	2.05
302	1353457.73	623972.50	95.75	26002	95.74	0.02	27002	97.74	2.00
303	1353557.73	623972.33	95.75	26003	95.73	0.03	27003	97.78	2.05
304	1353657.01	623971.42	96.00	26004	95.97	0.03	27004	98.02	2.05
305	1353264.69	624010.34	83.25	26005	83.27	0.02	27005	85.36	2.09
306	1353357.73	624014.88	81.68	26006	81.66	0.02	27006	83.72	2.06
307	1353557.73	624014.55	81.68	26007	81.72	0.04	27007	83.73	2.01
308	1353650.78	624009.70	83.25	26008	83.29	0.04	27008	85.30	2.01
309	1353264.88	624069.75	83.84	26009	83.86	0.02	27009	85.90	2.05
310	1353357.73	624069.75	82.24	26010	82.21	0.03	27010	84.28	2.07
311	1353457.73	624069.75	80.50	26011	80.60	0.10	27011	83.39	2.79
312	1353557.73	624069.75	82.24	26012	82.20	0.04	27012	84.26	2.06
313	1353650.69	624069.87	83.84	26013	83.82	0.02	27013	85.89	2.06
314	1353693.64	624070.00	84.59	26014	84.59	0.00	27014	86.65	2.06
315	1353706.32	624070.03	88.81	26015	88.80	0.01	27015	90.80	2.00
316	1353209.14	624119.75	89.47	26016	89.39	0.08	27016	91.50	2.12
317	1353222.32	624119.75	85.08	26017	85.15	0.07	27017	87.18	2.04
318	1353265.03	624119.75	84.34	26018	84.36	0.03	27018	86.40	2.04
319	1353307.73	624119.75	83.60	26019	83.58	0.02	27019	85.65	2.07
320	1353357.73	624119.75	82.74	26020	82.72	0.02	27020	84.78	2.06
321	1353407.73	624119.75	81.87	26021	81.83	0.04	27021	83.91	2.08
322	1353457.73	624119.75	81.00	26022	81.10	0.10	27022	83.48	2.38
323	1353507.73	624119.75	81.87	26023	81.88	0.01	27023	83.92	2.04
324	1353557.73	624119.75	82.74	26024	82.75	0.01	27024	84.75	2.01
325	1353607.73	624119.75	83.60	26025	83.56	0.04	27025	85.64	2.08
326	1353650.61	624119.87	84.34	26026	84.30	0.04	27026	86.38	2.08
327	1353265.18	624169.75	84.84	26027	84.87	0.04	27027	86.90	2.03
328	1353357.73	624169.75	83.24	26028	83.20	0.03	27028	85.28	2.08
329	1353557.73	624169.75	83.24	26029	83.25	0.01	27029	85.30	2.05
330	1353650.54	624169.87	84.84	26030	84.81	0.03	27030	86.89	2.08
331	1353693.35	624170.00	85.58	26031	85.56	0.02	27031	87.64	2.08
332	1353706.32	624170.04	89.90	26032	89.83	0.08	27032	91.83	2.00
333	1353209.14	624219.75	90.66	26033	90.62	0.03	27033	92.69	2.07

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
334	1353222.92	624219.75	86.07	26034	86.11	0.04	27034	88.14	2.03
335	1353265.33	624219.75	85.33	26035	85.33	0.00	27035	87.39	2.06
336	1353307.73	624219.75	84.60	26036	84.63	0.03	27036	86.65	2.03
337	1353357.73	624219.75	83.74	26037	83.74	0.00	27037	85.78	2.04
338	1353407.73	624219.75	82.87	26038	82.85	0.02	27038	84.91	2.07
339	1353457.73	624219.75	82.00	26039	82.01	0.01	27039	84.06	2.05
340	1353507.73	624219.75	82.87	26040	82.91	0.04	27040	84.93	2.03
341	1353557.73	624219.75	83.74	26041	83.72	0.01	27041	85.77	2.05
342	1353607.73	624219.75	84.60	26042	84.59	0.01	27042	86.63	2.04
343	1353650.47	624219.87	85.34	26043	85.34	0.01	27043	87.39	2.06
344	1353265.48	624269.75	85.83	26044	85.87	0.04	27044	87.89	2.03
345	1353357.73	624269.75	84.24	26045	84.27	0.04	27045	86.28	2.01
346	1353557.73	624269.75	84.24	26046	84.25	0.02	27046	86.27	2.01
347	1353650.40	624269.87	85.84	26047	85.84	0.00	27047	87.88	2.05
348	1353693.06	624270.00	86.58	26048	86.54	0.03	27048	88.63	2.09
349	1353706.32	624270.03	90.99	26049	90.90	0.09	27049	92.90	2.00
350	1353209.14	624319.75	91.85	26050	91.81	0.03	27050	93.90	2.08
351	1353223.52	624319.75	87.06	26051	87.10	0.04	27051	89.13	2.03
352	1353265.63	624319.75	86.33	26052	86.40	0.07	27052	88.40	2.00
353	1353307.73	624319.75	85.60	26053	85.68	0.08	27053	87.68	2.00
354	1353357.73	624319.75	84.74	26054	84.77	0.04	27054	86.78	2.00
355	1353407.73	624319.75	83.87	26055	83.88	0.01	27055	85.90	2.02
356	1353457.73	624319.75	83.00	26056	83.06	0.06	27056	85.06	2.00
357	1353507.73	624319.75	83.87	26057	83.90	0.03	27057	85.91	2.01
358	1353557.73	624319.75	84.74	26058	84.73	0.00	27058	86.78	2.04
359	1353607.73	624319.75	85.60	26059	85.61	0.01	27059	87.64	2.04
360	1353650.33	624319.87	86.34	26060	86.31	0.02	27060	88.38	2.06
361	1353265.78	624369.75	86.83	26061	86.91	0.09	27061	88.92	2.01
362	1353357.73	624369.75	85.24	26062	85.29	0.06	27062	87.30	2.01
363	1353557.73	624369.75	85.24	26063	85.25	0.02	27063	87.29	2.03
364	1353650.26	624369.87	86.84	26064	86.84	0.00	27064	88.89	2.05
365	1353692.78	624369.99	87.57	26065	87.60	0.03	27065	89.62	2.02
366	1353706.32	624370.03	92.08	26066	92.03	0.05	27066	94.03	2.00
367	1353209.14	624419.75	93.04	26067	93.00	0.04	27067	95.08	2.08
368	1353224.12	624419.75	88.05	26068	88.13	0.08	27068	90.15	2.02
369	1353265.92	624419.75	87.32	26069	87.42	0.09	27069	89.42	2.00
370	1353307.73	624419.75	86.60	26070	86.68	0.08	27070	88.68	2.01
371	1353357.73	624419.75	85.74	26071	85.77	0.04	27071	87.82	2.04
372	1353407.73	624419.75	84.87	26072	84.90	0.03	27072	86.91	2.01
373	1353457.73	624419.75	84.00	26073	84.05	0.05	27073	86.06	2.01
374	1353507.73	624419.75	84.87	26074	84.94	0.07	27074	86.94	2.00
375	1353557.73	624419.75	85.74	26075	85.79	0.06	27075	87.79	2.00
376	1353607.73	624419.75	86.60	26076	86.62	0.02	27076	88.65	2.03
377	1353650.18	624419.87	87.34	26077	87.38	0.05	27077	89.39	2.01
378	1353266.07	624469.75	87.82	26078	87.89	0.07	27078	89.89	2.00
379	1353357.73	624469.75	86.24	26079	86.29	0.05	27079	88.29	2.00
380	1353557.73	624469.75	86.24	26080	86.30	0.07	27080	88.30	2.00
381	1353650.11	624469.87	87.83	26081	87.86	0.03	27081	89.88	2.02
382	1353692.50	624469.99	88.57	26082	88.57	0.00	27082	90.61	2.04
383	1353706.32	624470.03	93.18	26083	93.16	0.02	27083	95.16	2.00
384	1353209.14	624519.75	94.23	26084	94.24	0.02	27084	96.26	2.02
385	1353224.71	624519.75	89.04	26085	89.13	0.09	27085	91.15	2.02
386	1353266.22	624519.75	88.32	26086	88.41	0.09	27086	90.41	2.00
387	1353307.73	624519.75	87.60	26087	87.62	0.02	27087	89.64	2.02
388	1353357.73	624519.75	86.74	26088	86.77	0.04	27088	88.78	2.00
389	1353407.73	624519.75	85.87	26089	85.90	0.03	27089	87.92	2.01
390	1353457.73	624519.75	85.00	26090	84.98	0.02	27090	87.04	2.06
391	1353507.73	624519.75	85.87	26091	85.94	0.07	27091	87.95	2.00
392	1353557.73	624519.75	86.74	26092	86.81	0.08	27092	88.81	2.00
393	1353607.73	624519.75	87.60	26093	87.67	0.07	27093	89.66	2.00
394	1353650.04	624519.87	88.33	26094	88.33	0.00	27094	90.38	2.04

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FIGURE 2 TABLE

FIGURE 2
ASBUILT TOP OF SUBBASE & TOP OF PROTECTIVE COVER CONTROL POINT TABLE CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE MANAGEMENT FACILITY

CAD	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\
REF	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MGO1
FLD	HW, DF
OFF	BHM
CKD	REB
FB./PG.	BSM #8/20
DATE	12/09/21
SHEET	6
DWG	21-138 FIGURE 2 TABLE

CELL 14
FIGURE 2
(CONTINUED)

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
395	1353266.37	624569.75	88.82	26095	88.87	0.05	27095	90.89	2.02
396	1353357.73	624569.75	87.24	26096	87.24	0.01	27096	89.27	2.03
397	1353557.73	624569.75	87.24	26097	87.30	0.07	27097	89.30	2.00
398	1353649.97	624569.87	88.83	26098	88.88	0.05	27098	90.89	2.02
399	1353692.21	624570.00	89.56	26099	89.62	0.06	27099	91.62	2.00
400	1353706.32	624570.04	94.27	26100	94.27	0.00	27100	96.27	2.00
401	1353209.14	624619.75	95.42	26101	95.38	0.04	27101	97.48	2.10
402	1353225.31	624619.75	90.03	26102	90.12	0.09	27102	92.12	2.00
403	1353266.52	624619.75	89.31	26103	89.34	0.03	27103	91.37	2.02
404	1353307.73	624619.75	88.60	26104	88.59	0.01	27104	90.61	2.03
405	1353357.73	624619.75	87.74	26105	87.71	0.02	27105	89.75	2.04
406	1353407.73	624619.75	86.87	26106	86.86	0.01	27106	88.89	2.03
407	1353457.73	624619.75	86.00	26107	85.99	0.01	27107	88.08	2.09
408	1353507.73	624619.75	86.87	26108	86.86	0.01	27108	88.91	2.04
409	1353557.73	624619.75	87.74	26109	87.76	0.02	27109	89.77	2.01
410	1353607.73	624619.75	88.60	26110	88.63	0.03	27110	90.65	2.02
411	1353649.90	624619.87	89.33	26111	89.38	0.05	27111	91.39	2.01
412	1353266.67	624669.75	89.81	26112	89.83	0.02	27112	91.85	2.02
413	1353357.73	624669.75	88.24	26113	88.21	0.03	27113	90.24	2.03
414	1353557.73	624669.75	88.24	26114	88.19	0.05	27114	90.25	2.07
415	1353649.82	624669.87	89.83	26115	89.85	0.02	27115	91.87	2.02
416	1353691.92	624669.99	90.56	26116	90.64	0.08	27116	92.64	2.00
417	1353706.32	624670.03	95.36	26117	95.38	0.02	27117	97.38	2.00
418	1353209.14	624719.75	96.61	26118	96.53	0.07	27118	98.64	2.11
419	1353225.91	624719.75	91.02	26119	91.07	0.06	27119	93.10	2.03
420	1353266.82	624719.75	90.31	26120	90.32	0.01	27120	92.36	2.03
421	1353307.73	624719.75	89.60	26121	89.64	0.04	27121	91.65	2.01
422	1353357.73	624719.75	88.74	26122	88.77	0.03	27122	90.79	2.02
423	1353407.73	624719.75	87.87	26123	87.84	0.03	27123	89.91	2.06
424	1353457.73	624719.75	87.00	26124	87.03	0.03	27124	89.06	2.04
425	1353507.73	624719.75	87.87	26125	87.83	0.04	27125	89.90	2.07
426	1353557.73	624719.75	88.74	26126	88.66	0.07	27126	90.78	2.11
427	1353607.73	624719.75	89.60	26127	89.56	0.04	27127	91.62	2.06
428	1353649.75	624719.87	90.33	26128	90.33	0.00	27128	92.36	2.03
429	1353266.97	624769.75	90.81	26129	90.88	0.08	27129	92.90	2.02
430	1353357.73	624769.75	89.24	26130	89.28	0.04	27130	91.32	2.04
431	1353557.73	624769.75	89.24	26131	89.21	0.03	27131	91.27	2.06
432	1353649.68	624769.87	90.83	26132	90.83	0.01	27132	92.87	2.04
433	1353691.63	624769.99	91.55	26133	91.63	0.08	27133	93.65	2.02
434	1353706.32	624770.04	96.45	26134	96.48	0.03	27134	98.48	2.00
435	1353209.14	624819.75	97.80	26135	97.80	0.01	27135	99.83	2.03
436	1353226.51	624819.75	92.01	26136	92.09	0.08	27136	94.12	2.03
437	1353267.12	624819.75	91.30	26137	91.40	0.10	27137	93.41	2.01
438	1353307.73	624819.75	90.60	26138	90.69	0.09	27138	92.69	2.00
439	1353357.73	624819.75	89.74	26139	89.78	0.05	27139	91.81	2.03
440	1353407.73	624819.75	88.87	26140	88.86	0.01	27140	90.92	2.06
441	1353457.73	624819.75	88.00	26141	87.99	0.01	27141	90.04	2.05
442	1353507.73	624819.75	88.87	26142	88.87	0.00	27142	90.93	2.06
443	1353557.73	624819.75	89.74	26143	89.70	0.04	27143	91.79	2.09
444	1353607.73	624819.75	90.60	26144	90.57	0.03	27144	92.63	2.07
445	1353649.61	624819.87	91.33	26145	91.36	0.03	27145	93.40	2.04
446	1353267.27	624869.75	91.80	26146	91.90	0.10	27146	93.90	2.00
447	1353357.73	624869.75	90.24	26147	90.27	0.04	27147	92.29	2.01
448	1353557.73	624869.75	90.24	26148	90.23	0.01	27148	92.29	2.06
449	1353649.54	624869.87	91.82	26149	91.87	0.04	27149	93.90	2.03
450	1353691.34	624869.99	92.55	26150	92.65	0.10	27150	94.68	2.03
451	1353706.32	624870.03	97.54	26151	97.57	0.03	27151	99.57	2.00
452	1353209.14	624919.75	98.99	26152	98.96	0.03	27152	100.99	2.04
453	1353227.11	624919.75	93.00	26153	93.10	0.10	27153	95.21	2.11
454	1353267.42	624919.75	92.30	26154	92.40	0.10	27154	94.40	2.01
455	1353307.73	624919.75	91.60	26155	91.66	0.06	27155	93.66	2.00

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
456	1353357.73	624919.75	90.74	26156	90.76	0.02	27156	92.79	2.04
457	1353407.73	624919.75	89.87	26157	89.89	0.02	27157	91.90	2.01
458	1353457.73	624919.75	89.00	26158	88.97	0.03	27158	91.06	2.10
459	1353507.73	624919.75	89.87	26159	89.89	0.02	27159	91.92	2.03
460	1353557.73	624919.75	90.74	26160	90.78	0.05	27160	92.82	2.04
461	1353607.73	624919.75	91.60	26161	91.65	0.05	27161	93.69	2.04
462	1353649.47	624919.87	92.32	26162	92.39	0.07	27162	94.41	2.02
463	1353267.57	624969.75	92.80	26163	92.88	0.08	27163	94.88	2.01
464	1353357.73	624969.75	91.24	26164	91.28	0.04	27164	93.28	2.00
465	1353557.73	624969.75	91.24	26165	91.31	0.07	27165	93.32	2.01
466	1353649.39	624969.87	92.82	26166	92.90	0.08	27166	94.91	2.01
467	1353691.06	624969.98	93.54	26167	93.63	0.09	27167	95.63	2.00
468	1353706.32	624970.03	98.63	26168	98.57	0.06	27168	100.57	2.00
469	1353209.14	625019.75	100.18	26169	100.12	0.05	27169	102.16	2.04
470	1353227.71	625019.75	93.99	26170	94.08	0.09	27170	96.27	2.19
471	1353267.72	625019.75	93.29	26171	93.39	0.10	27171	95.40	2.01
472	1353307.73	625019.75	92.60	26172	92.64	0.04	27172	94.64	2.00
473	1353357.73	625019.75	91.74	26173	91.77	0.03	27173	93.77	2.00
474	1353407.73	625019.75	90.87	26174	90.90	0.03	27174	92.90	2.00
475	1353457.73	625019.75	90.00	26175	90.00	0.00	27175	92.08	2.08
476	1353507.73	625019.75	90.87	26176	90.90	0.03	27176	92.93	2.03
477	1353557.73	625019.75	91.74	26177	91.79	0.06	27177	93.84	2.05
478	1353607.73	625019.75	92.60	26178	92.67	0.07	27178	94.70	2.03
479	1353649.32	625019.87	93.32	26179	93.37	0.05	27179	95.39	2.01
480	1353267.87	625069.75	93.79	26180	93.88	0.09	27180	95.88	2.01
481	1353357.73	625069.75	92.24	26181	92.26	0.02	27181	94.26	2.00
482	1353557.73	625069.75	92.24	26182	92.26	0.02	27182	94.31	2.05
483	1353649.25	625069.87	93.82	26183	93.83	0.01	27183	95.87	2.04
484	1353690.77	625069.99	94.54	26184	94.53	0.01	27184	96.58	2.05
485	1353706.32	625070.03	99.72	26185	99.62	0.10	27185	101.62	2.00
486	1353209.14	625119.75	101.37	26186	101.32	0.04	27186	103.36	2.04
487	1353228.31	625119.75	94.98	26187	95.08	0.10	27187	97.20	2.12
488	1353268.02	625119.75	94.29	26188	94.33	0.05	27188	96.33	2.00
489	1353307.73	625119.75	93.60	26189	93.61	0.01	27189	95.65	2.03
490	1353357.73	625119.75	92.74	26190	92.75	0.01	27190	94.77	2.02
491	1353407.73	625119.75	91.87	26191	91.88	0.01	27191	93.91	2.03
492	1353457.73	625119.75	91.00	26192	91.06	0.06	27192	93.08	2.03
493	1353507.73	625119.75	91.87	26193	91.87	0.00	27193	93.92	2.05
494	1353557.73	625119.75	92.74	26194	92.75	0.01	27194	94.78	2.04
495	1353607.73	625119.75	93.60	26195	93.60	0.00	27195	95.67	2.07
496	1353649.18	625119.87	94.32	26196	94.29	0.03	27196	96.37	2.08
497	1353268.17	625169.75	94.79	26197	94.81	0.03	27197	96.85	2.03
498	1353357.73	625169.75	93.24	26198	93.23	0.00	27198	95.29	2.06
499	1353557.73	625169.75	93.24	26199	93.22	0.02	27199	95.28	2.07
500	1353649.11	625169.87	94.82	26200	94.80	0.01	27200	96.87	2.07
501	1353690.49	625169.99	95.53	26201	95.53	0.00	27201	97.60	2.06
502	1353706.32	625170.04	100.81	26202	100.71	0.10	27202	102.71	2.00
503	1353209.14	625219.75	102.56	26203	102.45	0.10	27203	104.52	2.06
504	1353228.91	625219.75	95.97	26204	96.03	0.07	27204	98.04	2.00
505	1353268.32	625219.75	95.28	26205	95.32	0.04	27205	97.35	2.03
506	1353307.73	625219.75	94.60	26206	94.60	0.00	27206	96.66	2.06
507	1353357.73	625219.75	93.74	26207	93.74	0.01	27207	95.79	2.05
508	1353407.73	625219.75	92.87	26208	92.88	0.01	27208	94.92	2.04
509	1353457.73	625219.75	92.00	26209	92.04	0.04	27209	94.06	2.02
510	1353507.73	625219.75	92.87	26210	92.85	0.02	27210	94.88	2.03
511	1353557.73	625219.75	93.74	26211	93.70	0.04	27211	95.78	2.08
512	1353607.73	625219.75	94.60	26212	94.59	0.02	27212	96.66	2.08
513	1353649.04	625219.87	95.32	26213	95.33	0.02	27213	97.37	2.04
514	1353268.47	625269.75	95.78	26214	95.82	0.04	27214	97.85	2.02
515	1353357.73	625269.75	94.24	26215	94.25	0.01	27215	96.29	2.04
516	1353557.73	625269.75	94.24	26216	94.22	0.02	27216	96.26	2.04

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REF G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MGO1
FLD HW, DF FB:/PG: BSM #8/20
OFF BHM DATE 12/09/21
CKD REB SHEET 7 DWG 21-138 FIGURE 2 TABLE

FIGURE 2
ASBUILT TOP OF SUBBASE & TOP OF PROTECTIVE COVER CONTROL POINT TABLE CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE MANAGEMENT FACILITY

CELL 14
FIGURE 2
(CONTINUED)

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
517	1353648.96	625269.87	95.81	26217	95.85	0.03	27217	97.88	2.03
518	1353690.20	625269.99	96.53	26218	96.60	0.07	27218	98.63	2.04
519	1353706.32	625270.03	101.90	26219	101.80	0.10	27219	103.80	2.00
520	1353209.14	625319.75	103.75	26220	103.67	0.07	27220	105.70	2.03
521	1353229.51	625319.75	96.96	26221	97.04	0.08	27221	99.04	2.00
522	1353268.62	625319.75	96.28	26222	96.32	0.05	27222	98.35	2.03
523	1353307.73	625319.75	95.60	26223	95.64	0.04	27223	97.66	2.02
524	1353357.73	625319.75	94.74	26224	94.78	0.04	27224	96.79	2.01
525	1353407.73	625319.75	93.87	26225	93.91	0.04	27225	95.92	2.02
526	1353457.73	625319.75	93.00	26226	93.03	0.03	27226	95.06	2.03
527	1353507.73	625319.75	93.87	26227	93.80	0.07	27227	95.87	2.07
528	1353557.73	625319.75	94.74	26228	94.68	0.06	27228	96.73	2.05
529	1353607.73	625319.75	95.60	26229	95.56	0.04	27229	97.63	2.07
530	1353648.89	625319.87	96.31	26230	96.33	0.02	27230	98.37	2.04
531	1353268.77	625369.75	96.78	26231	96.85	0.07	27231	98.85	2.00
532	1353357.73	625369.75	95.24	26232	95.29	0.06	27232	97.29	2.00
533	1353557.73	625369.75	95.24	26233	95.14	0.09	27233	97.24	2.10
534	1353648.82	625369.87	96.81	26234	96.80	0.02	27234	98.83	2.04
535	1353689.91	625369.99	97.52	26235	97.58	0.06	27235	99.59	2.01
536	1353706.32	625370.04	102.99	26236	102.90	0.09	27236	104.90	2.00
537	1353209.14	625419.75	104.94	26237	104.91	0.03	27237	106.95	2.04
538	1353230.11	625419.75	97.95	26238	98.04	0.10	27238	100.12	2.08
539	1353268.92	625419.75	97.27	26239	97.34	0.06	27239	99.34	2.00
540	1353307.73	625419.75	96.60	26240	96.63	0.03	27240	98.64	2.01
541	1353357.73	625419.75	95.74	26241	95.79	0.06	27241	97.79	2.00
542	1353407.73	625419.75	94.87	26242	94.92	0.05	27242	96.93	2.02
543	1353457.73	625419.75	94.00	26243	94.05	0.05	27243	96.08	2.02
544	1353507.73	625419.75	94.87	26244	94.80	0.07	27244	96.90	2.10
545	1353557.73	625419.75	95.74	26245	95.65	0.08	27245	97.76	2.11
546	1353607.73	625419.75	96.60	26246	96.53	0.07	27246	98.62	2.09
547	1353648.75	625420.43	97.32	26247	97.29	0.03	27247	99.33	2.04
548	1353269.07	625469.75	97.77	26248	97.80	0.03	27248	99.81	2.02
549	1353357.73	625469.75	96.24	26249	96.25	0.02	27249	98.28	2.03
550	1353557.73	625469.75	96.24	26250	96.19	0.05	27250	98.27	2.09
551	1353648.69	625471.00	97.77	26251	97.76	0.01	27251	99.81	2.05
552	1353209.14	625517.46	105.64	26252	105.65	0.01	27252	107.67	2.01
553	1353229.63	625507.61	98.83	26253	98.93	0.10	27253	101.83	2.90
554	1353268.68	625506.79	98.14	26254	98.21	0.07	27254	100.27	2.06
555	1353307.73	625505.97	97.46	26255	97.49	0.03	27255	99.50	2.02
556	1353357.73	625504.94	96.59	26256	96.62	0.03	27256	98.63	2.02
557	1353407.73	625503.90	95.71	26257	95.77	0.06	27257	97.79	2.01
558	1353457.73	625502.88	94.83	26258	94.91	0.08	27258	96.91	2.00
559	1353507.73	625504.51	95.72	26259	95.75	0.03	27259	97.79	2.04
560	1353557.73	625506.14	96.60	26260	96.62	0.02	27260	98.67	2.05
561	1353607.73	625507.77	97.48	26261	97.48	0.00	27261	99.53	2.05
562	1353649.39	625509.77	98.17	26262	98.22	0.05	27262	100.22	2.00
563	1353691.05	625511.78	98.91	26263	99.01	0.10	27263	101.01	2.00
564	1353706.32	625518.71	104.00	26264	104.01	0.01	27264	106.01	2.00
565	1353268.29	625543.83	98.52	26265	98.60	0.08	27265	101.30	2.70
566	1353357.73	625540.12	96.94	26266	97.01	0.07	27266	99.00	2.00
567	1353557.73	625542.53	96.96	26267	97.04	0.08	27267	99.07	2.03
568	1353650.10	625548.54	98.62	26268	98.72	0.10	27268	100.72	2.00
569	1353258.44	625565.16	105.58	26269	105.63	0.06	27269	107.63	2.00
570	1353357.73	625565.16	105.23	26270	105.19	0.03	27270	107.26	2.07
571	1353457.73	625565.16	104.88	26271	104.78	0.09	27271	106.87	2.09
572	1353557.73	625565.16	104.53	26272	104.43	0.09	27272	106.54	2.11
573	1353657.03	625570.16	103.78	26273	103.88	0.10	27273	106.17	2.29
901	1353457.73	624169.75	81.50	20833	81.48	0.02	21063	83.57	2.09
902	1353457.73	624269.75	82.50	20834	82.54	0.04	21056	84.54	2.00
903	1353457.73	624369.75	83.50	20835	83.58	0.08	21053	85.58	2.00
904	1353457.73	624469.75	84.50	25000	84.51	0.01	21046	86.53	2.02

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
905	1353457.73	624569.75	85.50	25001	85.45	0.05	21043	87.55	2.10
906	1353457.73	624669.75	86.50	25002	86.53	0.03	21036	88.60	2.07
907	1353457.73	624769.75	87.50	25003	87.52	0.02	21033	89.53	2.01
908	1353457.73	624869.75	88.50	25004	88.46	0.04	21026	90.55	2.09
909	1353457.73	624969.75	89.50	25005	89.47	0.03	21023	91.57	2.10
910	1353457.73	625069.75	90.50	20692	90.57	0.07	21020	92.59	2.02
911	1353457.73	625169.75	91.50	20681	91.54	0.04	21018	93.57	2.03
912	1353457.73	625269.75	92.50	20674	92.54	0.04	21015	94.55	2.01
913	1353457.73	625369.75	93.50	20663	93.52	0.02	21014	95.57	2.05
914	1353457.73	625469.75	94.50	20656	94.58	0.08	21011	96.58	2.00
915	1353457.73	625536.01	95.16	20644	95.24	0.08	21010	97.24	2.00

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REVISIONS:

DATE:

FIGURE 2 TABLE

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FLD HW, DF FB, PG. BSM #8/20

OFF BHM DATE 12/09/21

CKD REB SHEET 8 DWG 21-138 FIGURE 2 TABLE

FIGURE 2
ASBUILT TOP OF SUBBASE & TOP OF PROTECTIVE COVER CONTROL POINT TABLE CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE MANAGEMENT FACILITY

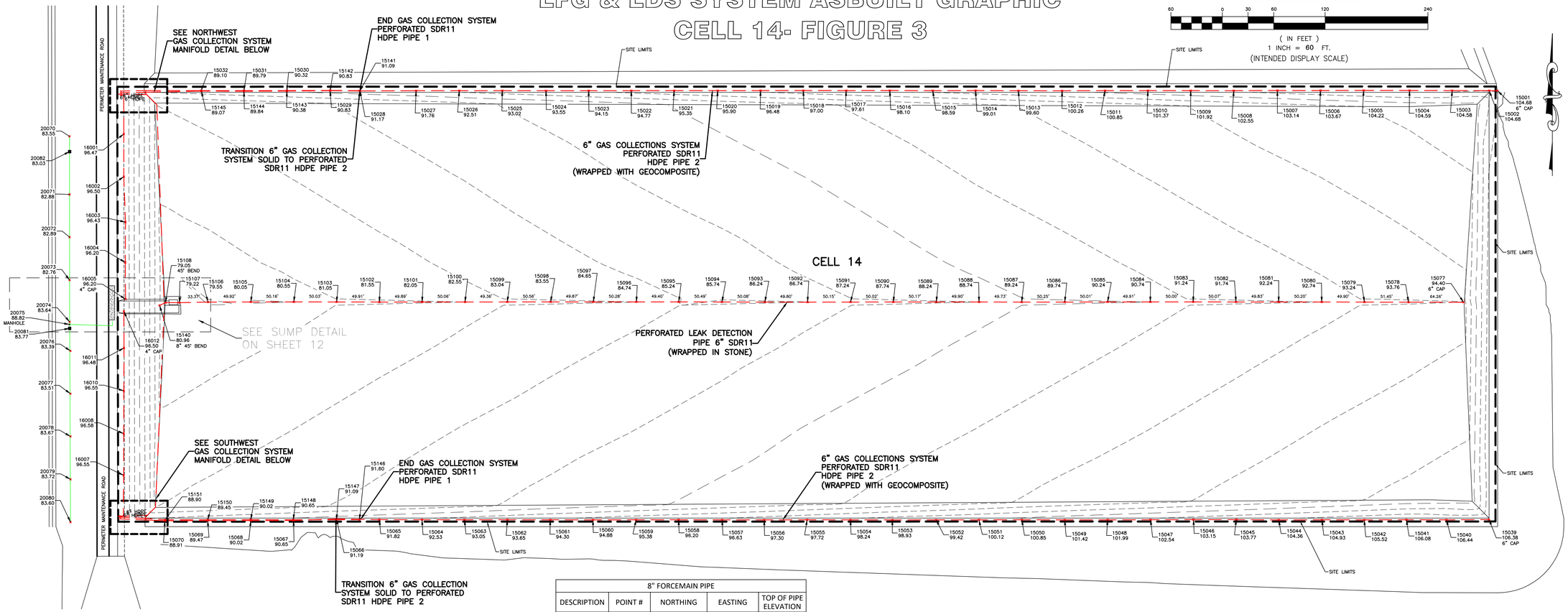
Figure 3
Asbuilt LFG and LDS System

LFG & LDS SYSTEM ASBUILT GRAPHIC
CELL 14- FIGURE 3

GRAPHIC SCALE

60 0 30 60 120 240

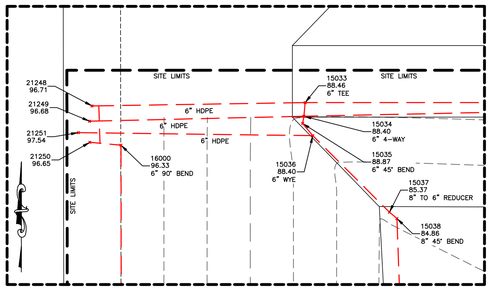
(IN FEET)
1 INCH = 60 FT.
(INTENDED DISPLAY SCALE)



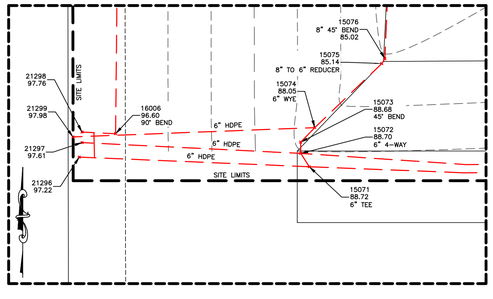
LEGEND:

20000 — 100.00' ASBUILT POINT # & ELEVATION
PERF. PERFORATED
ASBUILT SUBBASE CONTOUR

NORTHWEST GAS COLLECTION SYSTEM MANIFOLD DETAIL- SCALE 1 INCH=10 FEET



SOUTHWEST GAS COLLECTION SYSTEM MANIFOLD DETAIL- SCALE 1 INCH=10 FEET



8" FORCEMAIN PIPE				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
8" FM TIE-IN	20070	1353654.97	623908.00	83.55
8" FM	20071	1353607.27	623908.05	83.57
8" FM	20072	1353554.69	623908.11	83.59
8" FM	20073	1353507.24	623908.16	83.61
8" FM	20074	1353465.45	623908.20	83.63
CENTER TOP OF MH	20075	1353435.27	623908.03	88.83
8" FM	20076	1353407.94	623908.36	83.64
8" FM	20077	1353357.93	623908.56	83.63
8" FM	20078	1353307.91	623908.77	83.62
8" FM	20079	1353258.79	623908.97	83.61
8" FLANGE	20080	1353204.54	623909.20	83.60
8" FM	20081	1353430.69	623908.23	83.77
8" FM	20082	1353637.09	623908.18	83.03

MANIFOLD DETAIL GAS COLLECTION SYSTEM				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" TEE	15033	1353708.35	623997.10	88.46
6" CROSS	15034	1353706.44	623996.93	88.40
6" 45 BEND	15035	1353705.43	623996.75	88.87
6" WYE	15036	1353703.73	623998.17	88.40
6"X8" REDUCER	15037	1353693.04	624008.87	85.37
8" 45 BEND	15038	1353692.16	624009.92	84.86
6" TEE	15071	1353206.95	623997.87	88.72
6" CROSS	15072	1353208.81	623996.69	88.70
6" 45 BEND	15073	1353210.38	623996.66	88.68
6" WYE	15074	1353212.41	623998.64	88.05
6"X8" REDUCER	15075	1353221.36	624008.00	85.14
8" 45 BEND	15076	1353222.05	624008.43	85.02
6" 90 BEND	16000	1353702.40	623971.37	96.33
6" 90 BEND	16006	1353211.56	623970.81	96.60
6" CAP	21248	1353707.88	623967.32	96.71
6" CAP	21249	1353705.75	623966.97	96.68
6" CAP	21250	1353702.80	623967.02	96.65
6" CAP	21251	1353704.15	623965.41	97.54
6" CAP	21296	1353208.29	623965.73	97.22
6" CAP	21297	1353210.32	623966.12	97.61
6" CAP	21298	1353211.79	623966.12	97.76
6" CAP	21299	1353211.11	623964.85	97.98

WEST SLOPE GAS COLLECTION SYSTEM				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
4" 90 BEND	16000	1353702.40	623971.37	96.33
4" PERF PIPE	16001	1353657.71	623971.44	96.47
4" PERF PIPE	16002	1353607.81	623971.45	96.50
4" PERF PIPE	16003	1353554.85	623973.40	96.43
4" PERF PIPE	16004	1353507.74	623973.19	96.20
4" PIPE CAP	16005	1353464.85	623973.41	96.20
4" 90 BEND	16006	1353211.56	623970.81	96.60
4" PERF PIPE	16007	1353259.10	623971.29	96.55
4" PERF PIPE	16008	1353307.72	623971.35	96.58
4" PERF PIPE	16010	1353357.84	623971.47	96.55
4" PERF PIPE	16011	1353407.86	623971.66	96.48
4" PIPE CAP	16012	1353450.72	623971.49	96.50

PERFORATED LEAK DETECTION PIPE 6"							
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION	DISTANCE	POINT #	TOP OF PIPE ELEVATION	SLOPE
6" PIPE CAP	15077	1353461.23	625535.42	94.40	64.26	15078	93.76	1.00%
6" PIPE	15078	1353461.30	625471.16	93.76	51.45	15079	93.24	1.00%
6" PIPE	15079	1353461.39	625419.71	93.24	49.90	15080	92.74	1.00%
6" PIPE	15080	1353461.50	625369.81	92.74	50.20	15081	92.24	1.00%
6" PIPE	15081	1353461.56	625319.61	92.24	49.83	15082	91.74	1.00%
6" PIPE	15082	1353461.53	625269.78	91.74	50.07	15083	91.24	1.00%
6" PIPE	15083	1353461.64	625219.71	91.24	50.00	15084	90.74	1.00%
6" PIPE	15084	1353461.58	625169.71	90.74	49.91	15085	90.24	1.00%
6" PIPE	15085	1353461.53	625119.80	90.24	50.01	15086	89.74	1.00%
6" PIPE	15086	1353461.43	625069.79	89.74	50.25	15087	89.24	1.00%
6" PIPE	15087	1353461.39	625019.54	89.24	49.73	15088	88.74	1.00%
6" PIPE	15088	1353461.50	624969.81	88.74	49.90	15089	88.24	1.00%
6" PIPE	15089	1353461.52	624919.91	88.24	50.17	15090	87.74	1.00%
6" PIPE	15090	1353461.50	624869.74	87.74	50.02	15091	87.24	1.00%
6" PIPE	15091	1353461.44	624819.72	87.24	50.15	15092	86.74	1.00%
6" PIPE	15092	1353461.34	624769.57	86.74	49.80	15093	86.24	1.00%
6" PIPE	15093	1353461.42	624719.77	86.24	50.08	15094	85.74	1.00%
6" PIPE	15094	1353461.52	624669.69	85.74	50.49	15095	85.24	1.00%
6" PIPE	15095	1353461.59	624619.20	85.24	49.40	15096	84.74	1.00%
6" PIPE	15096	1353461.61	624569.80	84.74	9.72	15097	84.65	1.00%
6" PIPE	15097	1353461.55	624579.52	84.65	109.87	15098	83.55	1.00%
6" PIPE	15098	1353461.65	624469.65	83.55	50.56	15099	83.04	1.00%
6" PIPE	15099	1353461.57	624419.09	83.04	49.36	15100	82.55	1.00%
6" PIPE	15100	1353461.49	624369.73	82.55	50.06	15101	82.05	1.00%
6" PIPE	15101	1353461.47	624319.67	82.05	49.89	15102	81.55	1.00%
6" PIPE	15102	1353461.45	624269.78	81.55	49.91	15103	81.05	1.00%
6" PIPE	15103	1353461.54	624219.87	81.05	50.03	15104	80.55	1.00%
6" PIPE	15104	1353461.60	624169.84	80.55	50.16	15105	80.05	1.00%
6" PIPE	15105	1353461.52	624119.68	80.05	49.92	15106	79.55	1.00%
6" PIPE	15106	1353461.44	624069.76	79.55	33.37	15107	79.22	1.00%
6" PIPE	15107	1353460.75	624036.40	79.22	16.23	15108	79.05	1.00%
45 BEND	15108	1353460.80	624020.17	79.05				

NORTH SLOPE GAS COLLECTION SYSTEM (PIPE 1)				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" PIPE CAP	15141	1353708.00	624246.98	91.09
6" PERF PIPE	15142	1353708.50	624212.39	90.83
6" PERF PIPE	15143	1353707.83	624161.84	90.38
6" PERF PIPE	15144	1353707.62	624111.69	89.84
6" PERF PIPE	15145	1353707.80	624062.02	89.07

NORTH SLOPE GAS COLLECTION SYSTEM (PIPE 2)				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" PIPE CAP	15001	1353708.19	625575.11	104.68
6" PERF PIPE	15002	1353708.29	625565.25	104.68
6" PERF PIPE	15003	1353708.36	625522.14	104.58
6" PERF PIPE	15004	1353708.48	625472.34	104.59
6" PERF PIPE	15005	1353708.56	625418.78	104.22
6" PERF PIPE	15006	1353708.46	625368.40	103.67
6" PERF PIPE	15007	1353708.47	625318.02	103.14
6" PERF PIPE	15008	1353708.27	625267.16	102.55
6" PERF PIPE	15009	1353708.30	625216.90	101.92
6" PERF PIPE	15010	1353708.37	625166.90	101.37
6" PERF PIPE	15011	1353708.32	625166.83	100.85
6" PERF PIPE	15012	1353708.16	625066.78	100.26
6" PERF PIPE	15013	1353708.22	625015.75	99.60
6" PERF PIPE	15014	1353708.40	624965.70	99.01
6" PERF PIPE	15015	1353708.30	624915.74	98.59
6" PERF PIPE	15016	1353708.44	624865.61	98.10
6" PERF PIPE	15017	1353708.37	624814.70	97.61
6" PERF PIPE	15018	1353708.44	624764.66	97.00
6" PERF PIPE	15019	1353708.38	624714.70	96.48
6" PERF PIPE	15020	1353708.33	624664.72	95.90
6" PERF PIPE	15021	1353708.31	624613.87	95.35
6" PERF PIPE	15022	1353708.29	624563.95	94.77
6" PERF PIPE	15023	1353708.25	624514.06	94.15
6" PERF PIPE	15024	1353708.21	624464.30	93.55
6" PERF PIPE	15025	1353708.30	624413.26	93.02
6" PERF PIPE	15026	1353708.25	624363.11	92.51
6" PERF PIPE	15027	1353708.24	624312.65	91.76
6" SOLID PIPE	15028	1353708.32	624247.14	91.17
6" SOLID PIPE	15029	1353708.35	624212.35	90.83
6" SOLID PIPE	15030	1353708.39	624161.73	90.32
6" SOLID PIPE	15031	1353708.34	624111.64	89.79
6" SOLID PIPE	15032	1353708.36	624061.75	89.10
6" TEE	15033	1353708.35	623997.10	88.46
6" 4 WAY	15034	1353706.44	623996.93	88.40
6" 45 BEND	15035	1353705.43	623996.75	88.87
6" WYE	15036	1353703.73	623998.17	88.40
ADAPTOR	15037	1353693.04	624008.87	85.37
8" 45 BEND	15038	1353692.16	624009.92	84.86

SOUTH SLOPE GAS COLLECTION SYSTEM (PIPE 1)				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" PIPE CAP	15146	1353207.33	624246.56	91.60
6" PERF PIPE	15147	1353207.20	624219.68	91.09
6" PERF PIPE	15148	1353207.27	624169.23	90.65
6" PERF PIPE	15149	1353207.40	624119.61	90.02
6" PERF PIPE	15150	1353207.32	624069.48	89.45
6" PERF PIPE	15151	1353207.25	624019.74	88.90

SOUTH SLOPE GAS COLLECTION SYSTEM (PIPE 2)				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" PIPE CAP	15039	1353207.46	625565.11	106.38
6" PERF PIPE	15040	1353207.12	625515.35	106.44
6" PERF PIPE	15041	1353207.26	625468.61	106.08
6" PERF PIPE	15042	1353207.07	625419.47	105.52
6" PERF PIPE	15043	1353207.16	625370.03	104.93
6" PERF PIPE	15044	1353207.03	625319.61	104.36
6" PERF PIPE	15045	1353207.38	625270.10	103.77
6" PERF PIPE	15046	1353207.35	625220.04	103.15
6" PERF PIPE	15047	1353207.24	625169.94	102.54
6" PERF PIPE	15048	1353207.08	625119.91	101.99
6" PERF PIPE	15049	1353207.06	625069.72	101.42
6" PERF PIPE	15050	1353207.24	625019.75	100.85
6" PERF PIPE	15051	1353207.09	624969.64	100.12
6" PERF PIPE	15052	1353207.05	624919.66	99.42
6" PERF PIPE	15053	1353207.01	624868.62	98.93
6" PERF PIPE	15054	1353207.11	624819.66	98.24
6" PERF PIPE	15055	1353207.14	624769.11	97.72
6" PERF PIPE	15056	1353207.04	624718.98	97.30
6" PERF PIPE	15057	1353207.12	624669.88	96.63
6" PERF PIPE	15058	1353207.19	624618.96	96.20
6" PERF PIPE	15059	1353207.14	624569.49	95.38
6" PERF PIPE	15060	1353207.08	624518.97	94.88
6" PERF PIPE	15061	1353207.17	624469.26	94.30
6" PERF PIPE	15062	1353207.24	624419.22	93.65
6" PERF PIPE	15063	1353207.19	624369.10	93.05
6" PERF PIPE	15064	1353207.29	624319.49	92.53
6" PERF PIPE	15065	1353207.34	624269.69	91.82
6" SOLID PIPE	15066	1353208.20	624219.70	91.19
6" SOLID PIPE	15067	1353206.37	624169.65	90.65
6" SOLID PIPE	15068	1353206.24	624119.68	90.02
6" SOLID PIPE	15069	1353206.19	624069.36	89.47
6" SOLID PIPE	15070	1353206.10	624019.46	88.91
6" TEE	15071	1353206.95	623997.87	88.72
6" 4 WAY	15072	1353208.81	623996.69	88.70
6" 45 BEND	15073	1353210.38	623996.66	88.68
6" WYE	15074	1353212.41	623998.64	88.05
ADAPTOR	15075	1353221.36	624008.00	85.14
8" 45 BEND	15076	1353222.05	624008.43	85.02

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LAND SURVEYING SERVICES
80 SE 31st Lane, Okeechobee, FL 34974
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863.484.8324
LB 8155

CAD	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\		
REF	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MG01		
FLD	JF	FB./PG. BSM #8/20	DATE 11/17/21
OFF	BHM		SHEET 10
CKD	REB		DWG 21-138 ASBUILT LFG & LDS SURVEY

REVISIONS: BY: DATE:

FIGURE 3
CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE FACILITY
1501 OMNI WAY
ST. CLOUD, FLORIDA

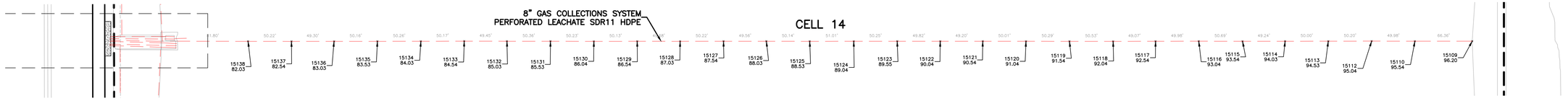
Figure 4
Asbuilt Leachate & Sump

SUMP DETAIL
CELL 14- FIGURE 4

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 INCH = 60 FT.
(INTENDED DISPLAY SCALE)



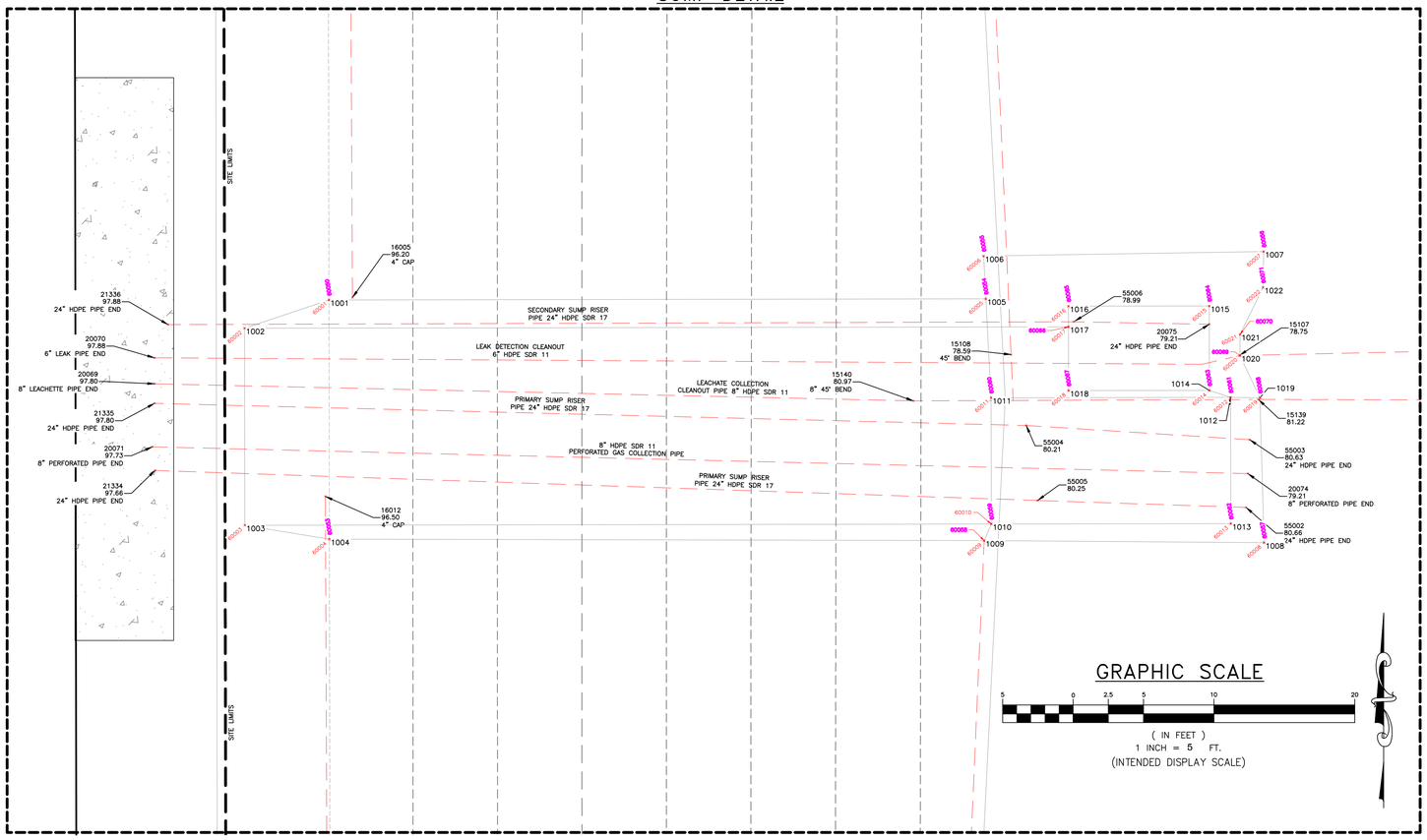
LEGEND:

20000 / 100.00' PERF.	ASBUILT POINT # & ELEVATION PERFORATED
	ASBUILT SUBBASE CONTOUR
1000	ASBUILT SUBBASE POINT NUMBER
1000	ASBUILT PROTECTIVE COVER POINT NUMBER
1000	DESIGN POINT NUMBER

SUMP PIPE DETAIL				
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION
6" PERF PIPE	15107	1353460.75	624036.40	78.75
8" 45 BEND	15108	1353460.80	624020.17	78.59
8" PERF PIPE	15139	1353457.61	624037.73	81.22
8" 45 BEND	15140	1353457.51	624013.23	80.97
8" LEACHETTE	20069	1353458.72	623959.36	97.80
6" PIPE	20070	1353460.57	623959.36	97.88
8" PERF	20071	1353454.24	623959.21	97.73
8" PERF	20074	1353452.34	624036.98	79.21
24" HDPE PIPE END	20075	1353462.95	624034.25	79.21
24" HDPE PIPE END	21334	1353452.56	623959.40	97.66
24" HDPE PIPE END	21335	1353457.33	623959.36	97.80
24" HDPE PIPE END	21336	1353462.93	623960.32	97.88
24" HDPE PIPE END	55002	1353449.94	624036.85	80.67
24" HDPE PIPE END	55003	1353454.75	624037.11	80.63
24" 45 BEND	55004	1353455.76	624021.25	80.21
24" 45 BEND	55005	1353450.43	624022.05	80.25
24" 45 BEND	55006	1353463.13	624024.62	78.99

PERFORATED LEACHATE COLLECTION PIPE								
DESCRIPTION	POINT #	NORTHING	EASTING	TOP OF PIPE ELEVATION	DISTANCE	POINT #	TOP OF PIPE ELEVATION	SLOPE
8" PIPE CAP	15109	1353457.65	625536.04	96.20	66.36	15110	95.54	1.00%
8"PERF PIPE	15110	1353457.60	625469.68	95.54	49.98	15112	95.04	1.00%
8"PERF PIPE	15112	1353457.70	625419.70	95.04	50.20	15113	94.53	1.00%
8"PERF PIPE	15113	1353457.60	625369.50	94.53	50.00	15114	94.03	1.00%
8"PERF PIPE	15114	1353457.55	625319.50	94.03	49.24	15115	93.54	1.00%
8"PERF PIPE	15115	1353457.49	625270.26	93.54	50.69	15116	93.04	1.00%
8"PERF PIPE	15116	1353457.60	625219.57	93.04	49.98	15117	92.54	1.00%
8"PERF PIPE	15117	1353457.52	625169.59	92.54	49.07	15118	92.04	1.00%
8"PERF PIPE	15118	1353457.40	625120.52	92.04	50.53	15119	91.54	1.00%
8"PERF PIPE	15119	1353457.45	625069.99	91.54	50.29	15120	91.04	1.00%
8"PERF PIPE	15120	1353457.51	625019.70	91.04	50.01	15121	90.54	1.00%
8"PERF PIPE	15121	1353457.57	624969.69	90.54	49.20	15122	90.04	1.00%
8"PERF PIPE	15122	1353457.48	624920.49	90.04	49.82	15123	89.55	1.00%
8"PERF PIPE	15123	1353457.56	624870.67	89.55	50.25	15124	89.04	1.00%
8"PERF PIPE	15124	1353457.50	624820.42	89.04	51.01	15125	88.53	1.00%
8"PERF PIPE	15125	1353457.45	624769.41	88.53	50.14	15126	88.03	1.00%
8"PERF PIPE	15126	1353457.55	624719.27	88.03	49.56	15127	87.54	1.00%
8"PERF PIPE	15127	1353457.56	624669.71	87.54	50.22	15128	87.03	1.00%
8"PERF PIPE	15128	1353457.46	624619.49	87.03	49.68	15129	86.54	1.00%
8"PERF PIPE	15129	1353457.51	624569.81	86.54	50.13	15130	86.04	1.00%
8"PERF PIPE	15130	1353457.40	624519.68	86.04	50.23	15131	85.53	1.00%
8"PERF PIPE	15131	1353457.53	624469.45	85.53	50.36	15132	85.03	1.00%
8"PERF PIPE	15132	1353457.57	624419.09	85.03	49.45	15133	84.54	1.00%
8"PERF PIPE	15133	1353457.67	624369.64	84.54	50.17	15134	84.03	1.00%
8"PERF PIPE	15134	1353457.51	624319.47	84.03	50.26	15135	83.53	1.00%
8"PERF PIPE	15135	1353457.46	624269.21	83.53	50.16	15136	83.03	1.00%
8"PERF PIPE	15136	1353457.42	624219.05	83.03	49.30	15137	82.54	1.00%
8"PERF PIPE	15137	1353457.36	624169.75	82.54	50.22	15138	82.03	1.00%
8"PERF PIPE	15138	1353457.44	624119.53	82.03	81.80	15139	81.22	1.00%
8"PERF PIPE	15139	1353457.61	624037.73	81.22	24.50	15140	80.97	1.00%
45 BEND	15140	1353457.51	624013.23	80.97				

SUMP DETAIL



GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
1 INCH = 5 FT.
(INTENDED DISPLAY SCALE)

DESIGN SUBBASE GRADE				ASBUILT SUBBASE			ASBUILT PROTECTIVE COVER		
DESIGN POINT #	DESIGN NORTHING	DESIGN EASTING	DESIGN ELEVATION	ASBUILT POINT #	ASBUILT ELEVATION	TOLERANCE	ASBUILT POINT #	ASBUILT ELEVATION	THICKNESS OVER LINER
1001	1353464.68	623971.74	96.00	60001	96.04	0.04	60050	98.10	2.06
1002	1353462.67	623965.75	96.00	60002	96.03	0.03	60051	N/A	N/A
1003	1353448.67	623965.77	96.00	60003	96.07	0.07	60052	N/A	N/A
1004	1353447.68	623971.77	96.00	60004	96.04	0.04	60053	98.15	2.11
1005	1353464.76	624018.38	80.12	60005	80.17	0.05	60054	83.10	2.93
1006	1353467.80	624018.22	80.17	60006	80.20	0.03	60055	83.00	2.80
1007	1353468.12	624038.10	80.36	60007	80.40	0.04	60056	83.14	2.74
1008	1353447.43	624038.13	80.36	60008	80.37	0.01	60057	83.12	2.75
1009	1353447.58	624018.26	80.17	60009	80.20	0.03	60058	83.16	2.96
1010	1353448.76	624018.77	78.00	60010	78.08	0.08	60059	83.17	5.09
1011	1353457.73	624018.75	78.00	60011	78.06	0.06	60060	83.12	5.06
1012	1353457.76	624035.75	78.00	60012	78.05	0.05	60061	83.11	5.06
1013	1353448.78	624035.77	78.00	60013	78.04	0.04	60062	83.18	5.14
1014	1353458.25	624034.25	76.50	60014	76.53	0.03	60063	83.17	6.64
1015	1353464.25	624034.24	76.50	60015	76.49	0.01	60064	83.18	6.69
1016	1353464.24	624024.24	76.50	60016	76.51	0.01	60065	83.12	6.61
1017	1353462.77	624024.25	76.50	60017	76.53	0.03	60066	83.11	6.58
1018	1353458.24	624024.25	76.50	60018	76.55	0.05	60067	83.10	6.55
1019	1353457.73	624037.84	80.18	60019	80.20	0.02	60068	83.06	2.86
1020	1353460.73	624036.42	78.67	60020	78.70	0.03	60069	83.07	4.37
1021	1353462.23	624036.42	78.67	60021	78.70	0.03	60070	83.11	4.41
1022	1353465.57	624038.06	80.32	60022	80.35	0.03	60071	83.10	2.75

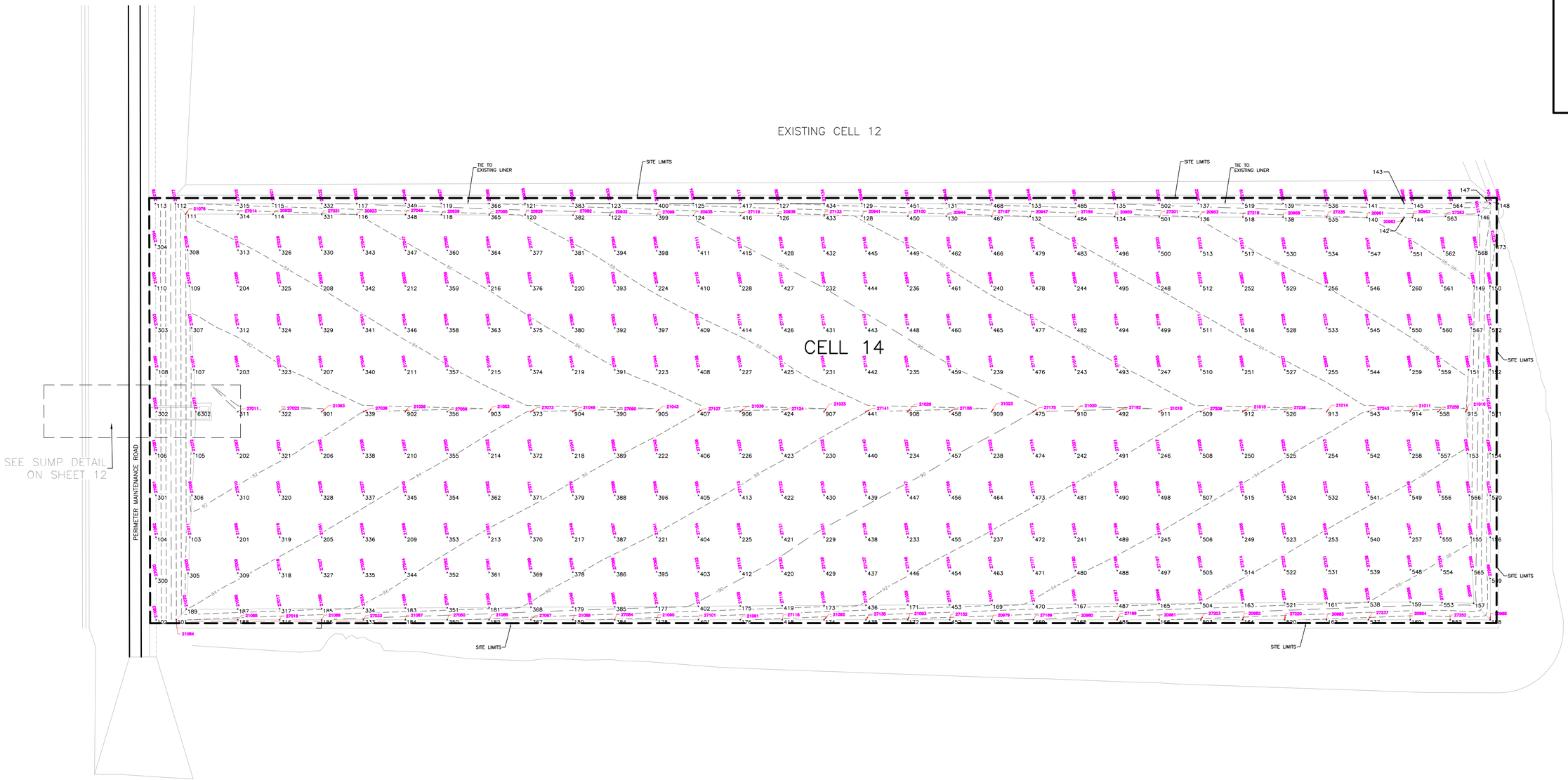
BSM & ASSOCIATES
LAND SURVEYING SERVICES
80 SE 31st Lane, Okeechobee, FL 34974
ricky.barnes@bsmsurvey.com
863.484.8324
LB 8155

				BY:
				REVISIONS:
				DATE:
CAD	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\			
REF	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\MG01			
FLD	JF	FB./PG.	BSM #8/20	DATE 11/17/21
OFF	BHM			
CKD	REB			SHEET 12

FIGURE 4
CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE FACILITY
1501 OMNI WAY
ST. CLOUD, FLORIDA

Figure 5
Asbuilt Top of Protective Cover

TOP OF PROTECTIVE COVER
ASBUILT GRAPHIC
CELL 14- FIGURE 5



LEGEND:

1000	ASBUILT PROTECTIVE COVER POINT NUMBER
1000	DESIGN POINT NUMBER
EL.	ADDITIONAL ELEVATION SHOWN ALONG TRENCH
_ _ _ _ _ _	ASBUILT SUBBASE CONTOUR

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 INCH = 60 FT.
(INTENDED DISPLAY SCALE)

SEE FIGURE 2 FOR CONTROL POINT TABLE

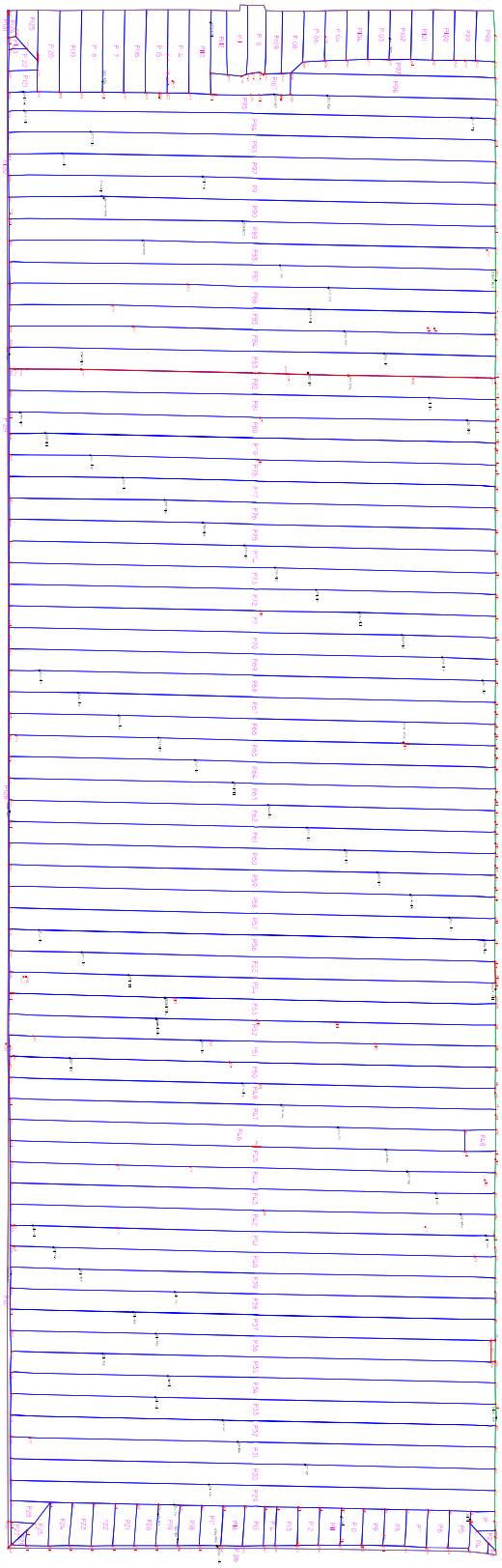
BSM & ASSOCIATES
LAND SURVEYING SERVICES
80 SE 31st Lane, Okeechobee, FL 34974
ricky.barnes@bsmsurvey.com
863.484.8324
LB 8155

CAD	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\		
REF	G:\My Drive\BSM & ASSOCIATES, INC\2021\21-138 JED LANDFILL\VG01		
FLD	JF	FB./PG. BSM #8/20	DATE 11/17/21
OFF	BHM		
CKD	REB	SHEET 14	DWG 21-138 figure 5

REVISIONS: BY: DATE:

FIGURE 5
CELL 14 CONSTRUCTION
J.E.D. SOLID WASTE FACILITY
1501 OMNI WAY
ST. CLOUD, FLORIDA

Figure 6
Cell 14 Secondary Layer 60 Mil HDPE As-built



N

Scale: 1" = 125'

Legend		
P PANEL NUMBER	CAP	
R REPAIR NUMBER	PATCH	
DS DESTRUCT NUMBER	ANCHOR TRENCH	
DESTRUCTIVE TEST	TIE-IN WELD	

Prepared By:

COMANCO

SAFETY ★ QUALITY ★ SERVICE

60 Mil HDPE Textured Secondary As-Built

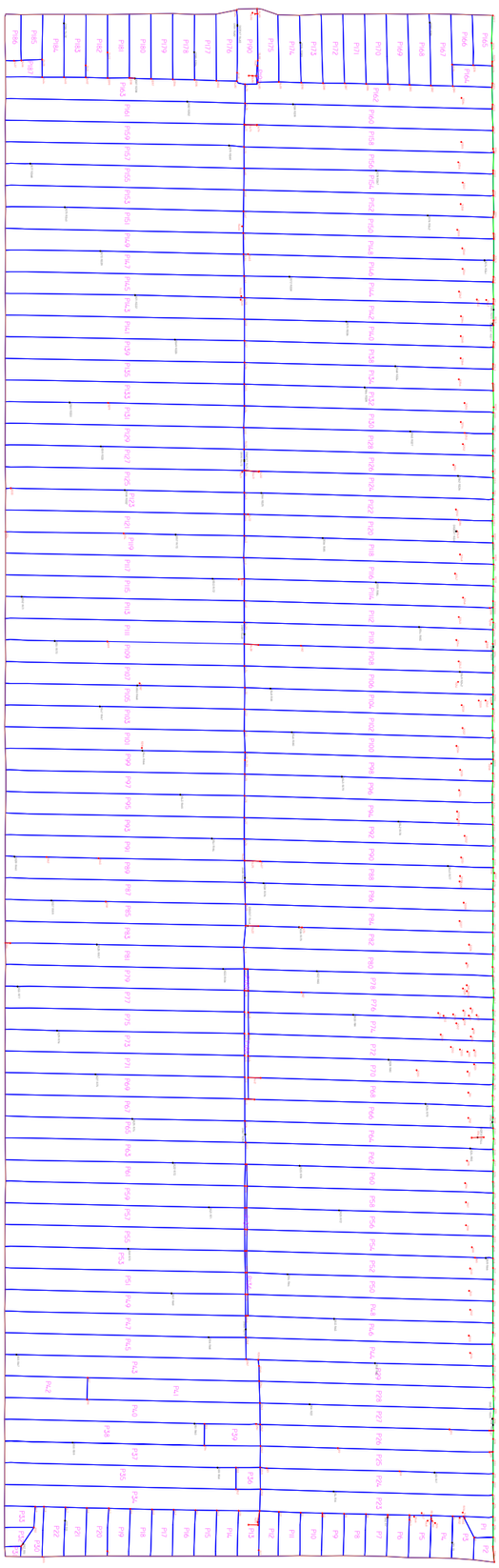
Drawn By:Eric DeHaan

Checked By:

Approved By:

Project Number and Name:	032110786 Waste Connections JED Landfill Cell 14 Liner Install
PROJECT LOCATION:	St Cloud, Florida
Date:	11-10-2021

Figure 7
Cell 14 Primary Layer 60 Mil HDPE As-built



N

Scale: 1" = 150'

Legend		Prepared By:	60 Mil HDPE Textured Primary Map Overlay	Drawn By:Eric DeHaan
P PANEL NUMBER	CAP	COMANCO SAFETY ★ QUALITY ★ SERVICE		Checked By:
R REPAIR NUMBER	PATCH			Approved By:
DS DESTRUCT NUMBER	ANCHOR TRENCH		Project Number and Name:	032110786 Waste Connections JED Landfill Cell 14 Liner Install
DESTRUCTIVE TEST	TIE-IN WELD		PROJECT LOCATION:	St Cloud, Florida
			Date:	11-10-2021

LIST OF APPENDICIES

APPENDIX A
Listing of CQA Monitoring and Installation Personnel

Section 1
Brantley Engineering, LLC

Brantley Engineering, LLC

Listing of Quality Assurance Monitoring Personnel

JED Cell 14 Construction

Name	Initials	Title
Allan Brantley, PE	ASB	Certifying Engineer
Sam Nejad, PE	SMN	Sr. Project Manager
Kevin Lesley	KL	Sr. QA Monitor
Andrew Vickers	AV	Synthetics QA Monitor
Justin Preston	JP	Synthetics QA Monitor
Andy Williams	AW	Synthetics QA Monitor

Section 2
Comanco Environmental Corporation

SUBMITTAL TRANSMITTAL

Submittal Description	Liner Crew Resumes		**Date** 06/03/2021
Engineer	KIRK WILLS		
Owner	Waste Connections Inc.		
Submittal number	02770-01		
Spec section	02770 (Geomembrane)		
Project	032110786	WC JED LF CELL 14 LINER I	
Contractor	Comanco Environmental Corporation		
Current action	Submitted		
Routing: Engineer	**Sent:** 06/03/2021		**Received**
We are sending you	Attached		

Remarks

Copies	Date	Description
1	06/03/2021	Liner Crew Resumes

Contractor

Certify either A or B:

☒ A. We have verified that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work, specified (no exceptions).

☐ B. We have verified that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

Deviation			
Certified by		Date	06/03/2021

SUBMITTAL REVIEW BY ENGINEER

☐ No exceptions taken
☐ Make corrections noted and resubmit
☐ Make corrections noted. Do not resubmit
☐ Rejected. Resubmit in accordance with contract documents

BY: _____ DATE: _____

Engineer Comments:	

Angel Rodriguez

MASTER SEAMER

PROFILE

Angel has over 19 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

Angel is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes. He is experienced in operating the wedge welder, extrusion welder, vacuum boxes, tensiometer, coupon cutter, and air pressure testing equipment.

Angel is also experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He is qualified to assist in the training of Geomembrane Welders. Safety is an essential part of COMANCO's culture, and all MasterSeamers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- OSHA 10
- TWIC
- Task Training
- CPR/First Aid Training
- Confined Space Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Certified Welding Technician: CWT53416

WORK HISTORY

Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	90,297,777
LLDPE (Textured and Smooth)	9,573,686
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	211,341
Geotextile	13,375,575
Geonet	11,369,549
Geocomposite	46,098,126
GCL	31,823,763
PVC	980,270
Gundseal	
XR-5	
Rain Tarp	4,683,797
Engineered Synthetic Turf	

Alexandro Garcia Jr.

LABORER

PROFILE

Alexandro has over 1 year of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- OSHA 10
- MSHA Training
- CPR/First Aid Training
- Florida Phosphate Contractor Training
- Mosaic Florida Site Training

WORK HISTORY

Mosaic South Pierce Area 5	4,266,258 SF HDPE	270,452 SF Geocomposite
DRD Landfill Cell 5	393,995 SF HDPE	367,611 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	4,660,253
LLDPE (Textured and Smooth)	
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	
Geonet	
Geocomposite	638,063
GCL	15,930
PVC	
Gundseal	
XR-5	
Rain Tarp	
Engineered Synthetic Turf	

COMANCO

Abnel Lopez Soto

LINER TECHNICIAN

PROFILE

Abnel has over 8 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. He may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a MasterSeamer, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all liner technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- Hazwopper 40 HR
- CPR/First Aid Training
- Confined Space Training
- Forklift/Skid Steer Operator Training
- Mosaic RCRA
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Certified Welding Technician: CW122215

WORK HISTORY

Desoto Co. Section 16 LF	785,827 SF HDPE	787,235 SF Geocomposite
Coronet Industries Synthe	3,711,934 SF HDPE	2,136,506 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	81,453,290
LLDPE (Textured and Smooth)	5,898,877
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	51,757
Geotextile	10,557,950
Geonet	774,806
Geocomposite	25,696,354
GCL	7,274,411
PVC	1,762,074
Gundseal	
XR-5	
Rain Tarp	1,601,308
Engineered Synthetic Turf	2,152,078

Tony J. Morris Jr

LINER TECHNICIAN

PROFILE

Tony has over 2 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. He may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a MasterSeamer, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all liner technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- OSHA 10
- Confined Space Training
- Trenching/Excavation Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- CPR/First Aid Training

WORK HISTORY

ITAFOS Phase III Gypsum	7,185,280 SF HDPE	992,733 SF Geocomposite
Mosaic SP Area 5 Liner	4,266,258 SF LLDPE	270,452 SF Geocomposite
Republic Cedar Trail LF	845,144 SF HDPE	814,719 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	18,802,100
LLDPE (Textured and Smooth)	8,644
Super Grip Drain Liner	255,922
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	1,641,038
Geonet	305,701
Geocomposite	3,987,015
GCL	2,875,588
PVC	
Gundseal	
XR-5	
Rain Tarp	
Engineered Synthetic Turf	

Sesar Quirino

LEAD QA/QC TECHNICIAN

PROFILE

Sesar has over 18 years of experience with onsite Quality Control, Quality Control Testing, and documentation of all field welding and liner installation. He is responsible for testing materials and finished products in waste disposal landfills, coal ash sites, power plants, surface impoundments, or other installations as specified by the owner and/or Engineer.

He has experience and training in project safety compliance, review of project QA/QC specifications, and site-specific QA/QC testing and documentation performance. He is also qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all QA/QC technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- CPR/First Aid Training
- Confined Space Training
- Florida Phosphate Contractor Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Certified Welding Technician: CWT34915

WORK HISTORY

Mosaic Plant City CAHP	3,969,477 SF HDPE	430,770 SF Geocomposite
Mosaic Plant City Conting	2,095,294 SF HDPE	247,350 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	149,384,508
LLDPE (Textured and Smooth)	29,363,456
Super Grip Drain Liner	543,223
Unreinforced Polyethylene	
Reinforced Polyethylene	64,319
Geotextile	13,703,900
Geonet	7,834,774
Geocomposite	48,146,351
GCL	36,140,768
PVC	
Gundseal	
XR-5	
Rain Tarp	3,786,075
Engineered Synthetic Turf	4,393,049

Ramon Irizarry

LEADMAN

PROFILE

Ramon has over 9 years of experience and ensures the crew follows all of the required construction methods and the project is proceeding according to the construction plans, and that each job is done in the proper sequence. He also helps with any necessary technical training or re-training of crew members.

He assists the crew Foreman in constructing the project with onsite crew management for the deployment, welding, and quality control testing for geosynthetic installation. He is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes.

Ramon is qualified and experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. All Geomembrane Master requirements have been met to be classified as a Seamer and Quality Control Technician. He is qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all Leadmen are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- OSHA 10
- TWIC
- Rigging 4 HR Training
- Skid Steer/Dozer/Forklift/Front End Loader
- Operator Training
- CPR/First Aid Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Certified Welding Technician: CWT53216

WORK HISTORY

Waste Connections Heart	1,342,646 SF HDPE	1,429,959 SF Geocomposite
Mosaic Plant City CAHP	3,969,477 SF HDPE	430,770 SF Geocomposite
WC HOF Class I LF Cell 4	1,767,960 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	63,216,714
LLDPE (Textured and Smooth)	4,398,719
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	1,198,599
Geotextile	9,664,238
Geonet	459,149
Geocomposite	22,465,810
GCL	11,214,962
PVC	1,000
Gundseal	
XR-5	
Rain Tarp	1,717,424
Engineered Synthetic Turf	

Nicolas Arnulfo Virgen-Rubio

MASTER SEAMER

PROFILE

Nicolas has over 17 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

Nicolas is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes. He is experienced in operating the wedge welder, extrusion welder, vacuum boxes, tensiometer, coupon cutter, and air pressure testing equipment.

Nicolas is also experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He is qualified to assist in the training of Geomembrane Welders. Safety is an essential part of COMANCO's culture, and all MasterSeamers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- TWIC
- OSHA 10
- Basic Plus
- CPR/First Aid Training
- Confined Space Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Barrick Site Training
- Certified Welding Technician: CWT35215

WORK HISTORY

ITAFOS Phase III Gypsum	7,185,280 SF HDPE	992,733 SF Geocomposite
Desoto CO. Secion 16 LF	785,827 SF LLDPE	787,235 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	185,201,884
LLDPE (Textured and Smooth)	7,632,693
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	989,458
Geotextile	15,553,389
Geonet	12,106,767
Geocomposite	54,092,139
GCL	43,057,215
PVC	989,806
Gundseal	
XR-5	
Rain Tarp	6,458,241
Engineered Synthetic Turf	

Medel Palma

LINER TECHNICIAN

PROFILE

Medel has over 15 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. He may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a MasterSeamer, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all liner technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- Florida Phosphate Contractor Training
- Task Training
- Mosaic Florida Site Training
- MSHA Training
- OSHA 10
- CPR/First Aid Training
- Confined Space Training
- Forklift Operator Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Certified Welding Technician: CWT122815

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite
Mosaic South Pierce Cooli	6,008,673 SF HDPE	SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	129,284,085
LLDPE (Textured and Smooth)	7,112,340
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	46,086
Geotextile	6,157,017
Geonet	201,321
Geocomposite	33,351,787
GCL	13,406,240
PVC	2,918,984
Gundseal	
XR-5	
Rain Tarp	1,928,511
Engineered Synthetic Turf	

Mario Moran Ortiz

OPERATOR

PROFILE

Mario has over 19 years of experience operating construction equipment to handle loading, excavating, maintenance, and repair activities. He is also qualified to operate equipment used for the installation of various geosynthetics and liner components.

Equipment includes: Dozer, loader, excavator, forklift, skid steer, haul truck, water truck, and crawler. He has the experience, skills, and consistency to operate safely and perform quality work.

Experience includes:

Gypsum projects: Earthwork excavation and grading of gypsum dikes; Placement and compaction of gypsum cover atop HDPE liner; Construction of gypsum perimeter dike drains and drain system outlet pipes; Installation of vent systems and geotextile wrapped silica gravel drains with HDPE pipes; Installation of sand filter drains.

Landfill projects: Site preparation and erosion control; Clearing & grubbing; wetlands excavation and demucking; Wetlands dewatering and wetlands fill; Stormwater ditches including the installation of piping; PVC toe drainpipe installation in the anchor trench; Road construction; Sod installation.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Skid Steer Operator Training
- Forklift Operator Training
- Task Training
- CPR/First Aid Training
- Mosaic Florida Site Specific Training
- Mosaic Louisiana Site Specific Training
- Florida Phosphate Contractor Training
- Certified Welding Technician: CWT90906

WORK HISTORY

Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite
Mosaic Plant City CAHP	3,969,477 SF HDPE	430,770 SF Geocomposite
Mosaic SP Area 5 Liner IN	4,266,258 SF HDPE	270,452 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	112,344,639
LLDPE (Textured and Smooth)	3,779,108
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	6,083,634
Geonet	306,273
Geocomposite	18,892,909
GCL	5,582,063
PVC	1,699,454
Gundseal	
XR-5	19,200
Rain Tarp	2,215,175
Engineered Synthetic Turf	

Manuel Antonio Solis

OPERATOR

PROFILE

Manuel has over 8 years of experience operating construction equipment to handle loading, excavating, maintenance, and repair activities. He is also qualified to operate equipment used for the installation of various geosynthetics and liner components.

Equipment includes: Dozer, loader, excavator, forklift, skid steer, haul truck, water truck, and crawler. He has the experience, skills, and consistency to operate safely and perform quality work.

Experience includes:

Gypsum projects: Earthwork excavation and grading of gypsum dikes; Placement and compaction of gypsum cover atop HDPE liner; Construction of gypsum perimeter dike drains and drain system outlet pipes; Installation of vent systems and geotextile wrapped silica gravel drains with HDPE pipes; Installation of sand filter drains.

Landfill projects: Site preparation and erosion control; Clearing & grubbing; wetlands excavation and demucking; Wetlands dewatering and wetlands fill; Stormwater ditches including the installation of piping; PVC toe drainpipe installation in the anchor trench; Road construction; Sod installation.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- Task Training
- CPR/First Aid Training
- Confined Space Training
- MSHA Training
- OSHA 10
- TWIC
- Florida Phosphate Contractor Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Skid Steer Operator Training
- Certified Welding Technician: CWT127314

WORK HISTORY

PCS WS Lined SCC Stack EX	10,855,795 SF HDPE	728,865 SF Geocomposite
Otis Road LF Phase 2	457,034 SF HDPE	417,893 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	114.795.324
LLDPE (Textured and Smooth)	1,432,629
Super Grip Drain Liner	2,305,759
Unreinforced Polyethylene	
Reinforced Polyethylene	26,215
Geotextile	5,101,661
Geonet	10,723,489
Geocomposite	32,675,096
GCL	27,226,750
PVC	
Gundseal	
XR-5	
Rain Tarp	4,219,634
Engineered Synthetic Turf	

Libardo Vasquez

MASTER SEAMER

PROFILE

Libardo has over 17 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

Libardo is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes. He is experienced in operating the wedge welder, extrusion welder, vacuum boxes, tensiometer, coupon cutter, and air pressure testing equipment.

Libardo is also experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He is qualified to assist in the training of Geomembrane Welders. Safety is an essential part of COMANCO's culture, and all MasterSeamers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- CPR/First Aid Training
- Confined Space Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- OSHA 10
- Skid Steer Operator Training
- Forklift Operator Training
- Certified Welding Technician: CWT062812

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite
Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	157,847,897
LLDPE (Textured and Smooth)	6,201,836
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	14,598
Geotextile	5,253,808
Geonet	6,737,071
Geocomposite	38,221,328
GCL	19,219,081
PVC	2,326,359
Gundseal	
XR-5	
Rain Tarp	4,991,784
Engineered Synthetic Turf	

Juan Granados Cruz

LINER TECHNICIAN

PROFILE

Juan has over 20 years of experience in geosynthetic installation including basic solid waste landfill liners, mining and coal ash sites, power plants, waste containment facilities and various other industries.

His qualifications include the setup and operation of the vacuum box, hand-held, hot air welder, and sewing machine. He may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a MasterSeamer, in-house quality control technician or supervisor. Safety is an essential part of COMANCO's culture, and all liner technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- Task Training
- CPR/First Aid Training
- Confined Space Training
- MSHA Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Mosaic RCRA
- Waste Management Site Training
- Certified Welding Technician: CWT31515

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Republic Arlington Sector	423,487 SF HDPE	808,879 SF Geocomposite
Republic Coffin Butte Lan	1,597,635 SF HDPE	356,966 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	169,647,914
LLDPE (Textured and Smooth)	14,057,056
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	1,061,185
Geotextile	13,773,687
Geonet	7,511,344
Geocomposite	54,219,981
GCL	21,740,346
PVC	3,091,895
Gundseal	
XR-5	
Rain Tarp	7,843,236
Engineered Synthetic Turf	

Jose Pena Villegas

LABORER

PROFILE

Jose has over 2 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- OSHA 10 HR
- Task Training
- CPR/First Aid Training
- Mosaic Louisiana Site Specific Training
- Confined Space Training
- Mosaic Florida Site Specific Training
- Trenching/Excavation Training

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	31,428,373
LLDPE (Textured and Smooth)	794,471
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	28,027
Geotextile	140,528
Geonet	138,501
Geocomposite	7,583,409
GCL	2,830,778
PVC	
Gundseal	
XR-5	
Rain Tarp	813,668
Engineered Synthetic Turf	

Hector Yanes

LABORER

PROFILE

Hector has over 2 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- OSHA 10
- Task Training
- CPR/First Aid Training

WORK HISTORY

Miami Dade Landfill Cell 5	4,077,638 SF HDPE	4,053,043 SF Geocomposite
Republic Cedar Trail Landfill	851,040 SF LLDPE	826,626 SF Geocomposite
Mosaic New Wales West North	1,767,960 SF HDPE	520,730 SF Gecomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	29,923,808
LLDPE (Textured and Smooth)	785,827
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	211,559
Geonet	138,501
Geocomposite	7,978,116
GCL	3,197,881
PVC	
Gundseal	
XR-5	
Rain Tarp	319,151
Engineered Synthetic Turf	

Gerardo Ruiz

PROJECT SUPERINTENDENT

PROFILE

Gerardo has 13 years of experience and runs the construction site's day-to-day operations, from planning to completion. He is responsible for controlling the short-term schedule, coordinating subcontractors, material, and equipment, supervising all activities and tasks while ensuring that specifications are strictly followed, and work is proceeding on schedule and within budget. He is also responsible for scheduling inspections and quality control while ensuring the site's safety and compliance.

He is familiar with all currently utilized deployment techniques, installation, and safety procedures. He has experience in onsite crew management for the deployment, welding, and quality control testing for a variety of geosynthetics. He is experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He has met all Geomembrane, MasterSeamer, and Quality Control Technician requirements and is qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all Superintendents are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- CPR/First Aid Training
- Confined Space Training
- MSHA Training
- Florida Phosphate Contractor Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- OSHA 10
- TWIC
- Certified Welding Technician: CWT062712

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Republic Cedar Trail LF C	851,040 HDPE	826,626 SF Geocomposite
Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	158,147,705
LLDPE (Textured and Smooth)	3,732,593
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	33,100
Geotextile	3,566,422
Geonet	6,212,666
Geocomposite	40,484,465
GCL	17,674,174
PVC	3,283,485
Gundseal	
XR-5	
Rain Tarp	5,445,501
Engineered Synthetic Turf	

Gabriel Ramos

LABORER

PROFILE

Gabriel has over 1 year of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- OSHA 10
- MSHA Training
- Florida Phosphate Contractor Training

WORK HISTORY

Mosaic GB Area 65	574,841 SF HDPE
Mosaic Bartow S Stack	133,210 SF HDPE

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	708,051
LLDPE (Textured and Smooth)	
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	1,047,072
Geonet	
Geocomposite	
GCL	
PVC	
Gundseal	
XR-5	
Rain Tarp	
Engineered Synthetic Turf	

Estevan Saenz

FOREMAN

PROFILE

Estevan has over 22 years of experience and is responsible for ensuring everything runs smoothly on the project. He is responsible for coordinating tasks for the day, producing schedules and monitoring the crew's attendance, ensuring adequate workforce and resources, supervises the use of machinery and equipment, resolves problems when they arise, guarantees all safety precautions, and oversees the quality of the site.

He assists the crew Superintendent in constructing the project with onsite crew management for the deployment, welding, and quality control testing for geosynthetic installation. He is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes.

Estevan is qualified and experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. All Geomembrane Master Seamer and Quality Control Technician requirements have been met, and he is qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all Foreman are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- OSHA 10
- Task Training
- CPR/First Aid Training
- Confined Space Training
- Mosaic Florida Site Training
- FL Phosphate Contractor Training
- Certified Welding Technician: CWT24015

WORK HISTORY

Mosaic Plant City CAHP	3,969,477 SF HDPE	430,700 SF Geocomposite
Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	112,320,454
LLDPE (Textured and Smooth)	8,164,897
Super Grip Drain Liner	2,018,458
Unreinforced Polyethylene	
Reinforced Polyethylene	211,341
Geotextile	17,987,660
Geonet	13,905,999
Geocomposite	49,833,371
GCL	34,052,949
PVC	273,611
Gundseal	
XR-5	
Rain Tarp	4,581,421
Engineered Synthetic Turf	

Esau Perez Lopez

MASTER SEAMER

PROFILE

Esau has over 15 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

Esau is considered an expert in fusing various liners and has demonstrated superior hands-on skills, knowledge, and experience in welding and installing geomembranes. He is experienced in operating the wedge welder, extrusion welder, vacuum boxes, tensiometer, coupon cutter, and air pressure testing equipment.

Esau is also experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He is qualified to assist in the training of Geomembrane Welders. Safety is an essential part of COMANCO's culture, and all MasterSeamers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- CPR/First Aid Training
- Confined Space Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Florida Phosphate Contractor Training
- Certified Welding Technician: CWT064012

WORK HISTORY

Talen Energy Colstrip PLA	1,365,212 SF HDPE	682,606 SF Geocomposite
Desoto CO. Secion 16 LF	785,827 SF LLDPE	787,235 SF Geocomposite
ITAFOS Phase III Gypsum	7,185,280 SF HDPE	992,733 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	148,703,824
LLDPE (Textured and Smooth)	7,750,331
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	386,213
Geotextile	8,815,108
Geonet	5,481,139
Geocomposite	36,128,461
GCL	18,092,155
PVC	5,880,093
Gundseal	
XR-5	
Rain Tarp	5,026,690
Engineered Synthetic Turf	

Carlos Melendez Rodriguez

LABORER

PROFILE

Carlos has over 1 year of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- OSHA 10
- FL Phosphate Training
- CPR/First Aid Training

WORK HISTORY

Miami Dade Landfill Cell 5	4,077,638 SF HDPE	4,053,043 SF Geocomposite
Republic Cedar Trail Landfill	851,040 SF LLDPE	826,626 SF Geocomposite
Mosaic New Wales West North	1,767,960 SF HDPE	520,730 SF Gecomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	17,571,422
LLDPE (Textured and Smooth)	24,557
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	
Geotextile	35,182
Geonet	
Geocomposite	4,103,521
GCL	1,517,972
PVC	
Gundseal	
XR-5	
Rain Tarp	
Engineered Synthetic Turf	

Carlos Lopez Gomez

LEAD QA/QC TECHNICIAN

PROFILE

Carlos has over 11 years of experience with onsite Quality Control, Quality Control Testing, and documentation of all field welding and liner installation. He is responsible for testing materials and finished products in waste disposal landfills, coal ash sites, power plants, surface impoundments, or other installations as specified by the owner and/or Engineer.

He has experience and training in project safety compliance, review of project QA/QC specifications, and site-specific QA/QC testing and documentation performance. He is also qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all QA/QC technicians are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MSHA Training
- Task Training
- OSHA 10
- CPR/First Aid Training
- Confined Space Training
- Florida Phosphate Contractor Training
- Mosaic Florida Site Training
- Mosaic Louisiana Site Training
- Certified Welding Technician: CWT31615

WORK HISTORY

Mosaic NW West North Reac	1,767,960 SF HDPE	520,730 SF Geocomposite
Mosaic Plant City CAHP	3,969,477 SF HDPE	430,770 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	122,502,834
LLDPE (Textured and Smooth)	8,446,504
Super Grip Drain Liner	287,301
Unreinforced Polyethylene	
Reinforced Polyethylene	12,898
Geotextile	4,392,916
Geonet	5,676,576
Geocomposite	28,910,490
GCL	22,699,759
PVC	703,010
Gundseal	
XR-5	
Rain Tarp	6,539,510
Engineered Synthetic Turf	

Carlos J Tamayo

LABORER

PROFILE

Carlos has over 6 years of experience in geosynthetic installation, including basic solid waste landfill liners, mining, coal ash sites, power plants, waste containment facilities, and various other industries.

His qualifications include the vacuum box setup and operation, hand-held, hot air welder, and sewing machine. As part of his continued training, he may operate the wedge welder, extrusion welder, and air pressure testing equipment under the site supervision of a skilled technician, in-house quality control technician, or supervisor. Safety is an essential part of COMANCO's culture, and all laborers are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- OSHA 10
- Florida Phosphate Contractor Training
- CPR/First Aid Training

WORK HISTORY

Mosaic Riverview NGS Vert	4,037,948 SF HDPE	334,635 SF Geocomposite
Republic Cedar Trail LF C	851,040 SF HDPE	826,626 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	15,443,546
LLDPE (Textured and Smooth)	
Super Grip Drain Liner	
Unreinforced Polyethylene	
Reinforced Polyethylene	211,341
Geotextile	35,182
Geonet	
Geocomposite	3,965,321
GCL	1,517,972
PVC	
Gundseal	
XR-5	
Rain Tarp	
Engineered Synthetic Turf	

COMANCO

Arnulfo Martinez

PROJECT SUPERINTENDENT

PROFILE

Arnulfo has 18 years of experience and runs the construction site's day-to-day operations, from planning to completion. He is responsible for controlling the short-term schedule, coordinating subcontractors, material, and equipment, supervising all activities and tasks while ensuring that specifications are strictly followed, and work is proceeding on schedule and within budget. He is also responsible for scheduling inspections and quality control while ensuring the site's safety and compliance.

He is familiar with all currently utilized deployment techniques, installation, and safety procedures. He has experience in onsite crew management for the deployment, welding, and quality control testing for a variety of geosynthetics. He is experienced with detailed work, including pipe boots, sumps, batten seals, and other miscellaneous appurtenances. He has met all Geomembrane, MasterSeamer, and Quality Control Technician requirements and is qualified to assist in the training of Geomembrane Welders, Installers, and QC Technicians. Safety is an essential part of COMANCO's culture, and all Superintendents are OSHA trained and certified.

EDUCATION, ASSOCIATIONS & CERTIFICATES

- MOSA Training
- FI Phosphate Training
- Mosaic Florida Site Specific Training
- Certified Welding Technician: CWT123114

WORK HISTORY

Waste Connections Heart	1,342,646 SF HDPE	1,429,959 SF Geocomposite
Republic Cedar Trail LF C	853,586 SF HDPE	832,626 SF Geocomposite
WC HOF Class I LF Cell 4	1,751,678 SF HDPE	1,354,076 SF Geocomposite

COMPONENTS INSTALLED

HDPE (Textured and Smooth)	177,383,440
LLDPE (Textured and Smooth)	6,906,658
Super Grip Drain Liner	3,164,621
Unreinforced Polyethylene	
Reinforced Polyethylene	1,198,599
Geotextile	20,163,821
Geonet	13,036,537
Geocomposite	57,185,647
GCL	49,369,427
PVC	856,124
Gundseal	
XR-5	
Rain Tarp	6,199,485
Engineered Synthetic Turf	

APPENDIX B
Pre-Construction Soils Laboratory Testing Results

Section 1
General Fill

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Test Results Summary

Structural Fill

Project Name: JED Cell 14 Construction

Project No.: PN1023

Site ID	Lab No.	Test Information															Remarks
		Moisture Content ASTM D2216	Grain Size Analysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi. ASTM D2487	Specific Gravity ASTM D854	Carbonate Content ASTM D4373	Standard Proctor Compaction Test ASTM D698		Other Tests	
			Gravel Content	Sand Content	Fines Content	Silt Content	Clay Content	LL	PL	PI				Maximum Dry Unit Weight	Optimum Moisture Content		
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(%)	(pcf)	(%)		
SF-01	21B004	8.3	0.0	95.6	4.4			NP	NP	NP	SP			100.2	16.2		
SF-02	21B005	16.4	0.0	95.4	4.6			NP	NP	NP	SP			102.9	15.3		
SF-03	21B006	6.3	0.0	95.7	4.3			NP	NP	NP	SP			105.2	13.3		
SF-04	21B007	8.3	0.0	91.9	8.1			NP	NP	NP	SP-SM			107.2	12.8		
SF-05	21B008	8.4	0.0	92.4	7.6			NP	NP	NP	SP-SM			109.5	11.8		
SF-06	21B009	12.3	0.0	96.3	3.7			NP	NP	NP	SP			100.0	16.0		
SF-07	21B010	6.0	0.0	96.2	3.8			NP	NP	NP	SP			104.1	15.5		
SF-08	21B011	4.9	0.0	96.9	3.1			NP	NP	NP	SP			102.0	14.8		
SF-09	21B012	16.3	0.0	95.5	4.5			NP	NP	NP	SP			100.8	15.7		
SF-10	21B013	8.3	0.0	96.3	3.7			NP	NP	NP	SP			100.5	16.6		
SF-11	21B014	7.7	0.0	97.3	2.7			NP	NP	NP	SP			100.0	16.7		
SF-12	21B015	5.9	0.0	96.9	3.1			NP	NP	NP	SP			102.5	15.2		
SF-13	21B016	7.5	0.0	97.0	3.0			NP	NP	NP	SP			100.1	14.6		
SF-14	21B017	14.1	0.0	95.1	4.9			NP	NP	NP	SP			100.9	15.0		
SF-15	21B018	5.2	0.0	96.6	3.4			NP	NP	NP	SP						
SF-16	21B019	7.1	0.1	95.7	4.2			NP	NP	NP	SP						
SF-17	21B020	6.9	0.0	96.1	3.9			NP	NP	NP	SP						
SF-18	21B021	8.0	0.0	95.5	4.5			NP	NP	NP	SP						
SF-19	21B022	5.1	0.0	96.9	3.1			NP	NP	NP	SP						
SF-20	21B023	5.5	0.0	96.6	3.4			NP	NP	NP	SP						

Notes:

4-07-2021
ATK, NSR

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Test Results Summary

Structural Fill

Project Name: JED Cell 14 Construction

Project No.: PN1023

Site ID	Lab No.	Test Information															Remarks
		Moisture Content ASTM D2216	Grain Size Analysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi. ASTM D2487	Specific Gravity ASTM D854	Carbonate Content ASTM D4373	Standard Proctor Compaction Test ASTM D698		Other Tests	
			Gravel Content	Sand Content	Fines Content	Silt Content	Clay Content	LL	PL	PI				Maximum Dry Unit Weight	Optimum Moisture Content		
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(%)	(pcf)	(%)		
SF-21	21B024	6.0	0.0	97.1	2.9			NP	NP	NP	SP						
SF-22	21B025	6.9	0.0	97.0	3.0			NP	NP	NP	SP						
SF-23	21B026	5.7	0.0	95.7	4.3			NP	NP	NP	SP						
SF-24	21B027	5.7	0.0	97.8	2.2			NP	NP	NP	SP						
SF-25	21B028	5.8	0.0	97.3	2.7			NP	NP	NP	SP						
SF-26	21B029	6.4	0.0	96.5	3.5			NP	NP	NP	SP						
SF-27	21B030	4.7	0.0	97.7	2.3			NP	NP	NP	SP						
SF-28	21B031	4.9	0.0	97.4	2.6			NP	NP	NP	SP						
SF-29	21B032	4.9	0.0	97.0	3.0			NP	NP	NP	SP						
SF-30	21B033	5.4	0.0	97.3	2.7			NP	NP	NP	SP						
SF-31	21B034	5.7	0.0	97.4	2.6			NP	NP	NP	SP						
SF-32	21B035	4.2	0.0	97.8	2.2			NP	NP	NP	SP						
SF-33	21B036	5.2	0.0	96.8	3.2			NP	NP	NP	SP						
SF-34	21B037	5.7	0.0	97.1	2.9			NP	NP	NP	SP						
SF-35	21B038	5.6	0.0	97.4	2.6			NP	NP	NP	SP						

Notes:

4-07-2021
APK, MSR

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

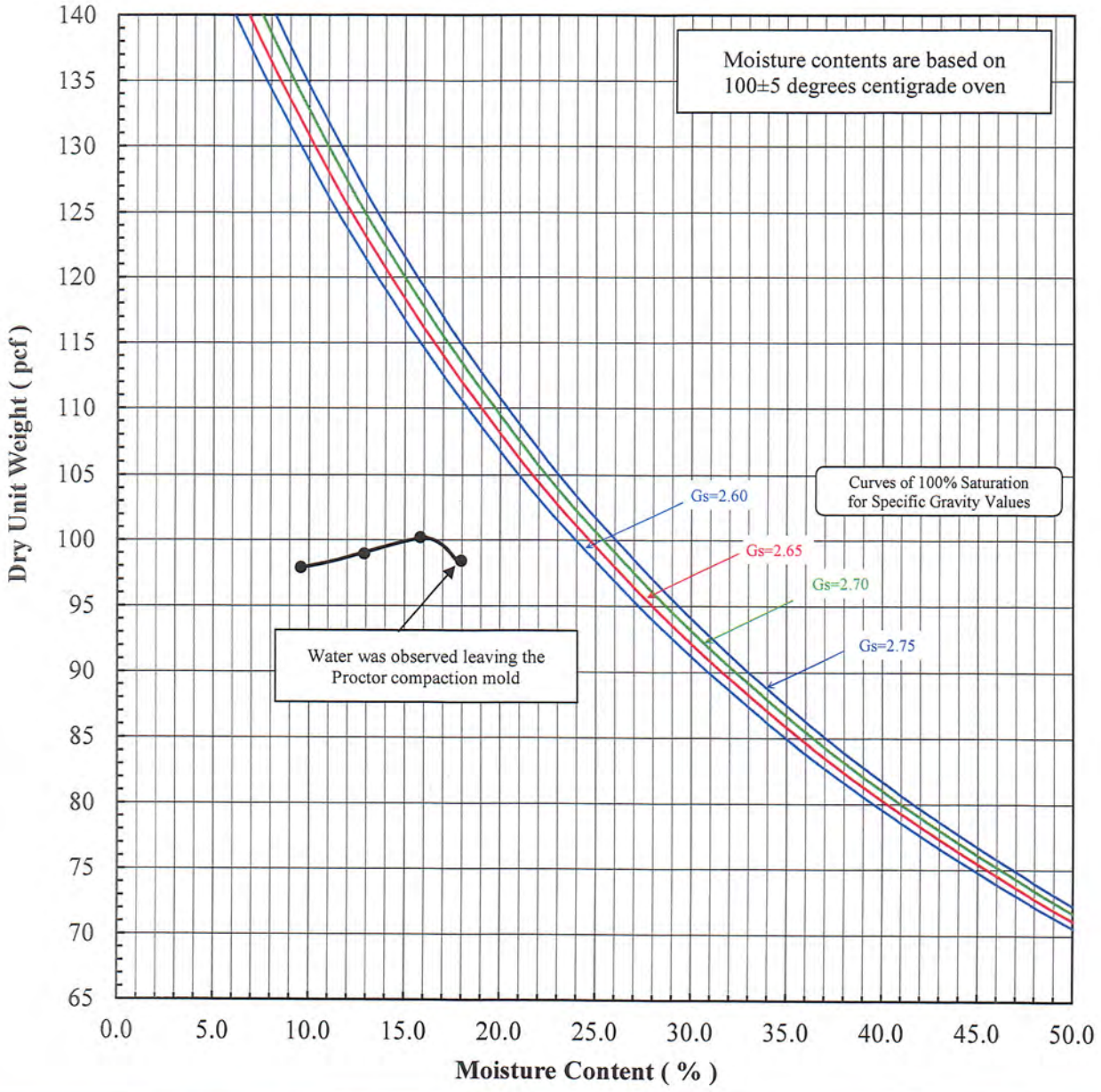
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-01
Lab Sample No:	21B004

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-01	21B004	100.2	16.2	Very light brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

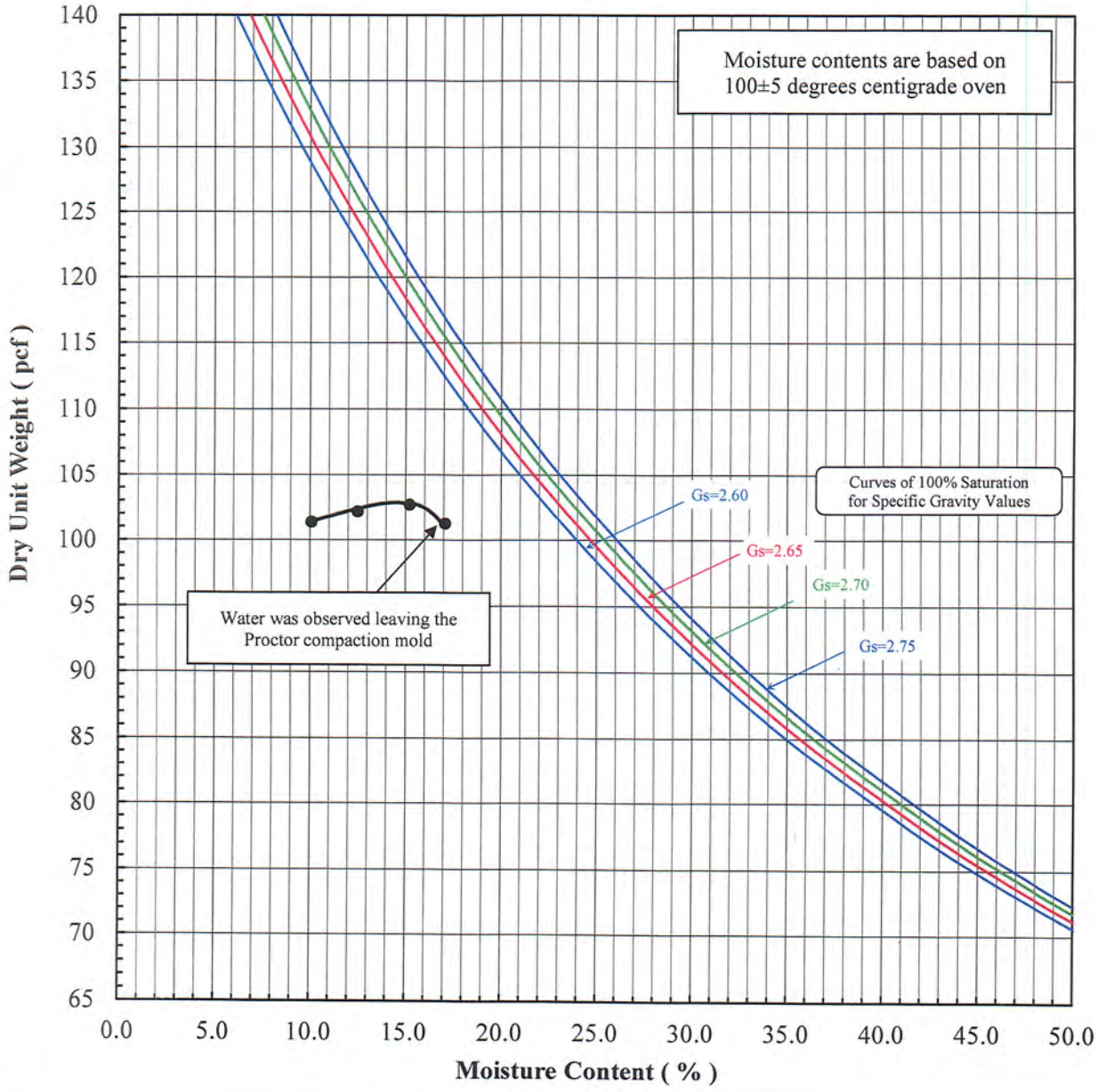
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-02
Lab Sample No:	21B005

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-02	21B005	102.9	15.3	Dark brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

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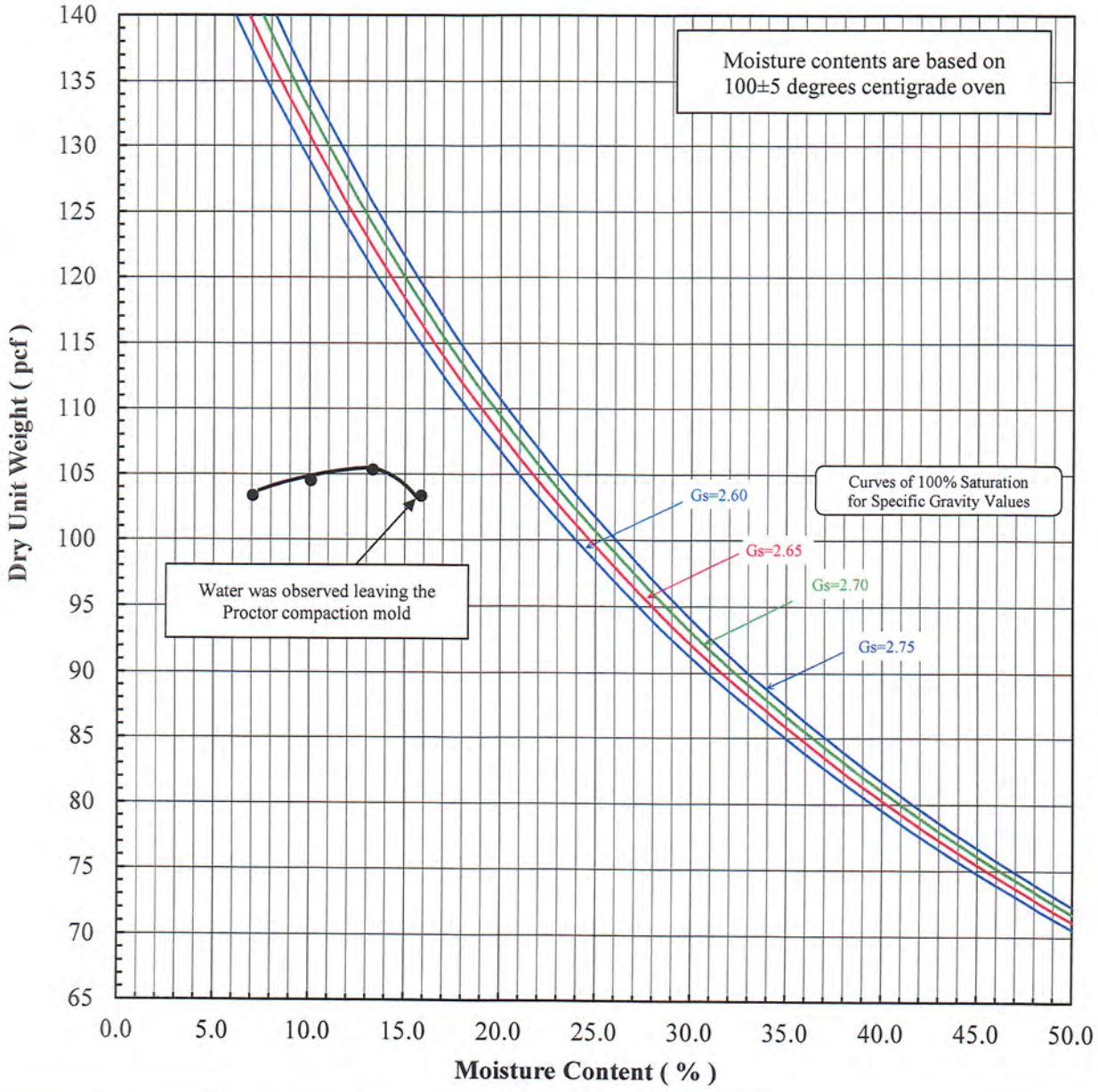
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-03
Lab Sample No:	21B006

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-03	21B006	105.2	13.3	Brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
ATK, AA

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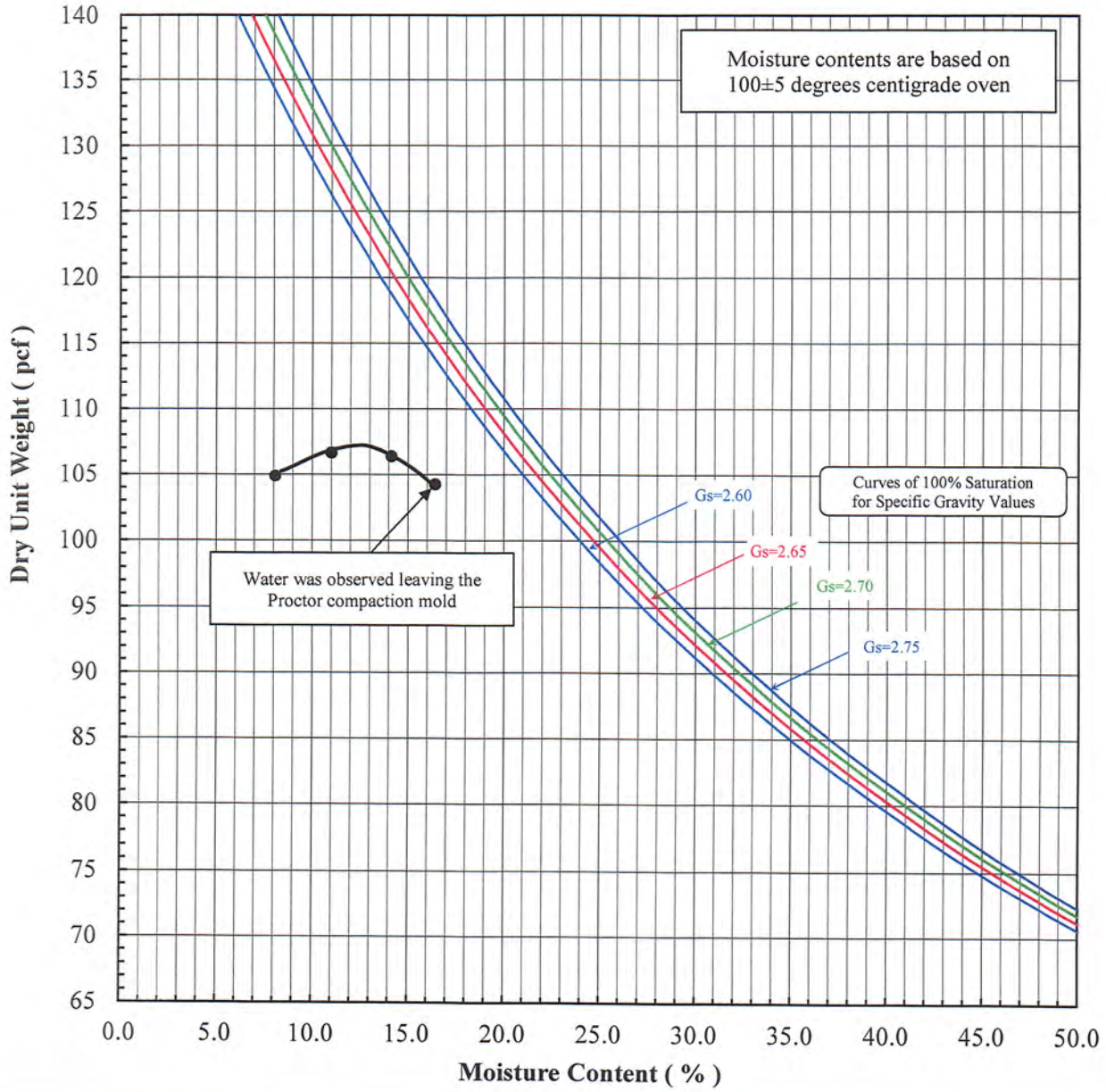
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-04
Lab Sample No:	21B007

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-04	21B007	107.2	12.8	Brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

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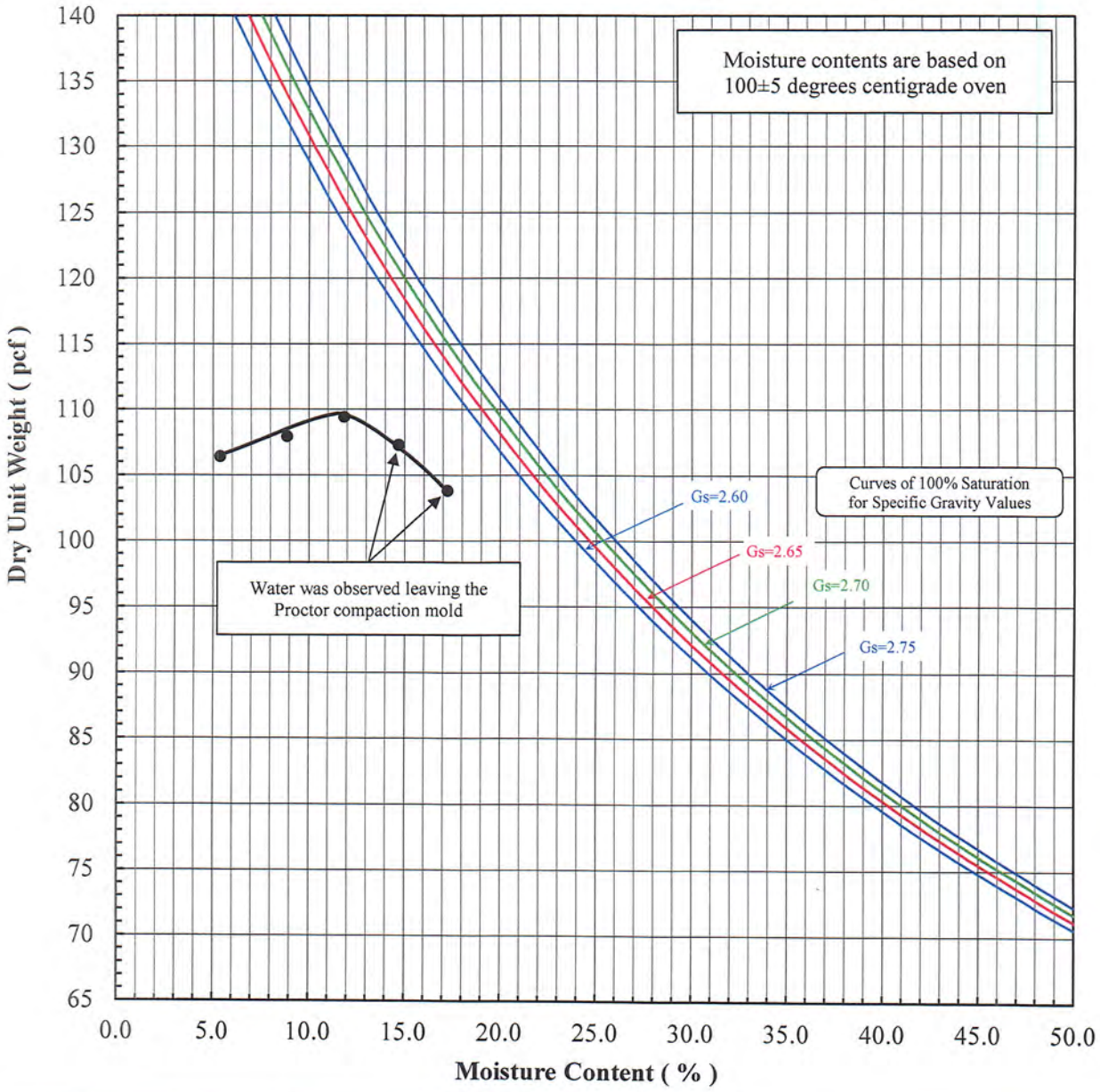
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-05
Lab Sample No:	21B008

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-05	21B008	109.5	11.8	Dark orange brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

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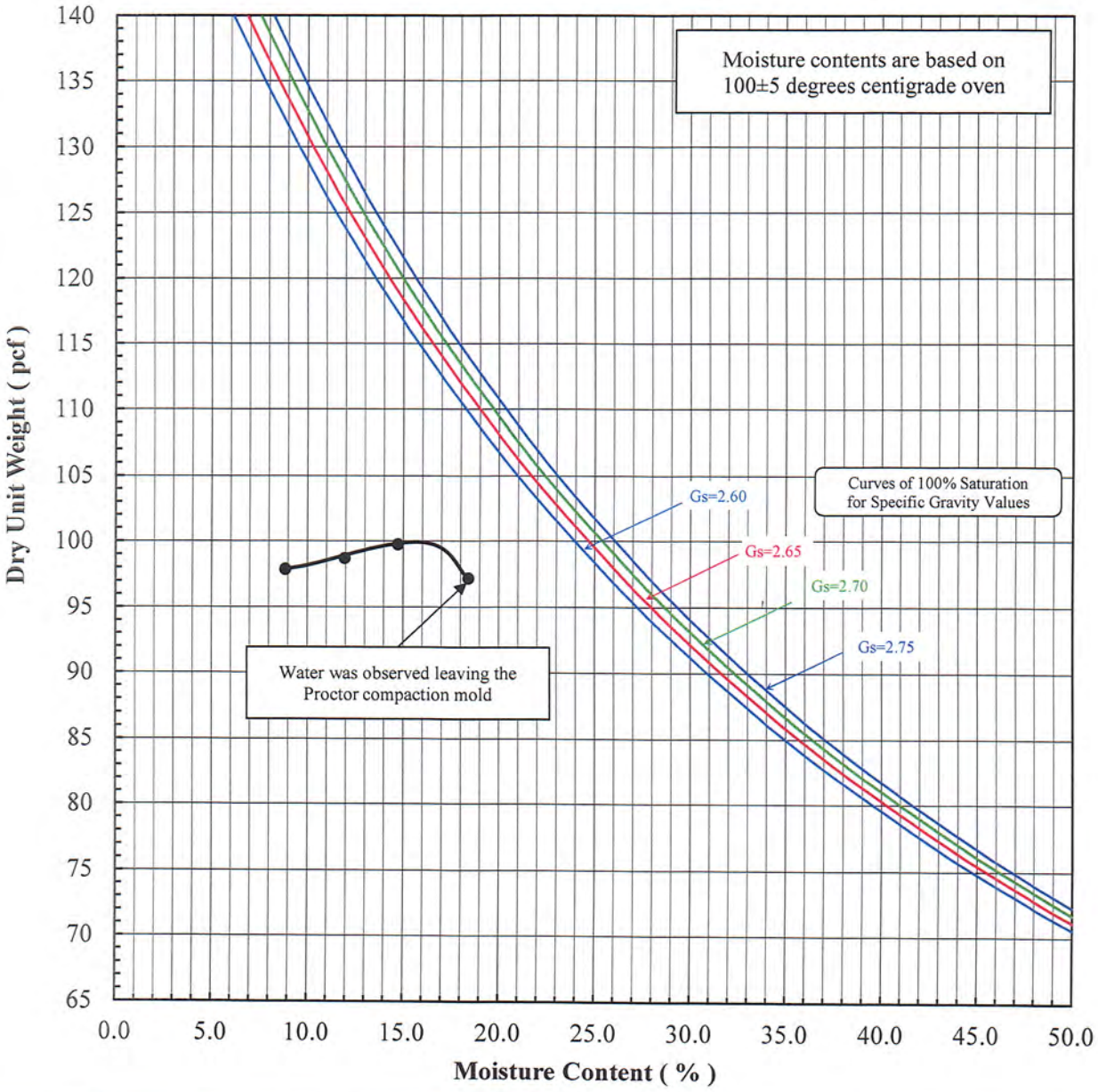
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-06
Lab Sample No:	21B009

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-06	21B009	100.0	16.0	Light creamish grey silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

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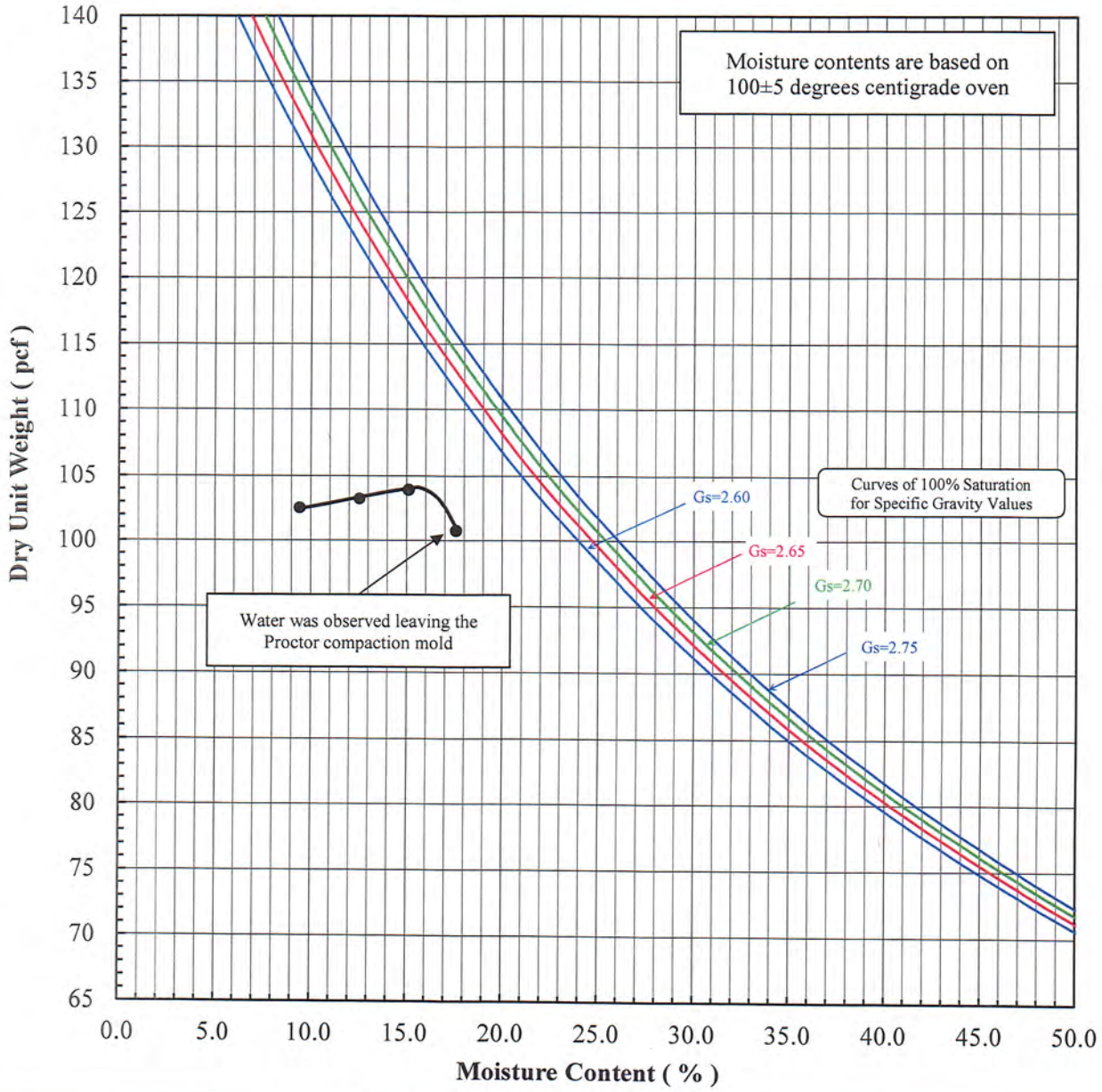
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-07
Lab Sample No:	21B010

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-07	21B010	104.1	15.5	Dark khaki brown, brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

3-23-2021
APK, AA

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953 Forrest Street, Roswell, Georgia 30075
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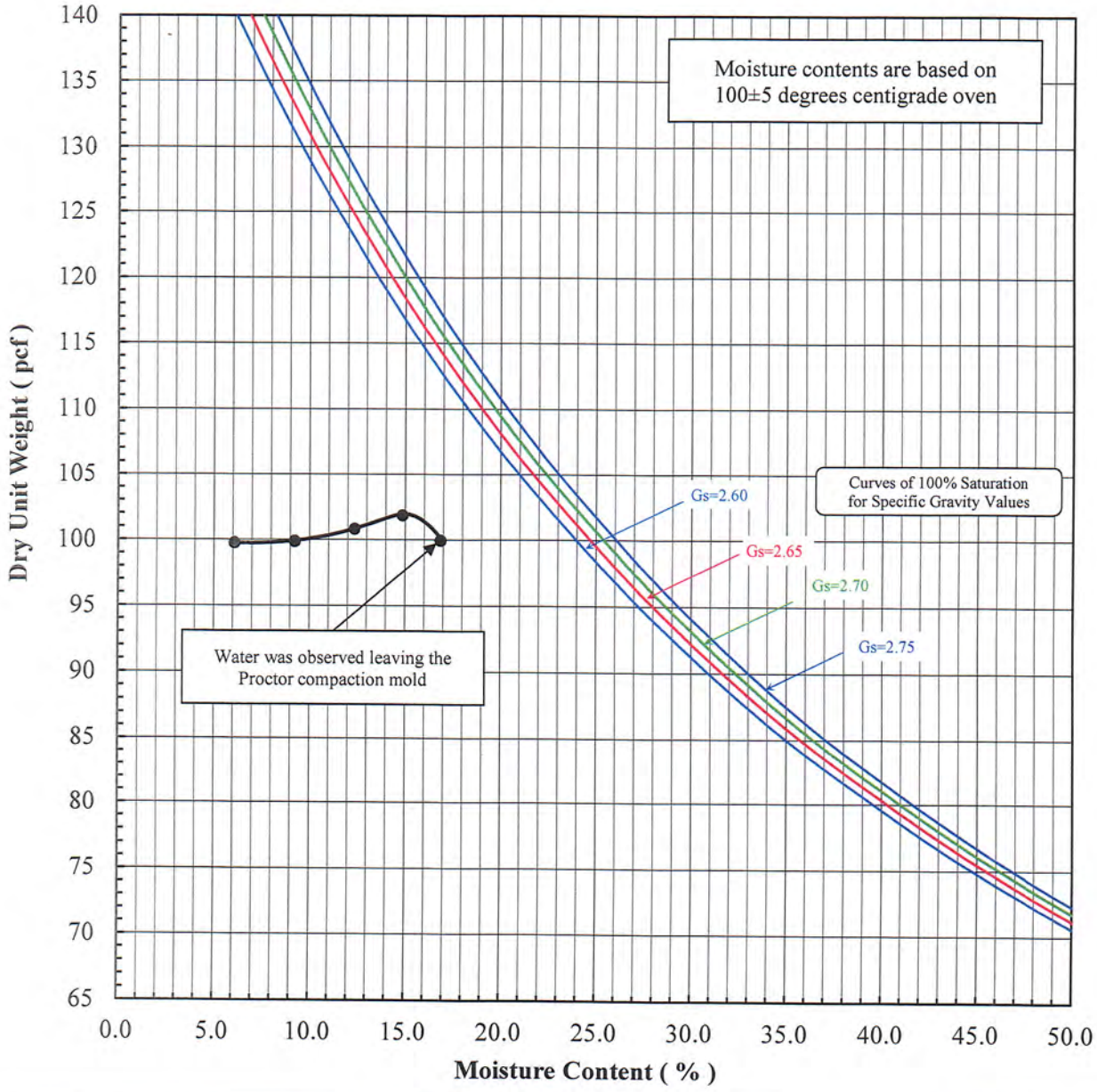
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-08
Lab Sample No:	21B011

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-08	21B011	102.0	14.8	Light khaki silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, NSR

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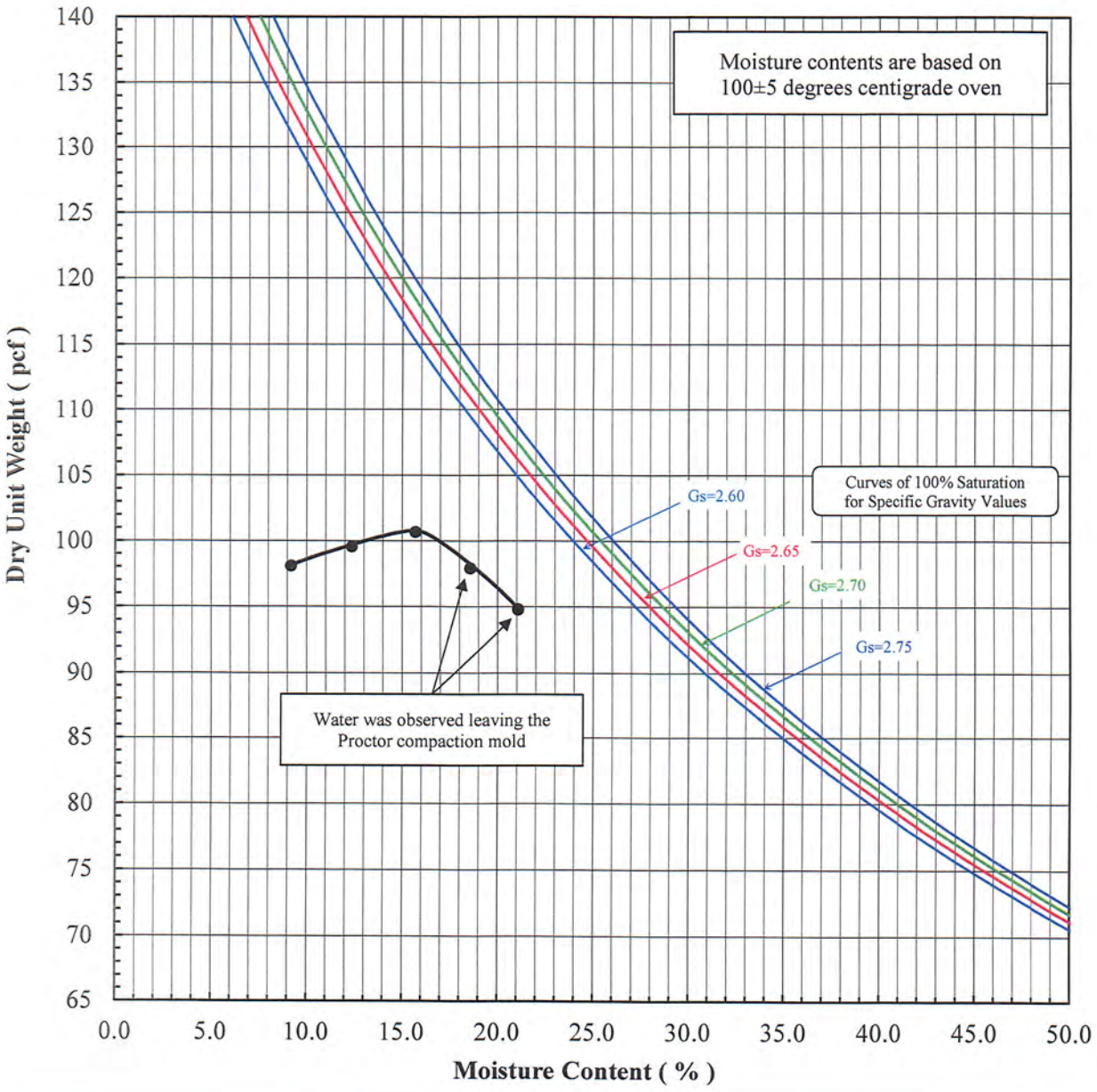
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-09
Lab Sample No:	21B012

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-09	21B012	100.8	15.7	Light brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, NSR

Excel Geotechnical Testing, Inc.
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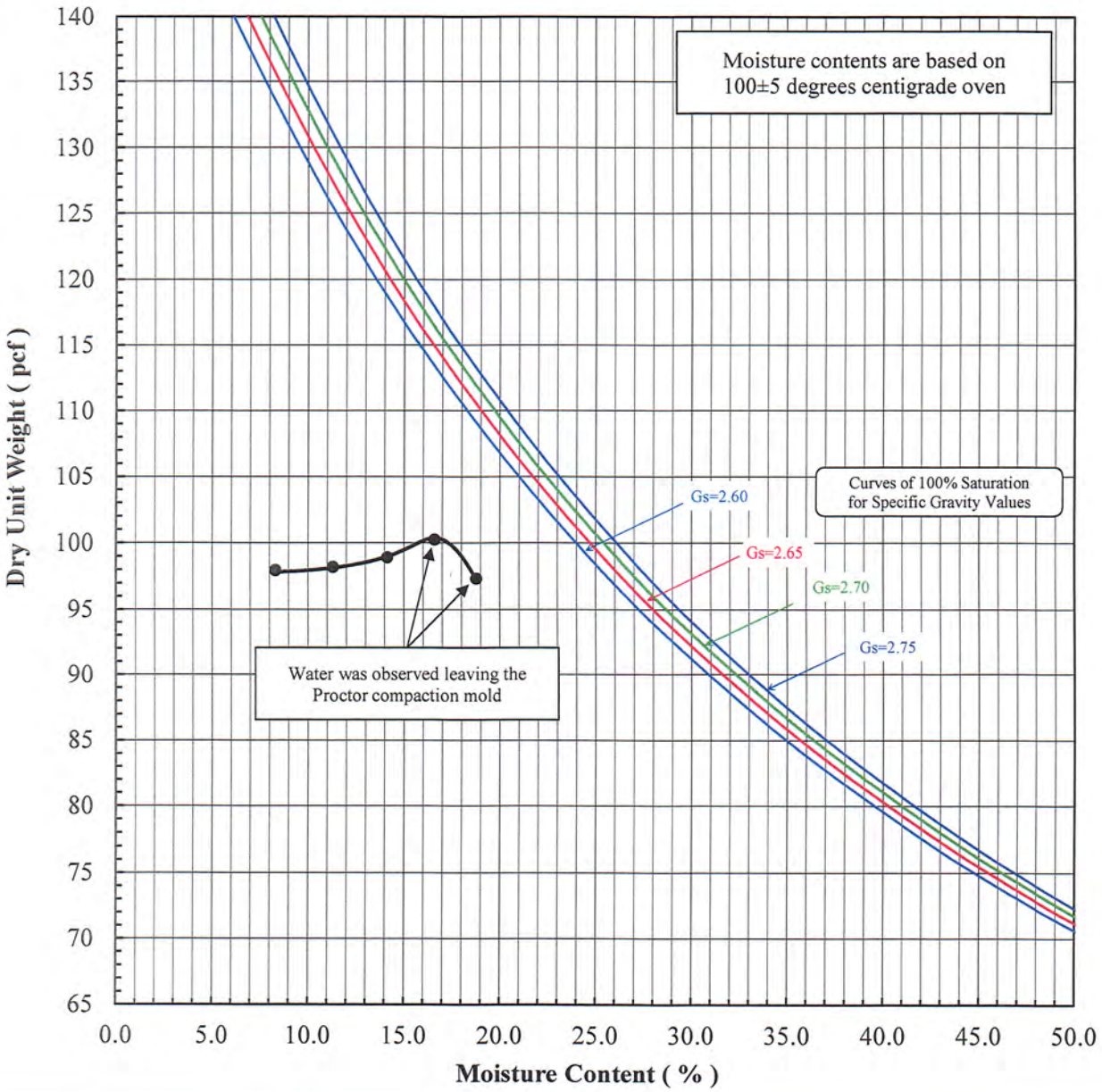
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-10
Lab Sample No:	21B013

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-10	21B013	100.5	16.6	Light pinkish cream silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, NSR

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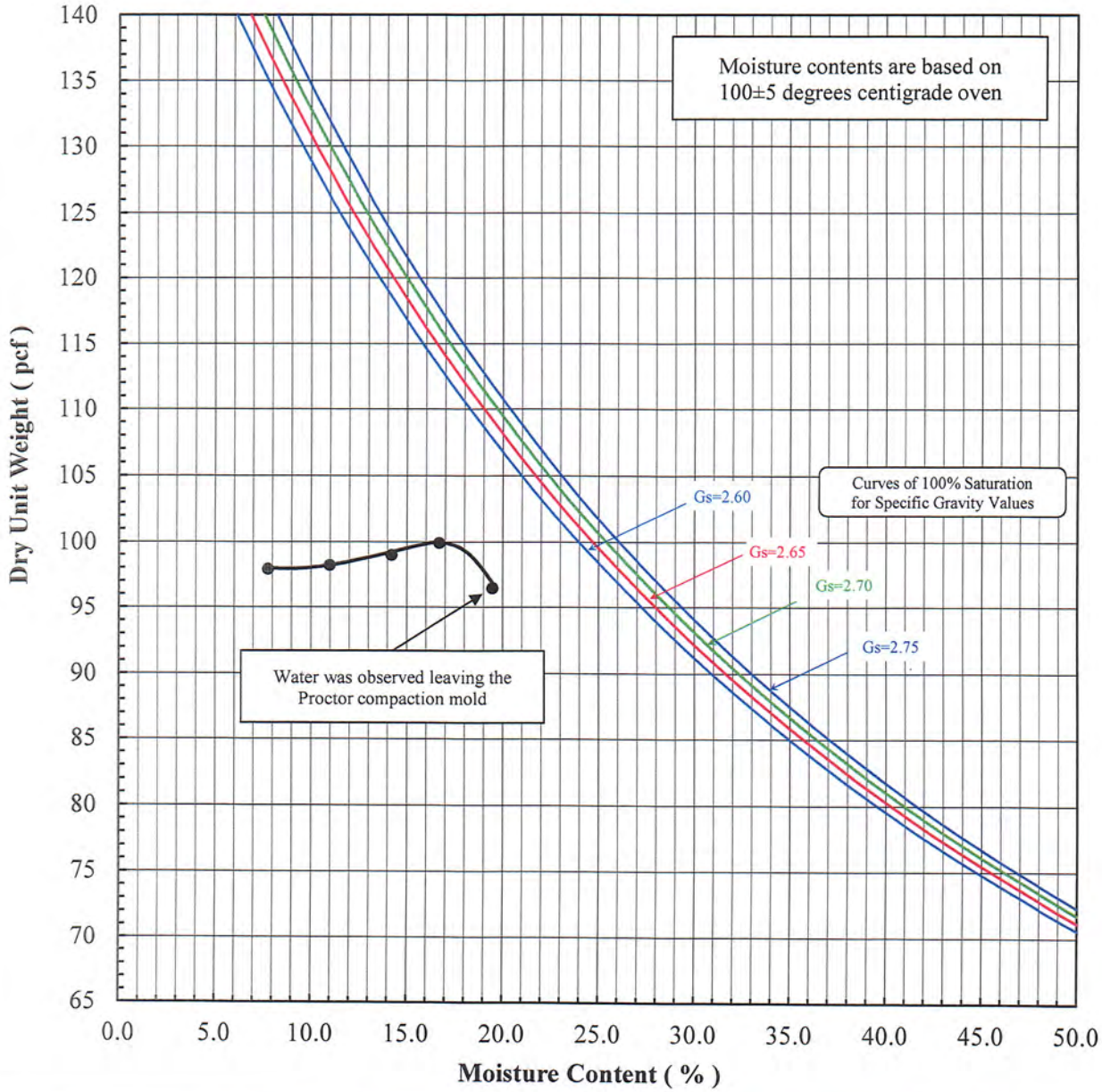
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-11
Lab Sample No:	21B014

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-11	21B014	100.0	16.7	Khaki silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, NSR

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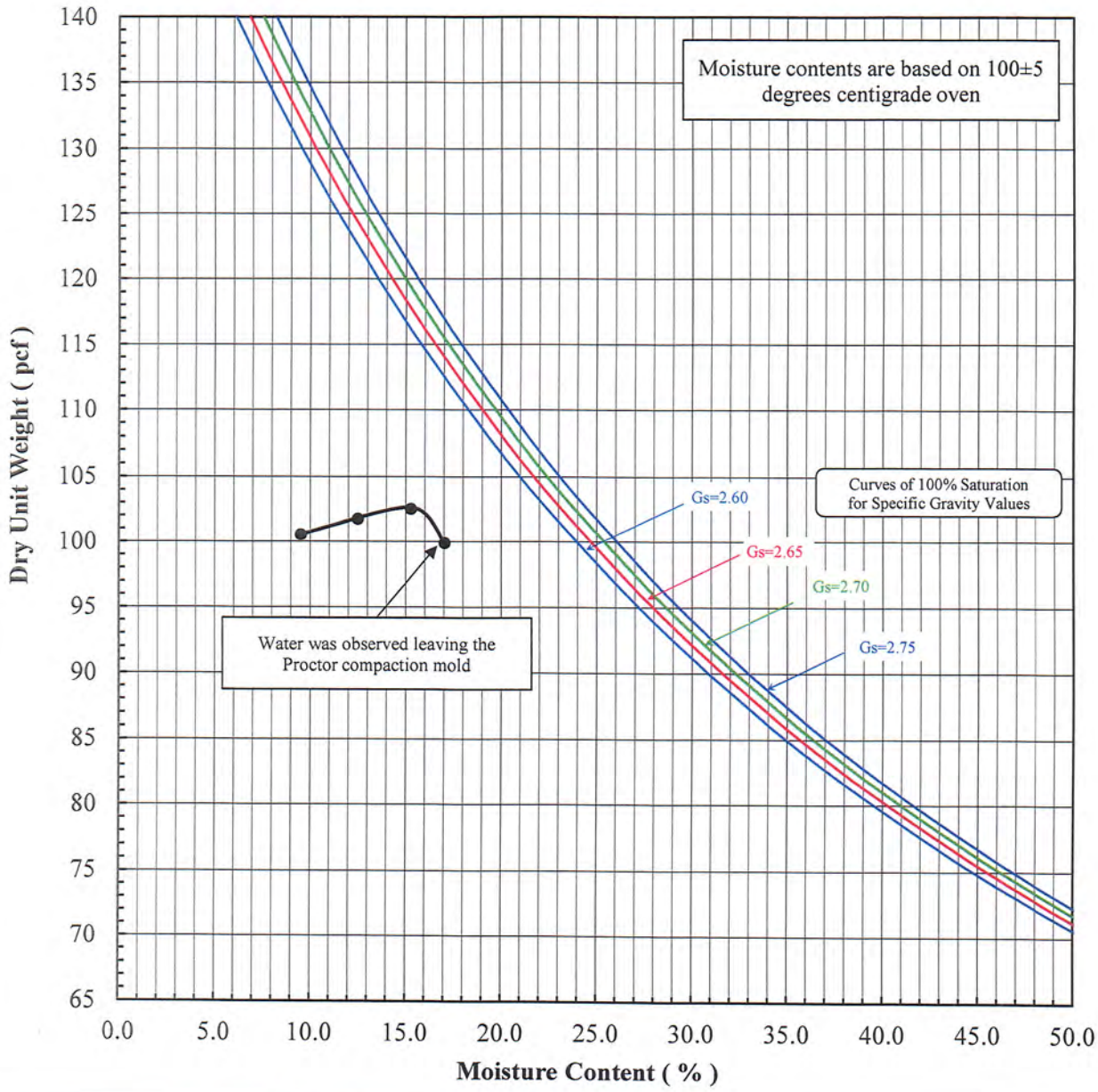
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-12
Lab Sample No:	21B015

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-12	21B015	102.5	15.2	Dark brown silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA/MSR

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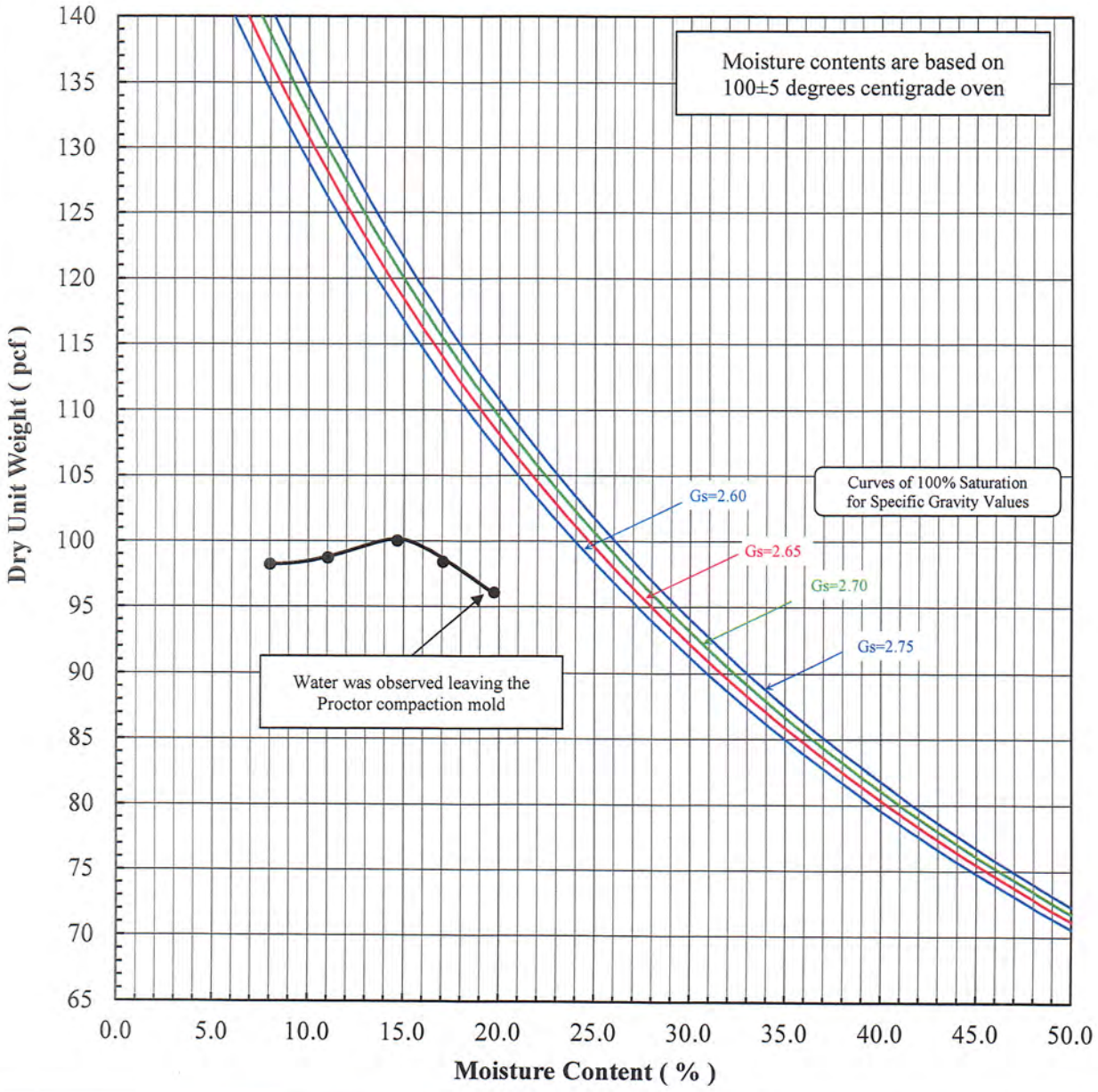
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-13
Lab Sample No:	21B016

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-13	21B016	100.1	14.6	Light khaki silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, WSR

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"Excellence in Testing"

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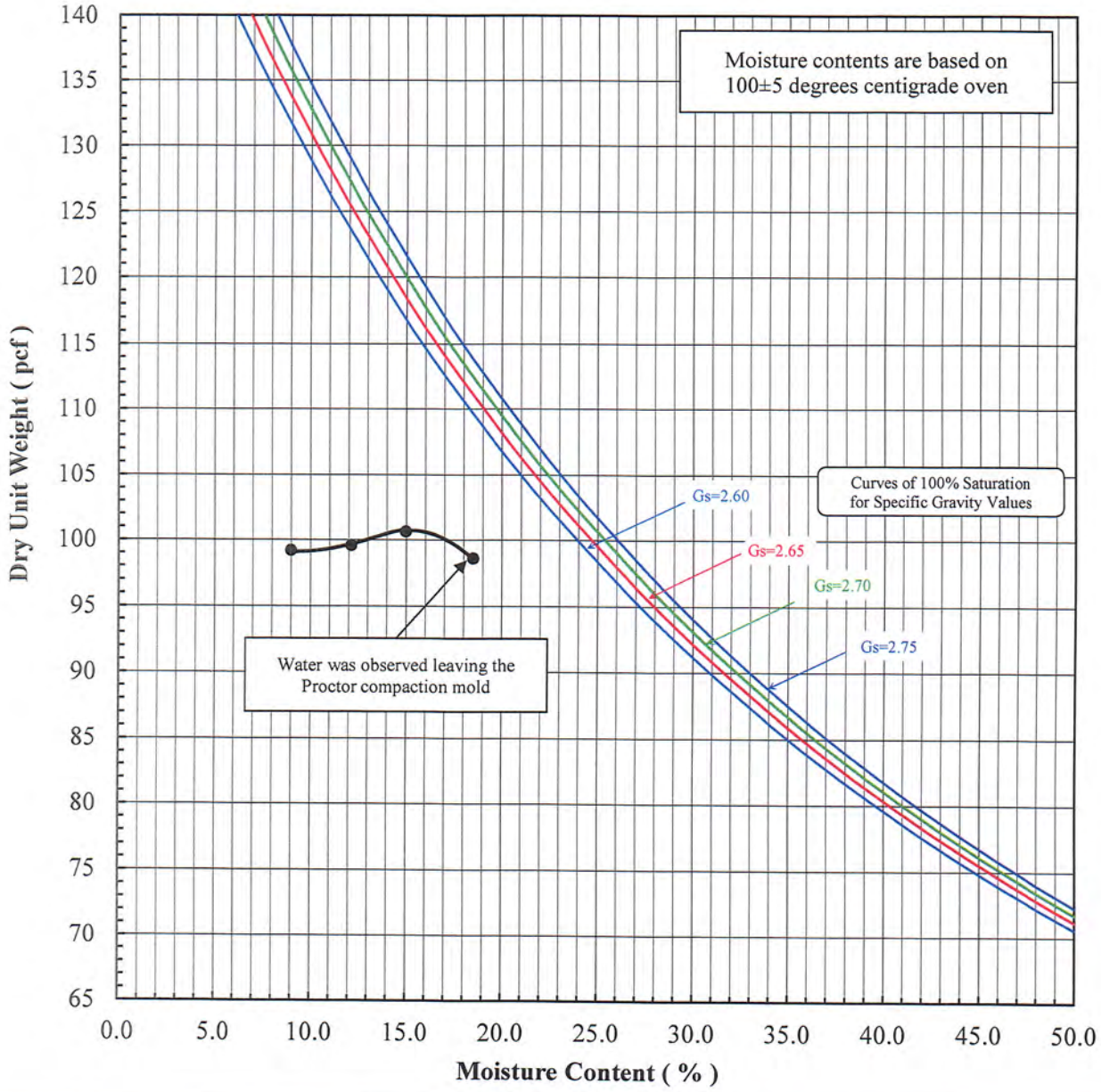
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID	SF-14
Lab Sample No:	21B017

ASTM D698 - Method B

STANDARD PROCTOR COMPACTION

Moist Preparation



Client/Site Sample ID.	Lab Sample No:	Maximum Dry Unit Weight (pcf)	Optimum Moist. Content (%)	Laboratory Technician Visual Soil Description (-)
SF-14	21B017	100.9	15.0	Light khaki silty sand

Note(s):
The sample received at the laboratory did not contain any particles larger than 3/8 inch.

04-02-2021
AA, WSR

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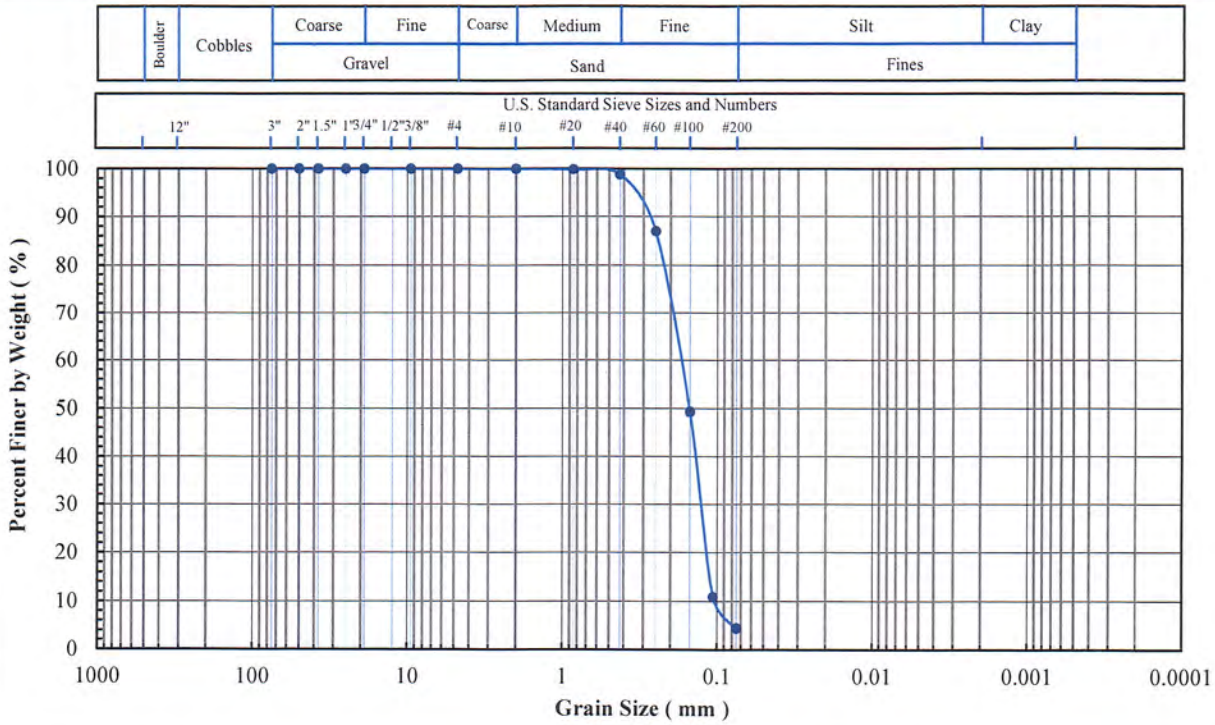
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-01
Lab Sample No:	21B004

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

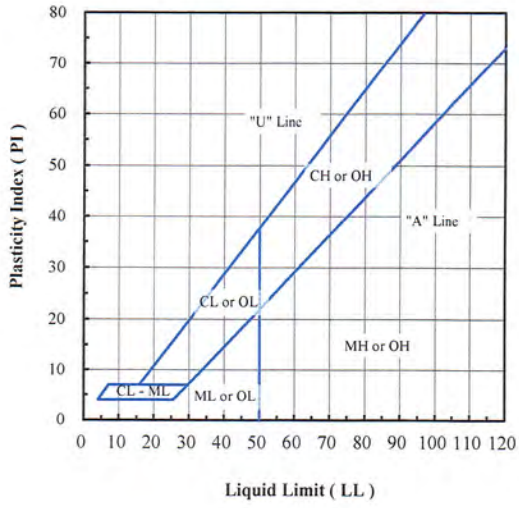


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.8
#60	0.250	86.9
#100	0.150	49.3
#140	0.106	10.9
#200	0.075	4.4

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.6
Fines (%):	4.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.8



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-01	21B004	8.3	4.4	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AFK,

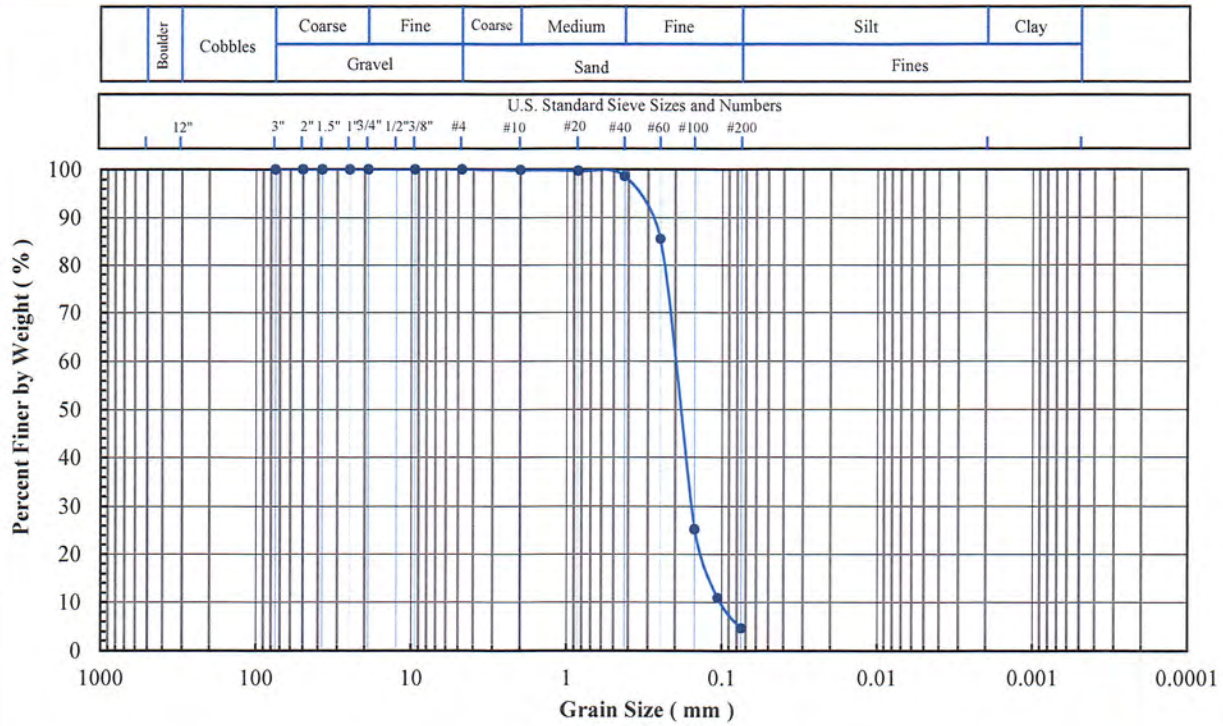
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-02
Lab Sample No:	21B005

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

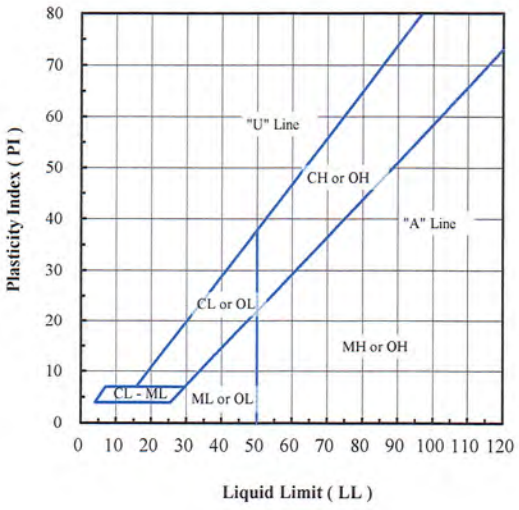


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.7
#40	0.425	98.6
#60	0.250	85.5
#100	0.150	25.2
#140	0.106	10.9
#200	0.075	4.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.4
Fines (%):	4.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.2



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-02	21B005	16.4	4.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 MRK_NSR

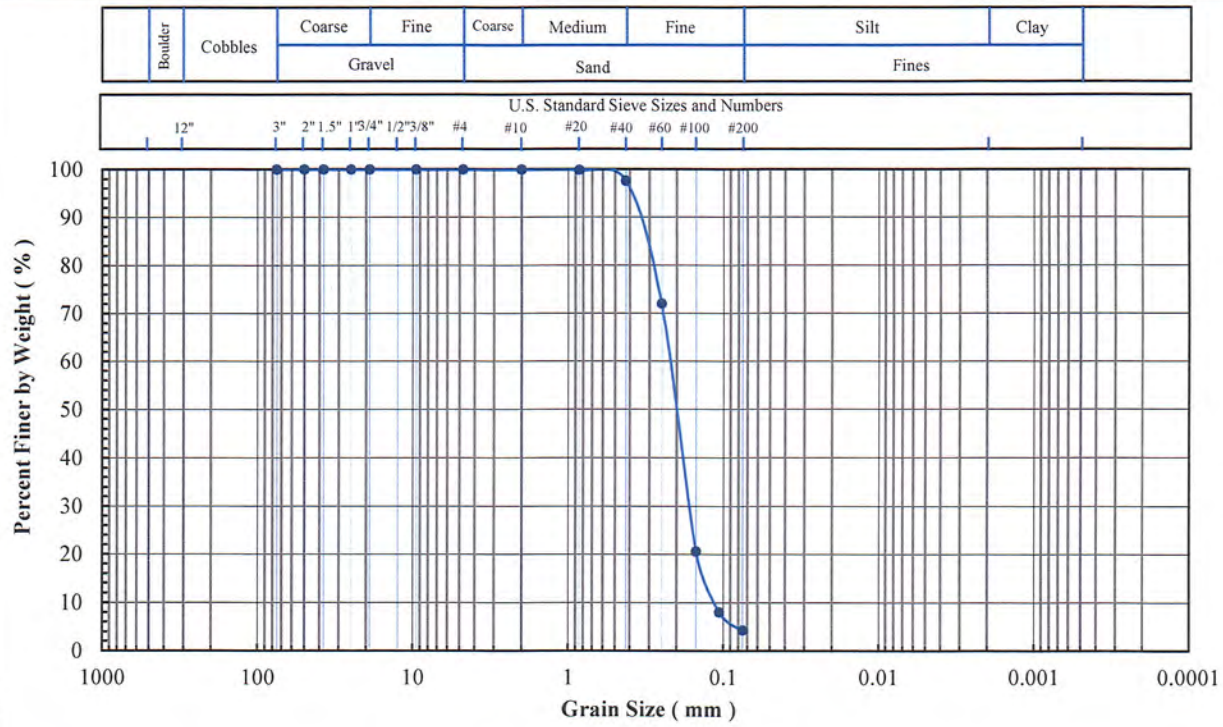
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-03
Lab Sample No:	21B006

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

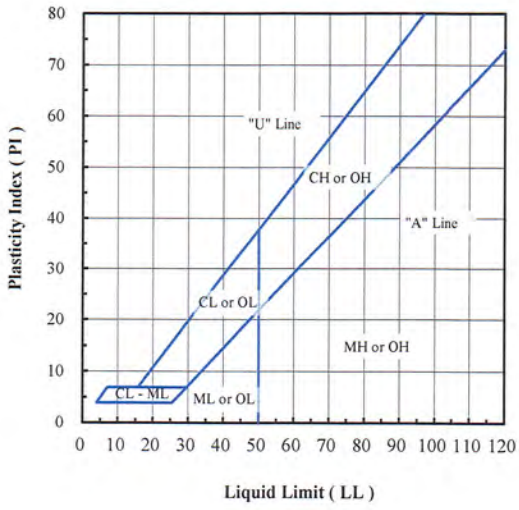


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	97.6
#60	0.250	72.0
#100	0.150	20.6
#140	0.106	8.1
#200	0.075	4.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.7
Fines (%):	4.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-03	21B006	6.3	4.3	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSK

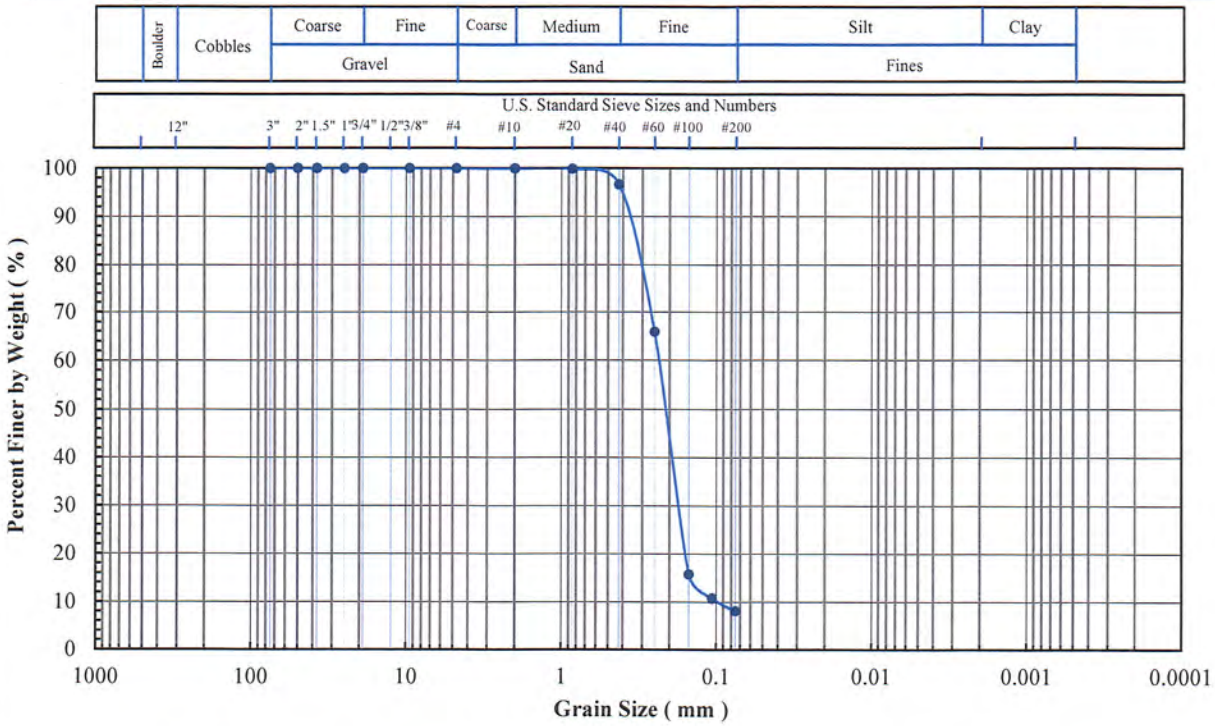
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-04
Lab Sample No:	21B007

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

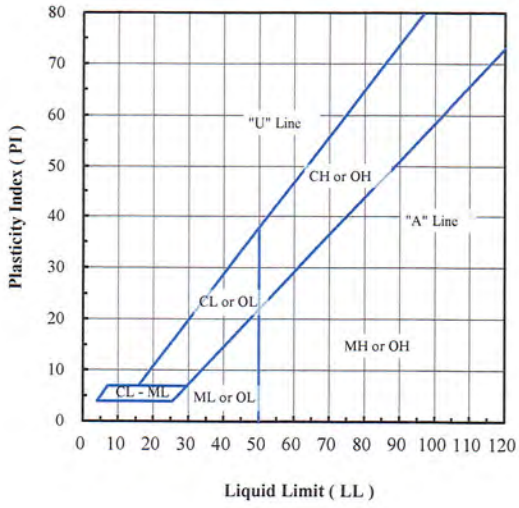


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	96.6
#60	0.250	65.9
#100	0.150	15.7
#140	0.106	10.8
#200	0.075	8.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	91.9
Fines (%):	8.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.4
Coeff. Curv. (Cc):	1.4



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-04	21B007	8.3	8.1	NP	Np	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021 ATK, MSR

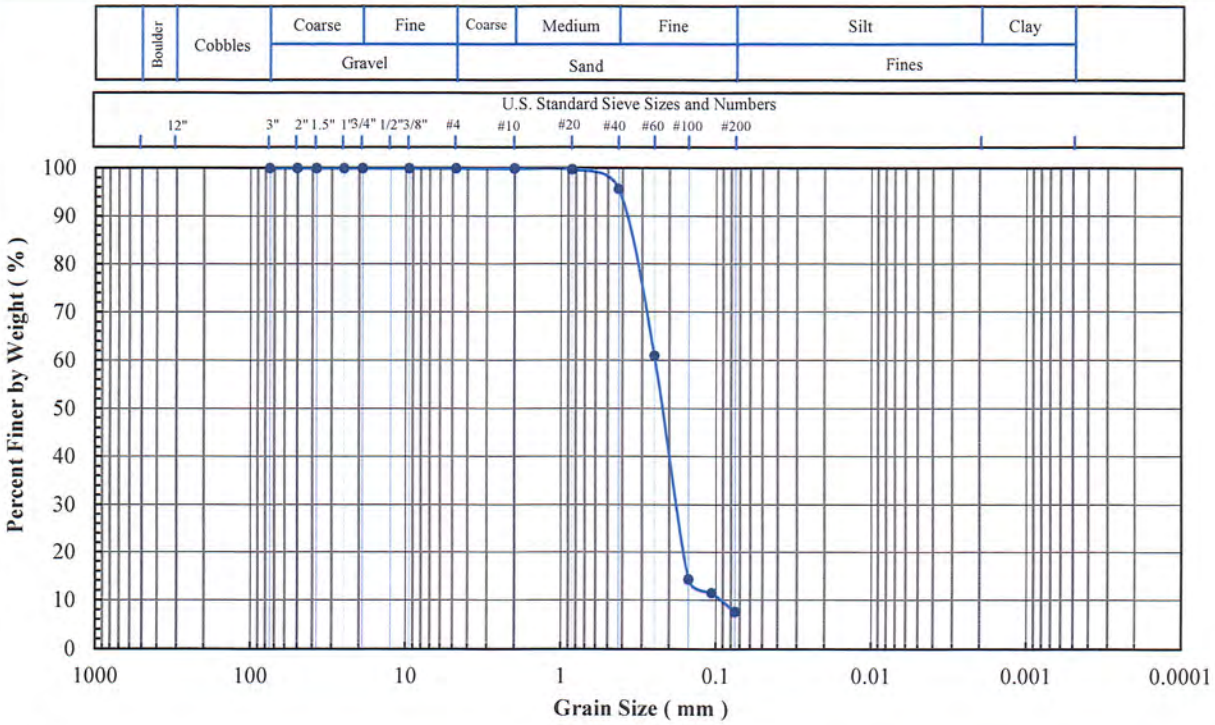
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-05
Lab Sample No:	21B008

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

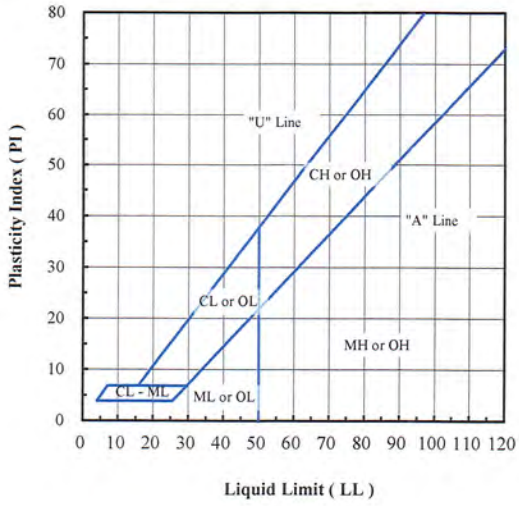


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.8
#40	0.425	95.7
#60	0.250	60.9
#100	0.150	14.3
#140	0.106	11.5
#200	0.075	7.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	92.4
Fines (%):	7.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.8
Coeff. Curv. (Cc):	1.5



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-05	21B008	8.4	7.6	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021
AFK, NSR

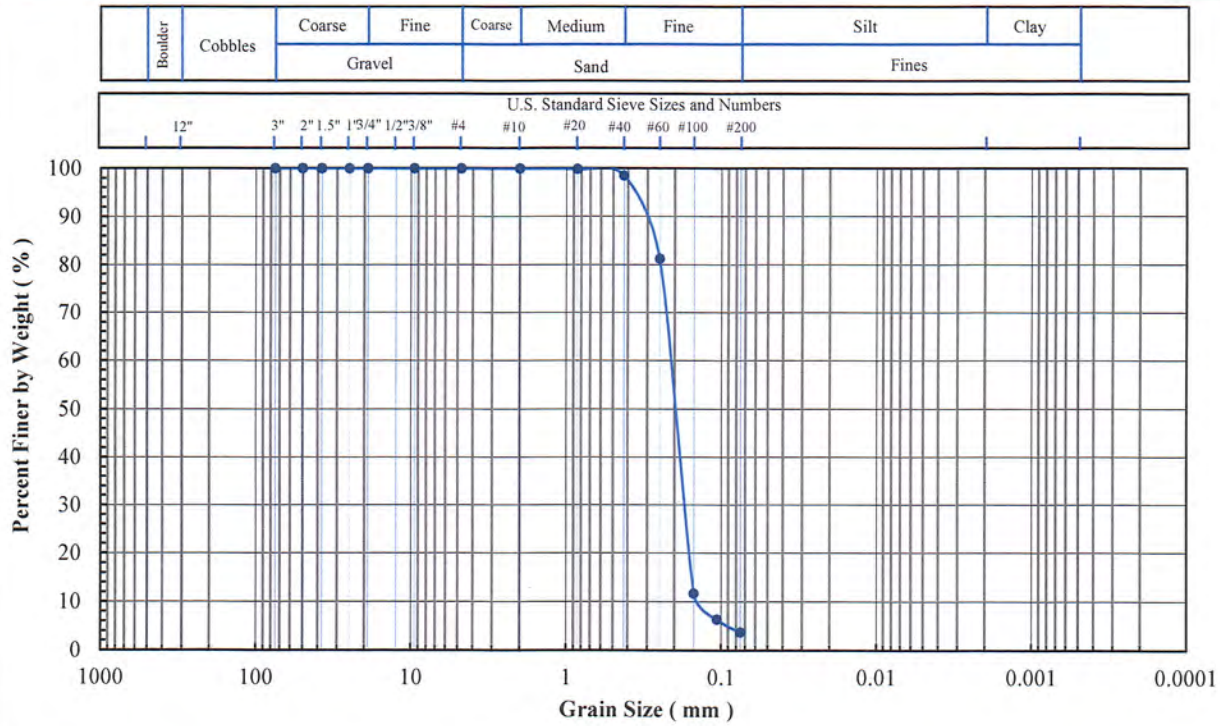
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-06
Lab Sample No:	21B009

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

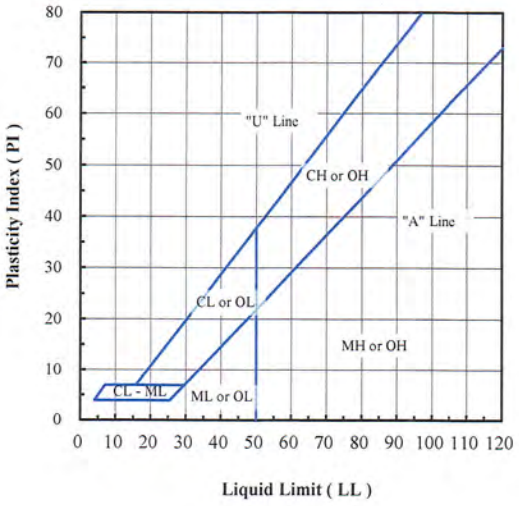


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	81.2
#100	0.150	11.7
#140	0.106	6.4
#200	0.075	3.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.3
Fines (%):	3.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.4
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-06	21B009	12.3	3.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AHK, NSR

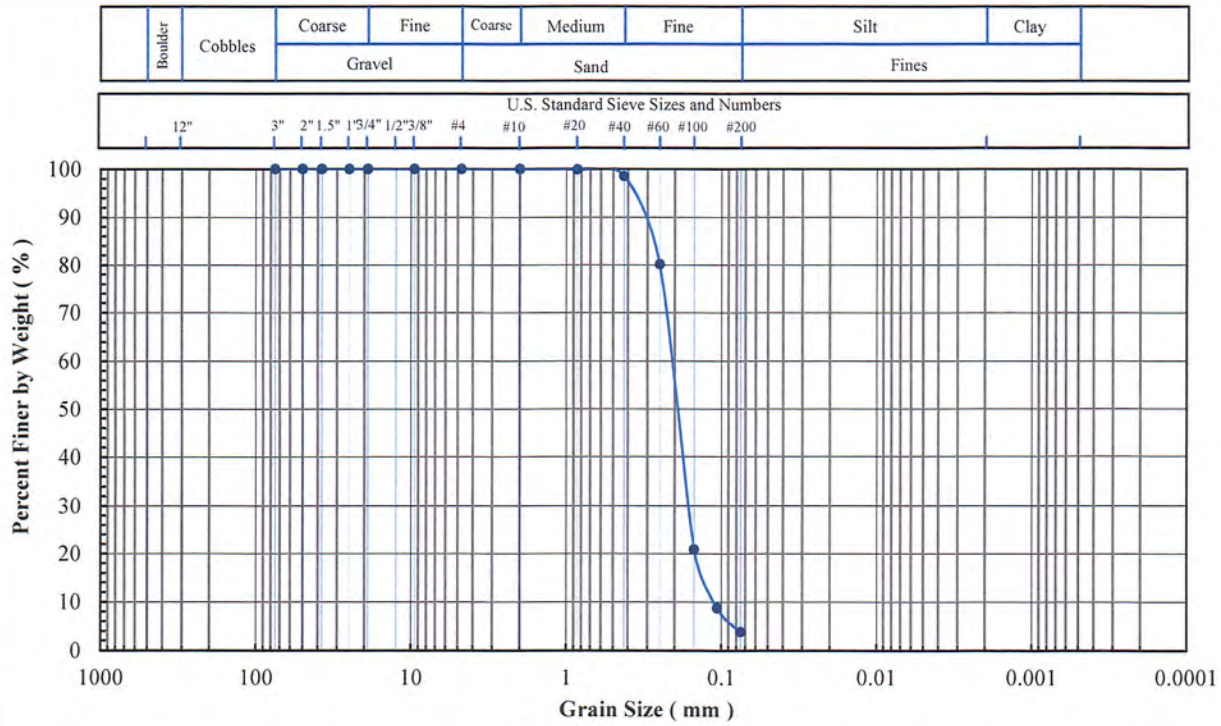
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-07
Lab Sample No:	21B010

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

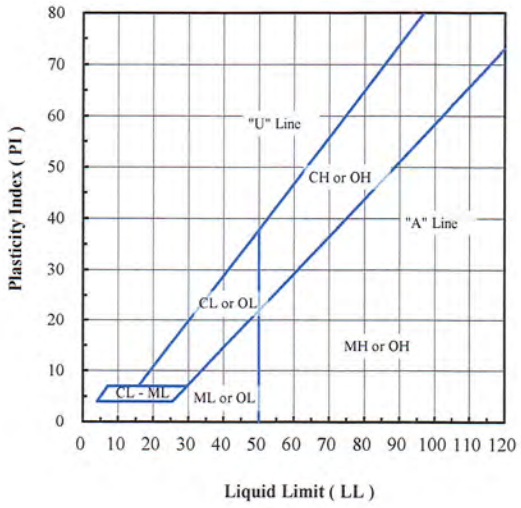


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	80.1
#100	0.150	20.9
#140	0.106	8.7
#200	0.075	3.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.2
Fines (%):	3.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-07	21B010	6.0	3.8	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
APK, NSA

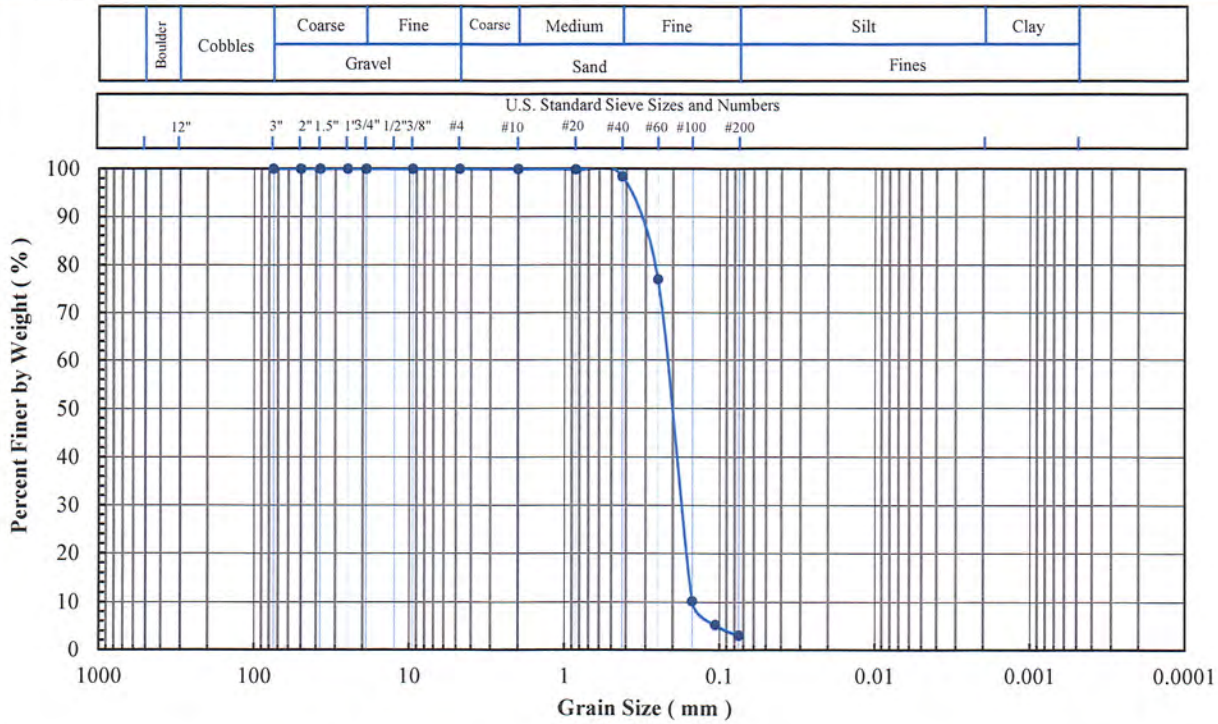
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-08
Lab Sample No:	21B011

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

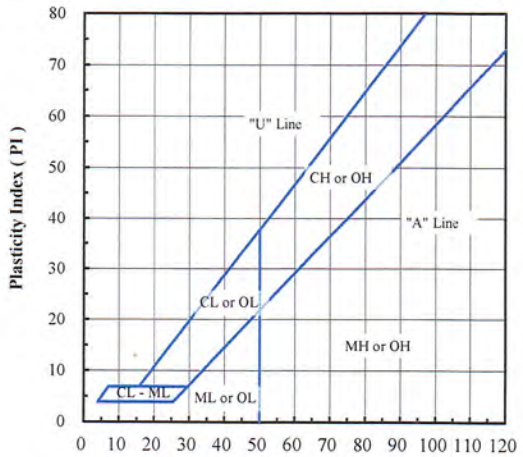


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	77.0
#100	0.150	10.2
#140	0.106	5.3
#200	0.075	3.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.9
Fines (%):	3.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.5
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-08	21B011	4.9	3.1	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
APK, NSK

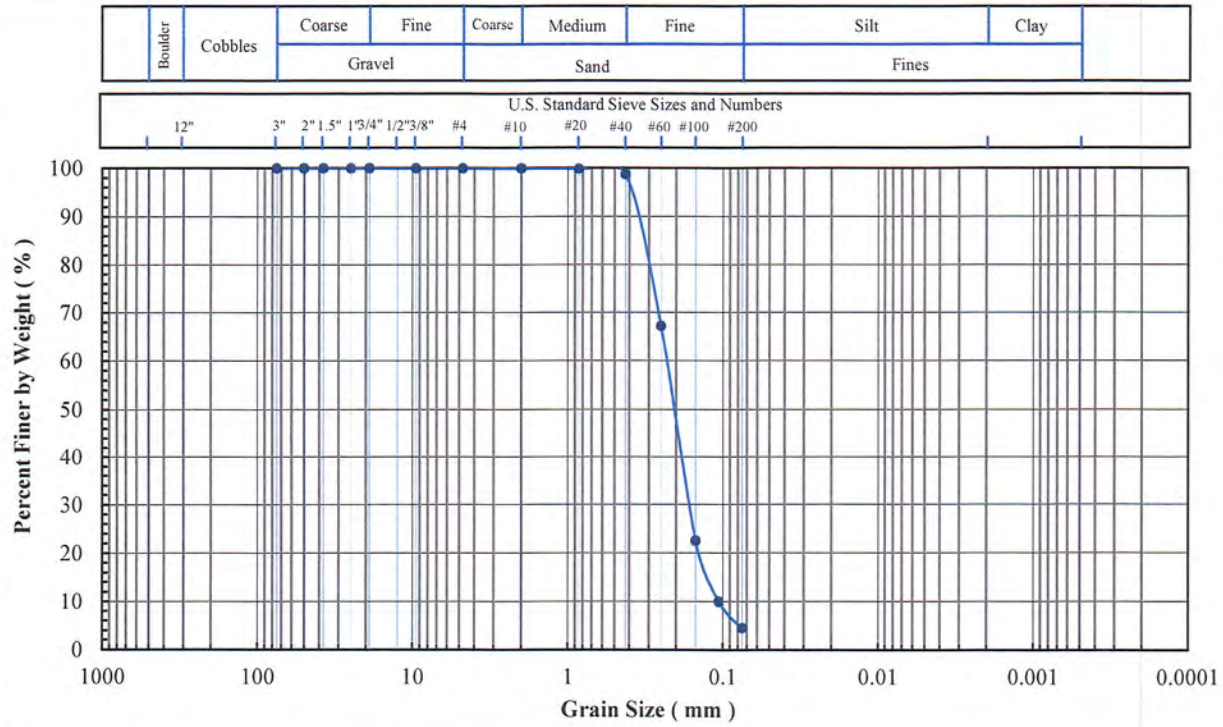
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-09
Lab Sample No:	21B012

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

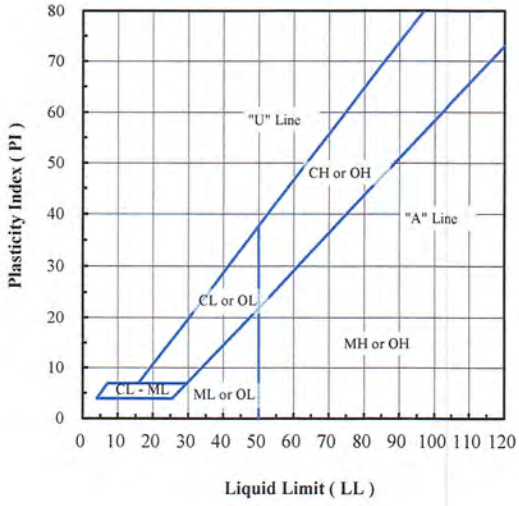


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.7
#60	0.250	67.2
#100	0.150	22.5
#140	0.106	10.0
#200	0.075	4.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.5
Fines (%):	4.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.9
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-09	21B012	16.3	4.5	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ATK_NSR

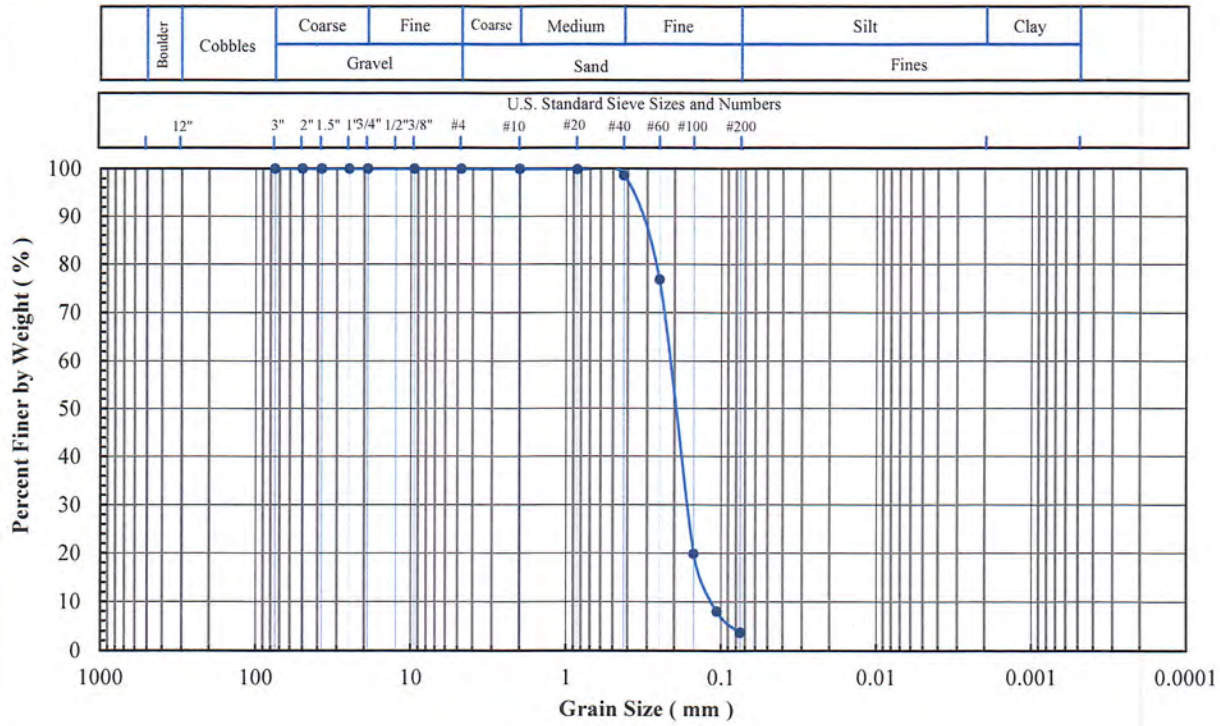
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-10
Lab Sample No:	21B013

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

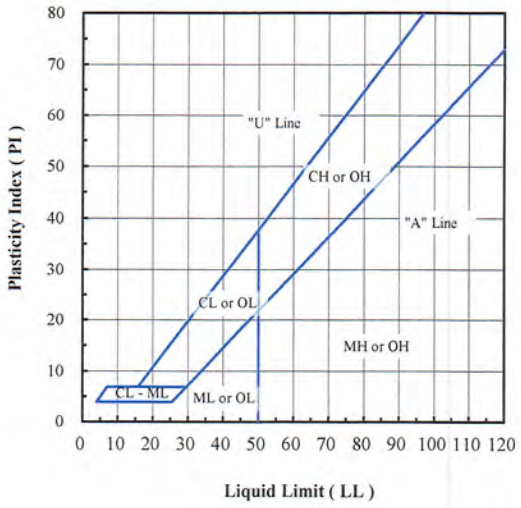


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.6
#60	0.250	76.8
#100	0.150	19.9
#140	0.106	8.0
#200	0.075	3.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.3
Fines (%):	3.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-10	21B013	8.3	3.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

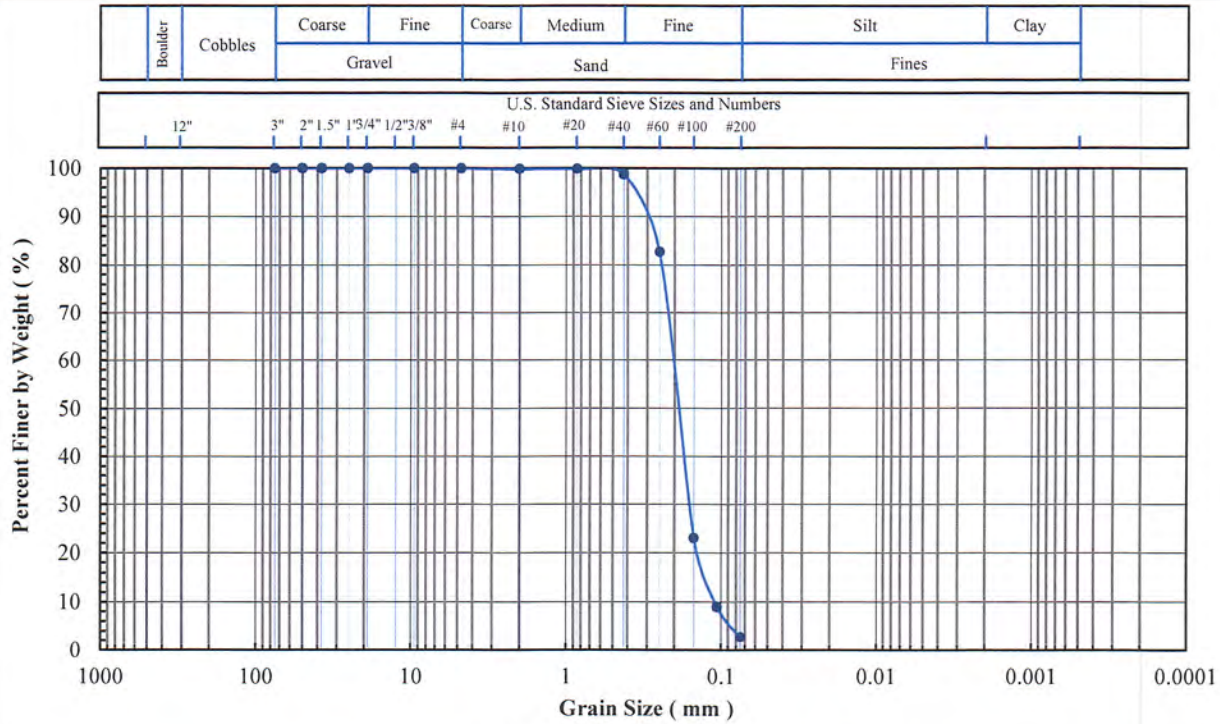
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-11
Lab Sample No:	21B014

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

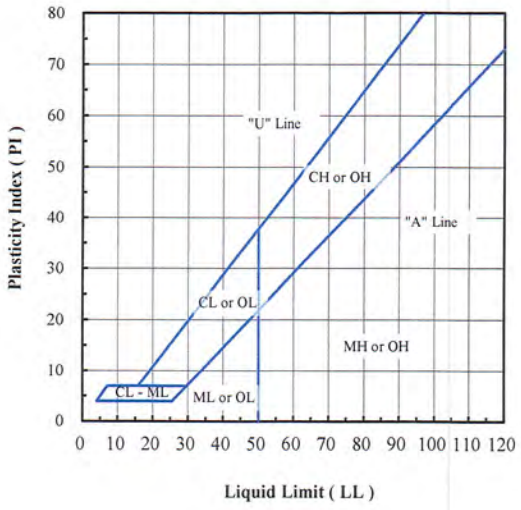


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.9
#40	0.425	98.7
#60	0.250	82.7
#100	0.150	23.1
#140	0.106	9.0
#200	0.075	2.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.3
Fines (%):	2.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-11	21B014	7.7	2.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 APK, NSR

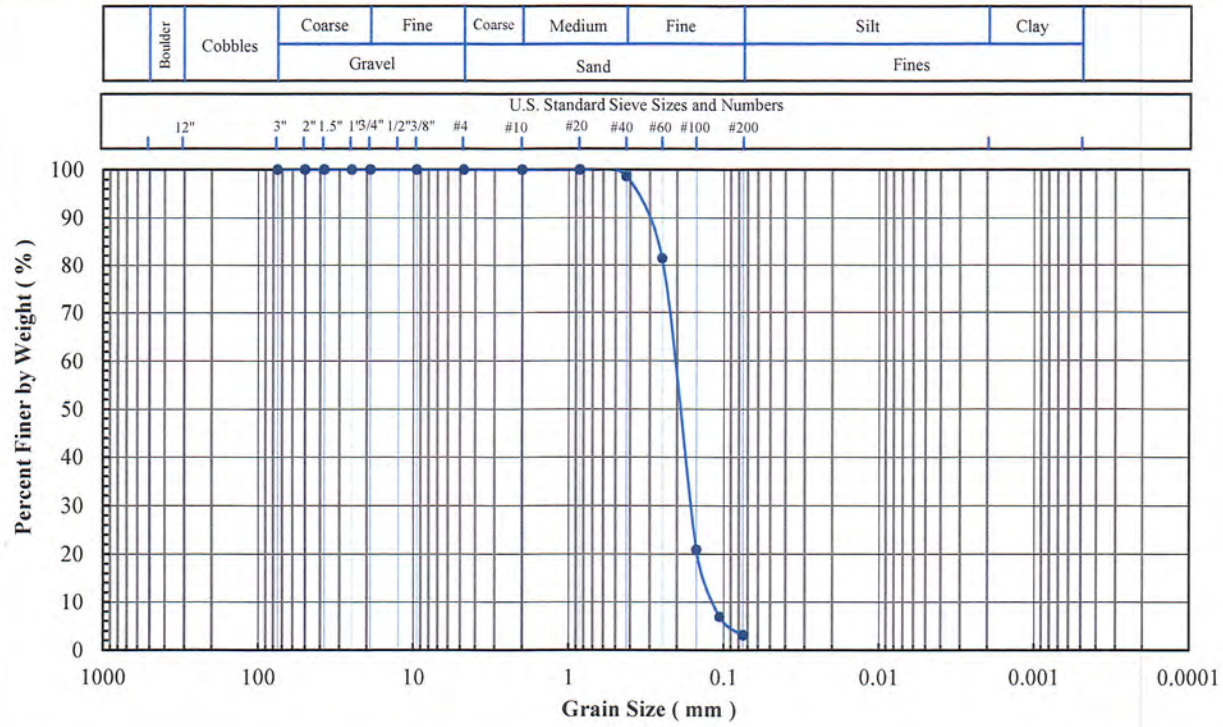
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-12
Lab Sample No:	21B015

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

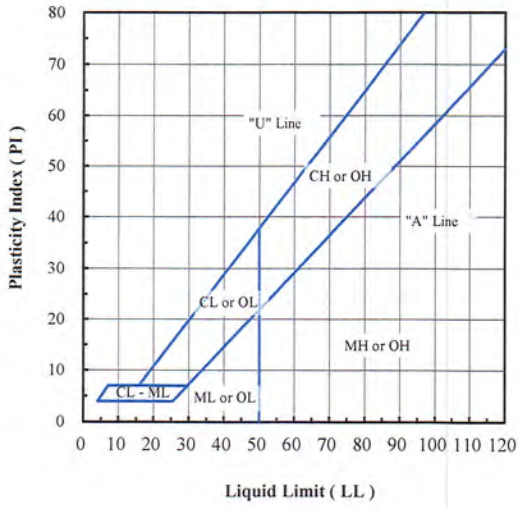


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	81.4
#100	0.150	20.9
#140	0.106	6.9
#200	0.075	3.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.9
Fines (%):	3.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.2



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-12	21B015	5.9	3.1	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AFK, MSR

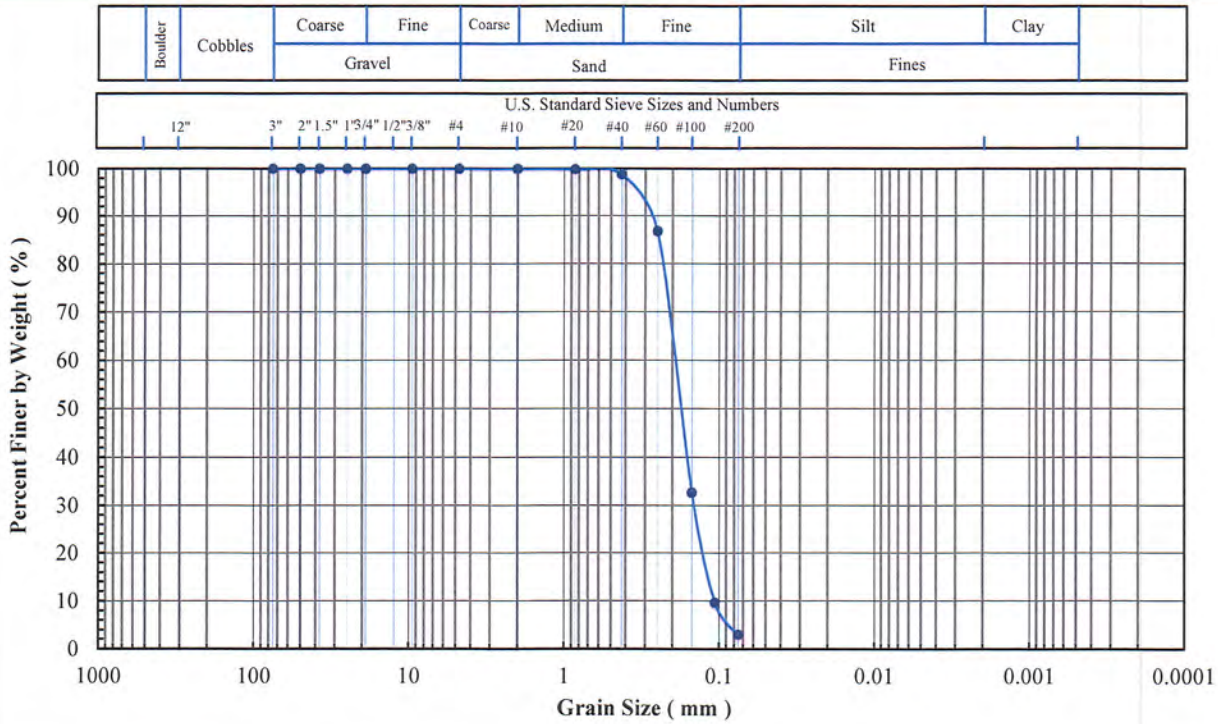
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-13
Lab Sample No:	21B016

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

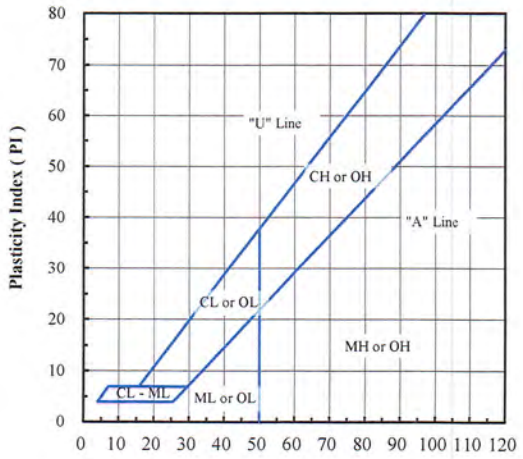


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.8
#60	0.250	86.7
#100	0.150	32.6
#140	0.106	9.6
#200	0.075	3.0

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.0
Fines (%):	3.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.5
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-13	21B016	7.5	3.0	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 AFK, JSR

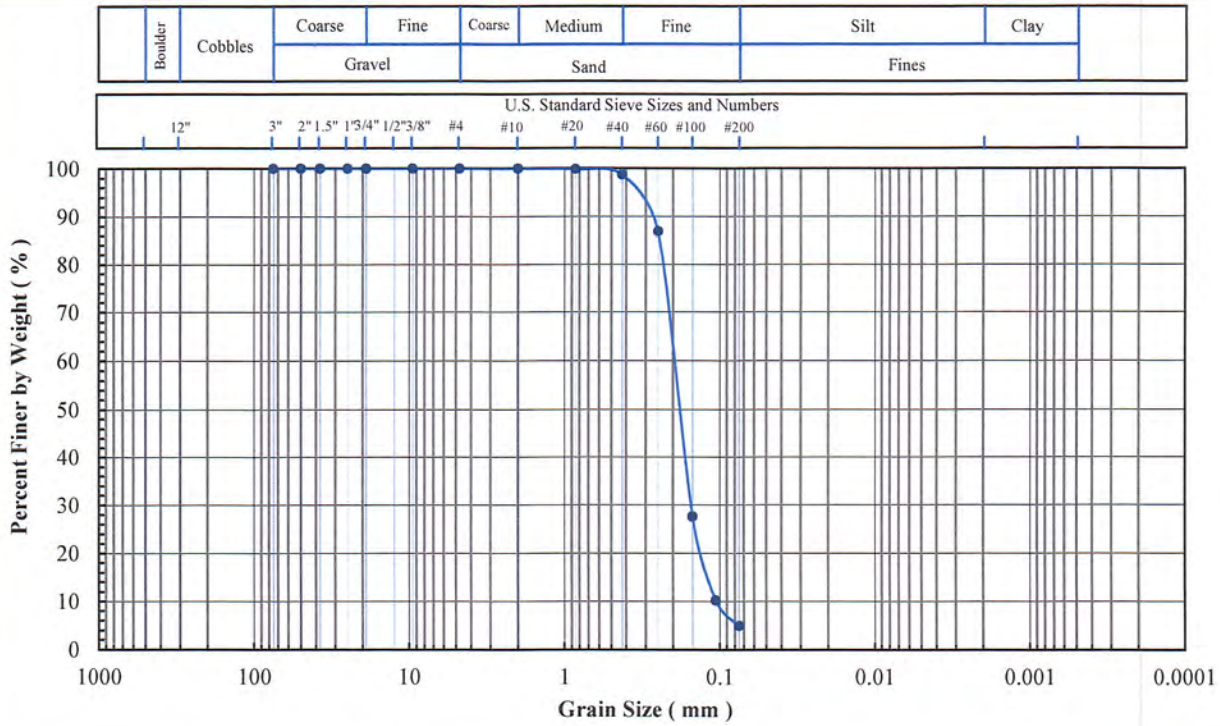
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-14
Lab Sample No:	21B017

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

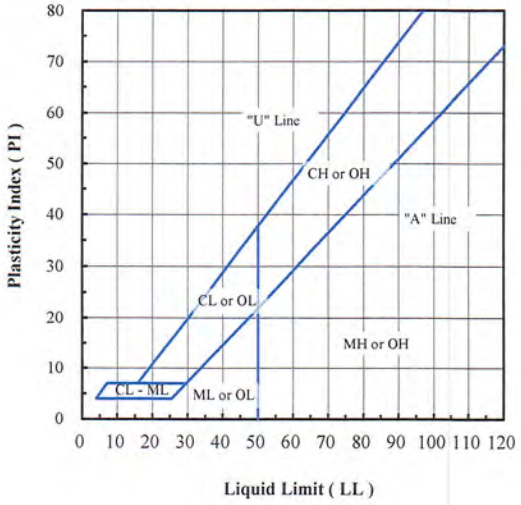


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.7
#60	0.250	86.9
#100	0.150	27.5
#140	0.106	10.2
#200	0.075	4.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.1
Fines (%):	4.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-14	21B017	14.1	4.9	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ATK, NSK

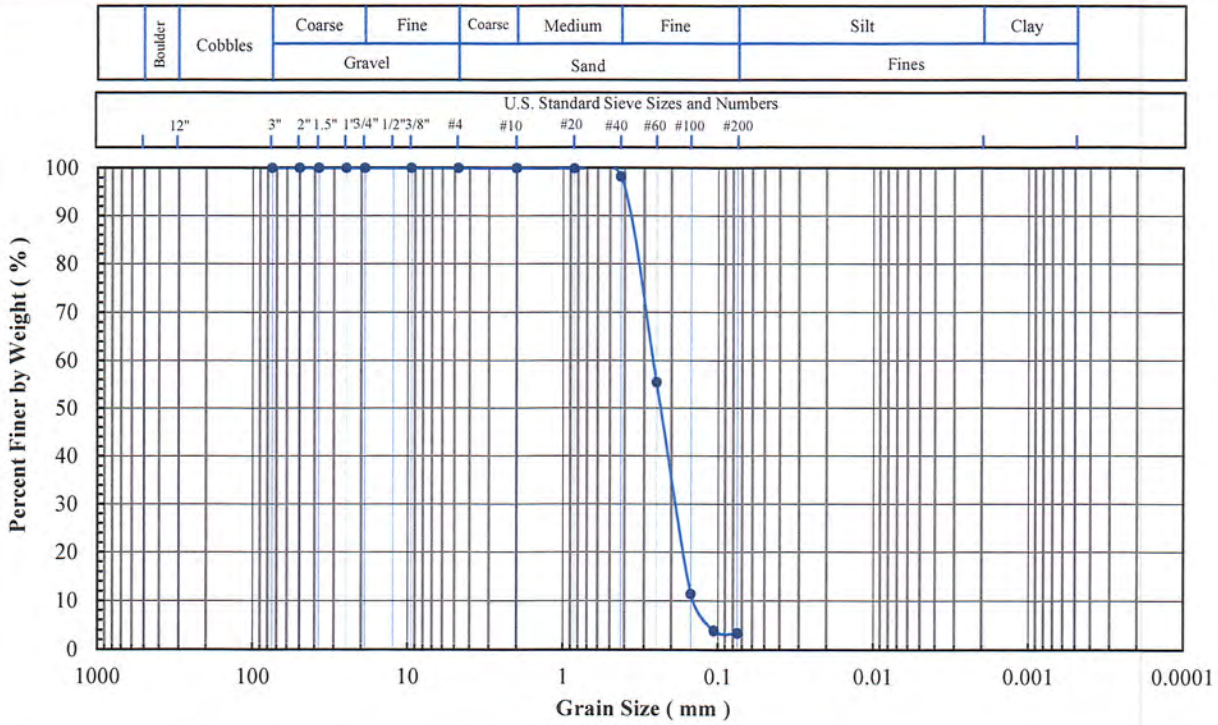
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-15
Lab Sample No:	21B018

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

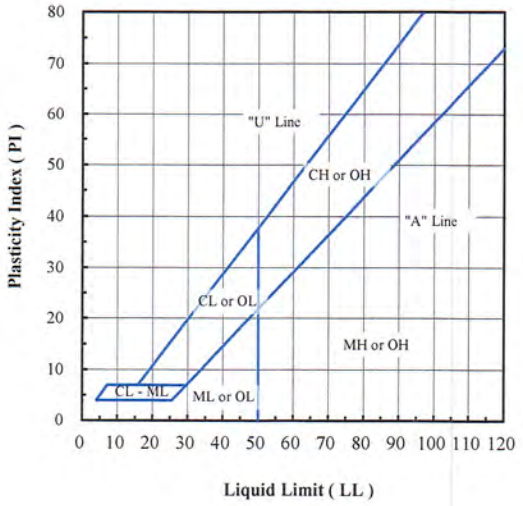


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.2
#60	0.250	55.4
#100	0.150	11.4
#140	0.106	3.9
#200	0.075	3.4

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.6
Fines (%):	3.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-15	21B018	5.2	3.4	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ARK, NSR

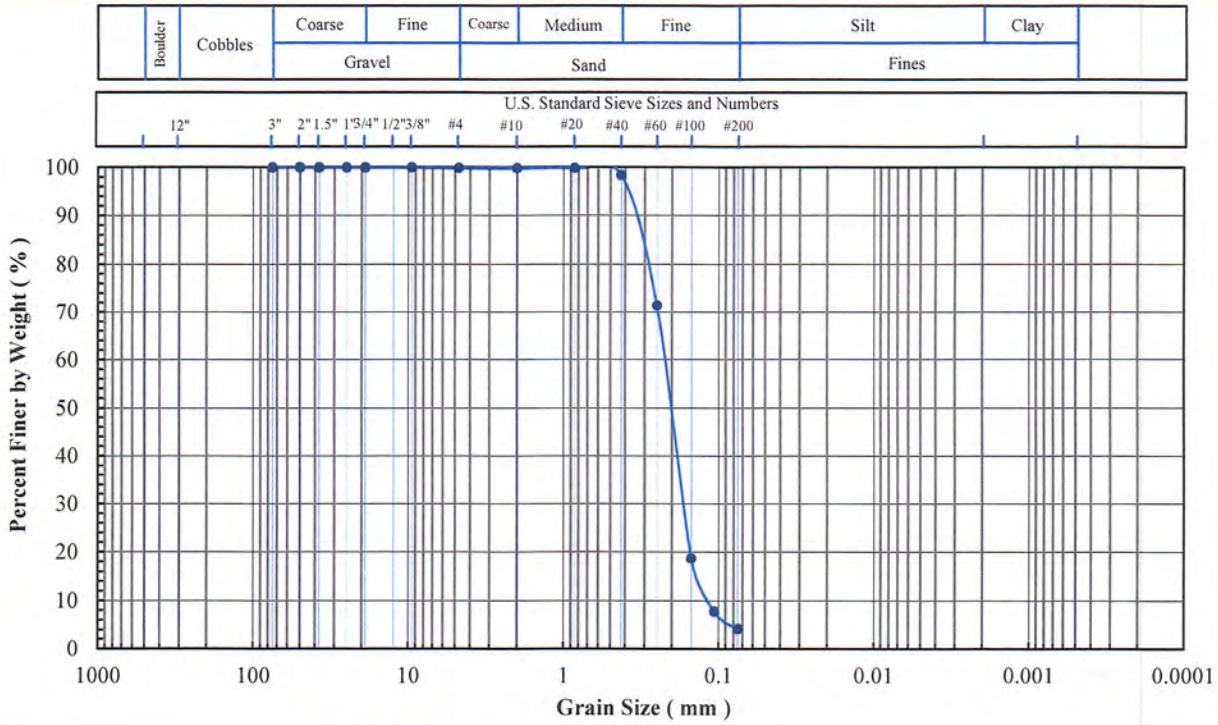
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-16
Lab Sample No:	21B019

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

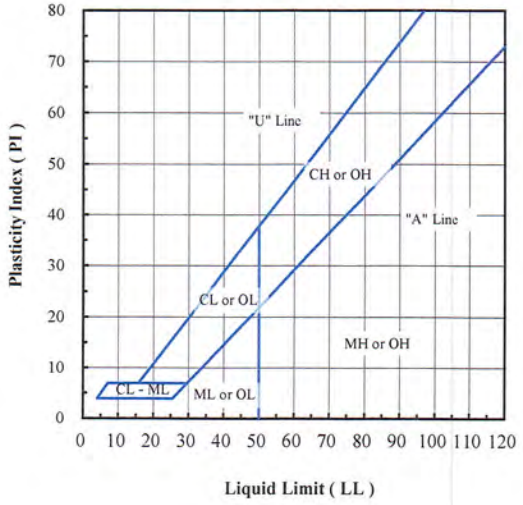


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.9
#10	2.00	99.9
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	71.3
#100	0.150	18.7
#140	0.106	7.8
#200	0.075	4.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.1
Sand (%):	95.7
Fines (%):	4.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-16	21B019	7.1	4.2	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

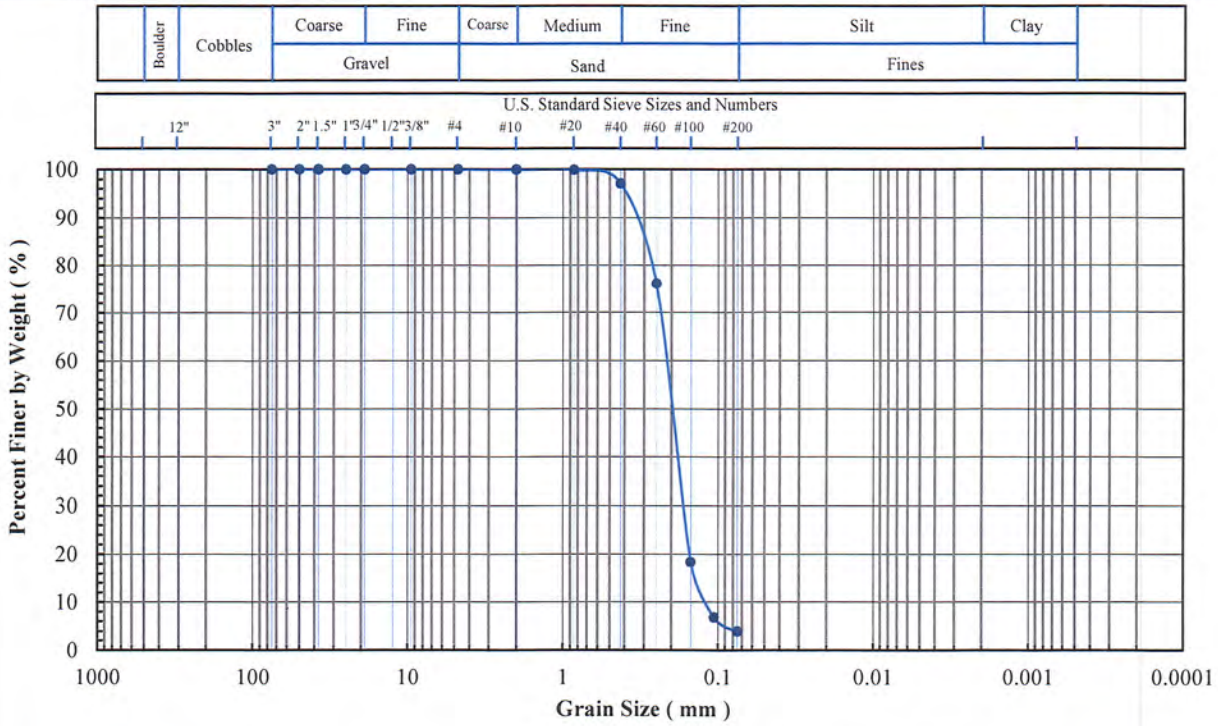
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-17
Lab Sample No:	21B020

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

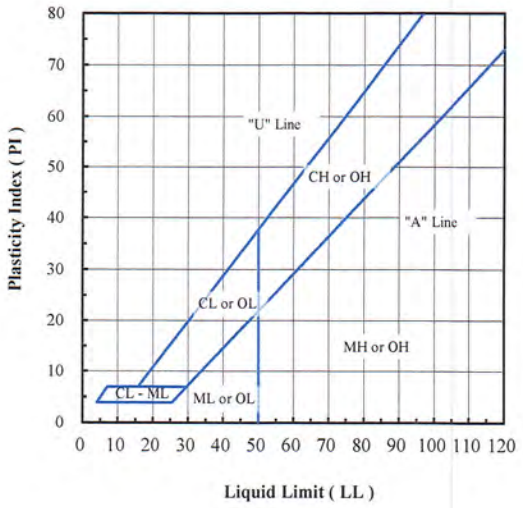


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	97.1
#60	0.250	76.0
#100	0.150	18.4
#140	0.106	6.8
#200	0.075	3.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.1
Fines (%):	3.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-17	21B020	6.9	3.9	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
APK_NSR

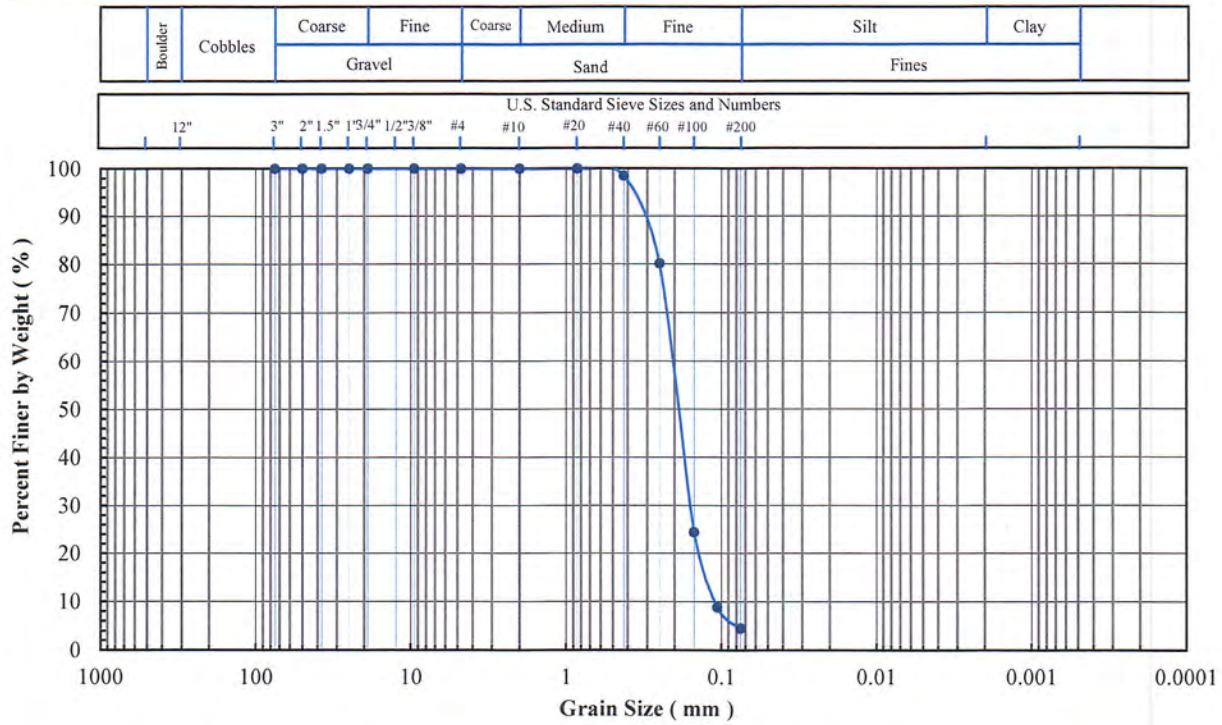
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-18
Lab Sample No:	21B021

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

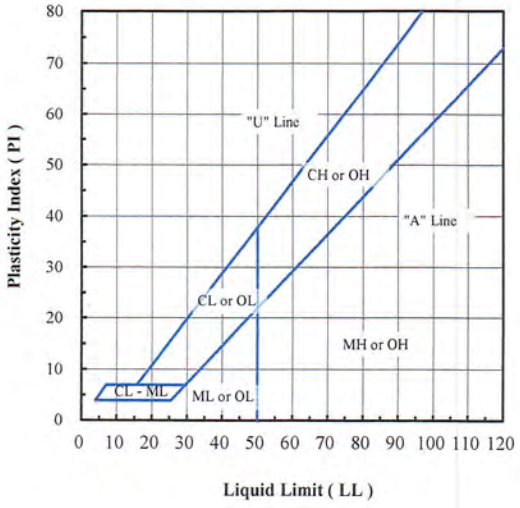


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.5
#60	0.250	80.1
#100	0.150	24.4
#140	0.106	8.8
#200	0.075	4.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.5
Fines (%):	4.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-18	21B021	8.0	4.5	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AFK, MSR

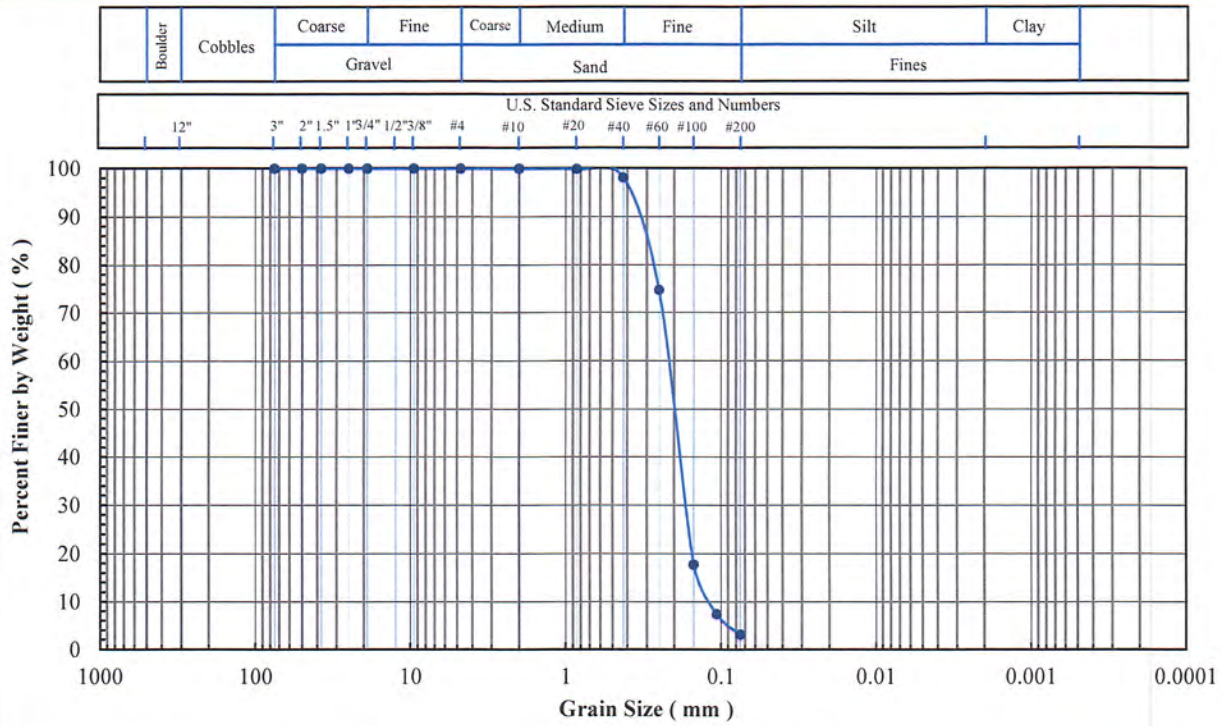
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-19
Lab Sample No:	21B022

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

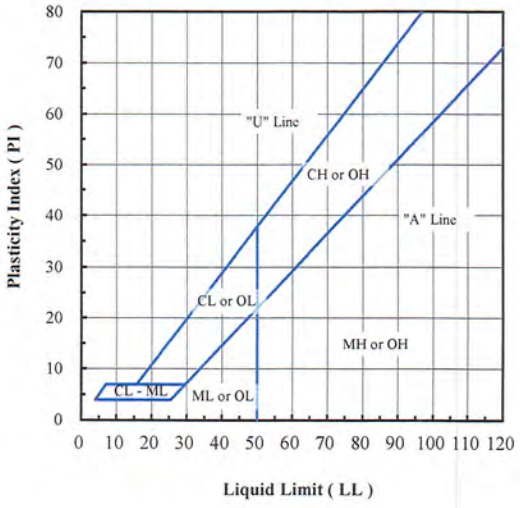


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.1
#60	0.250	74.7
#100	0.150	17.7
#140	0.106	7.4
#200	0.075	3.1

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.9
Fines (%):	3.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-19	21B022	5.1	3.1	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
APK, NSR

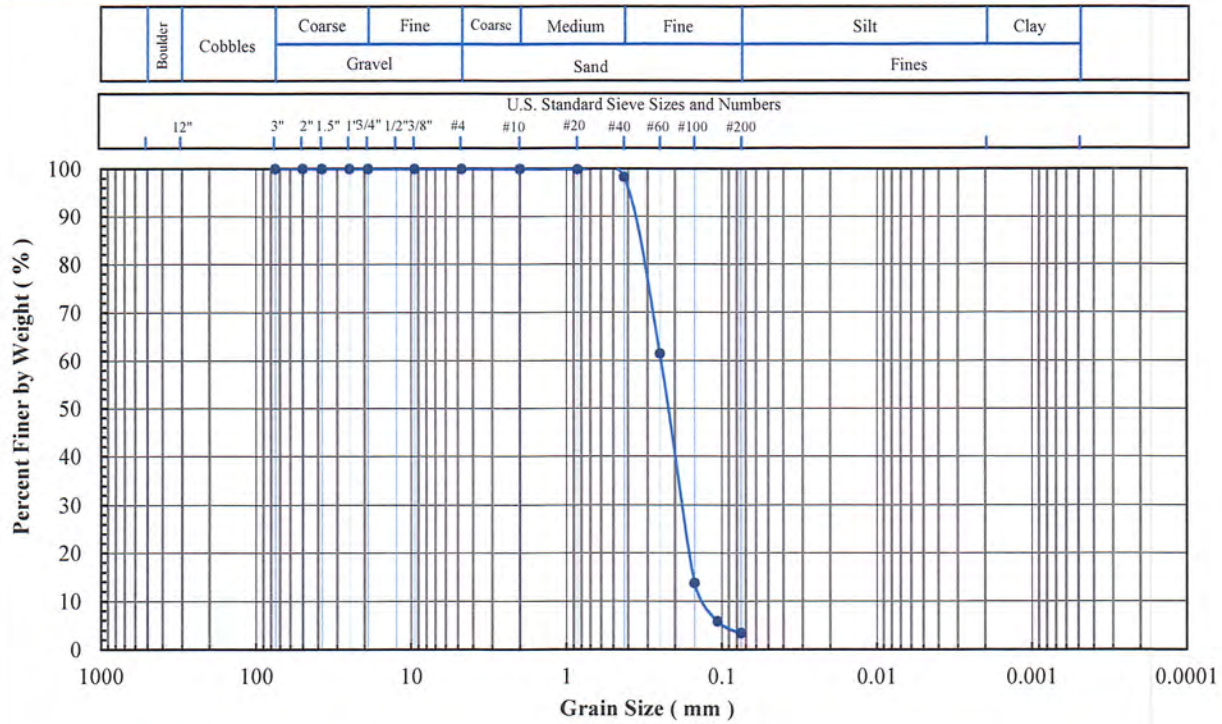
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-20
Lab Sample No:	21B023

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

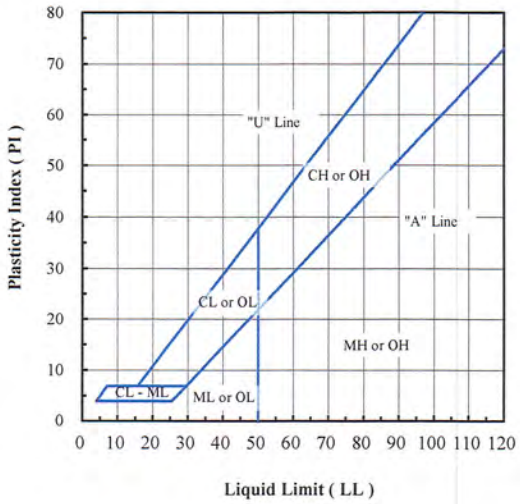


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.3
#60	0.250	61.4
#100	0.150	13.7
#140	0.106	5.8
#200	0.075	3.4

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.6
Fines (%):	3.4
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-20	21B023	5.5	3.4	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AFK, JSR

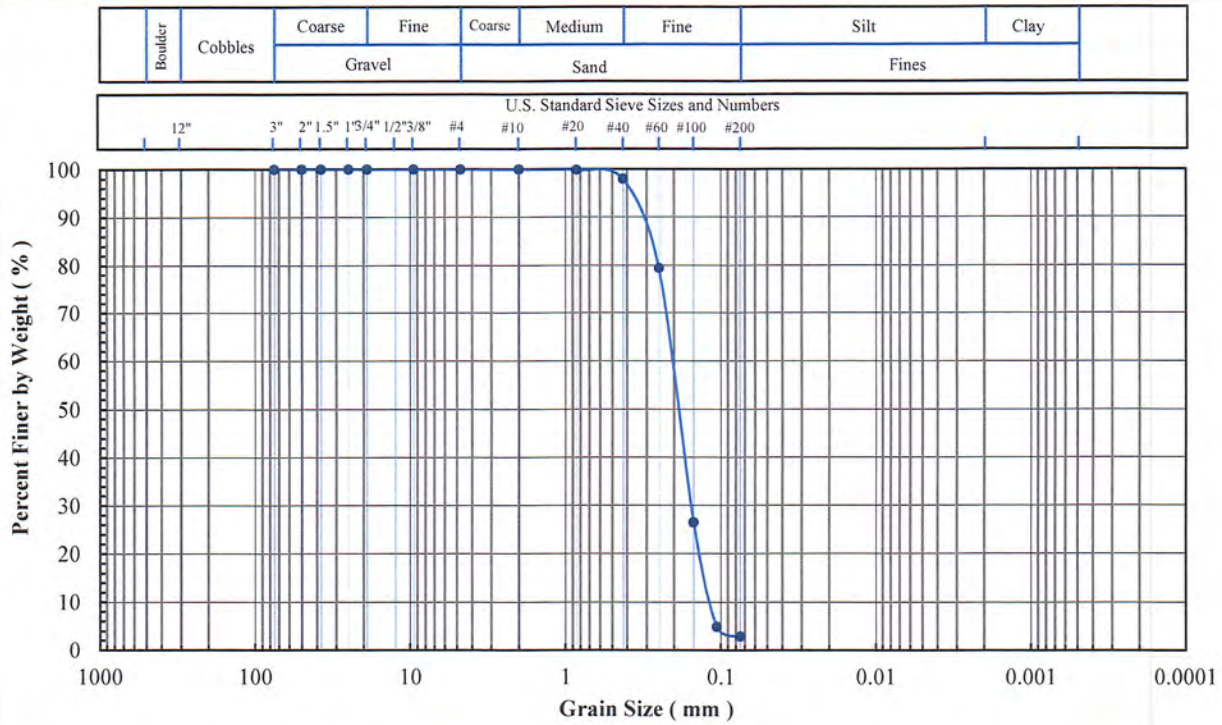
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-21
Lab Sample No:	21B024

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

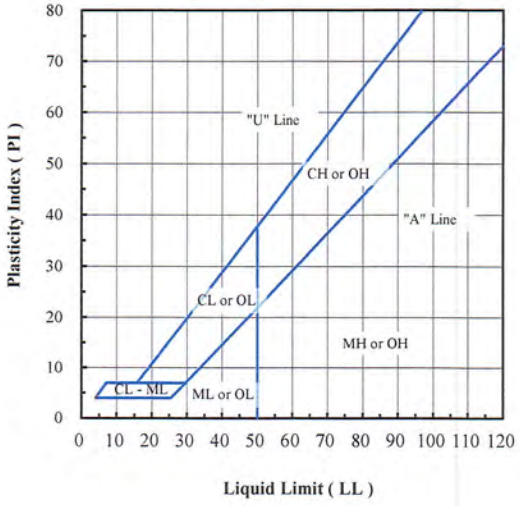


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	97.9
#60	0.250	79.4
#100	0.150	26.4
#140	0.106	4.9
#200	0.075	2.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.1
Fines (%):	2.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-21	21B024	6.0	2.9	NP	NP	NP	SP - Poorly graded sand

Note(s):

11-07-2021
APK, NSR

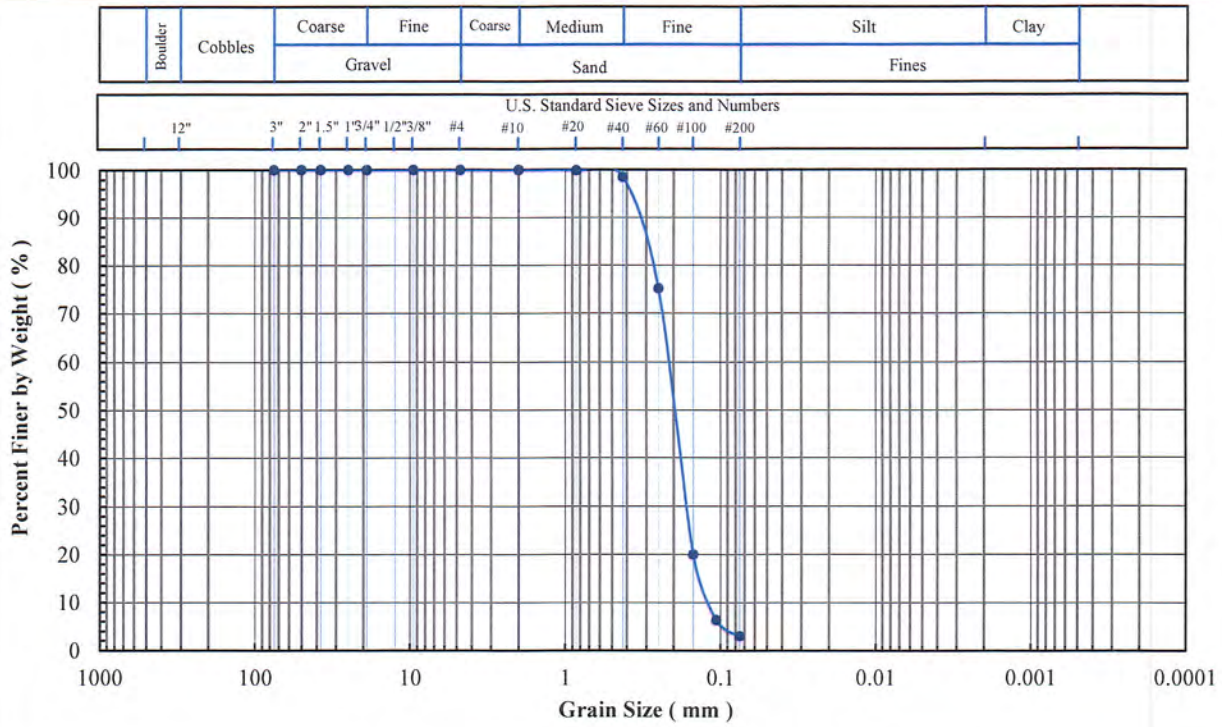
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-22
Lab Sample No:	21B025

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

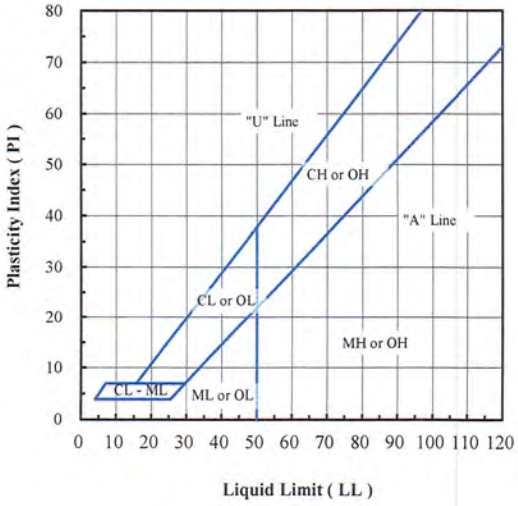


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	75.1
#100	0.150	19.9
#140	0.106	6.3
#200	0.075	3.0

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.0
Fines (%):	3.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-22	21B025	6.9	3.0	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 APK_NSR

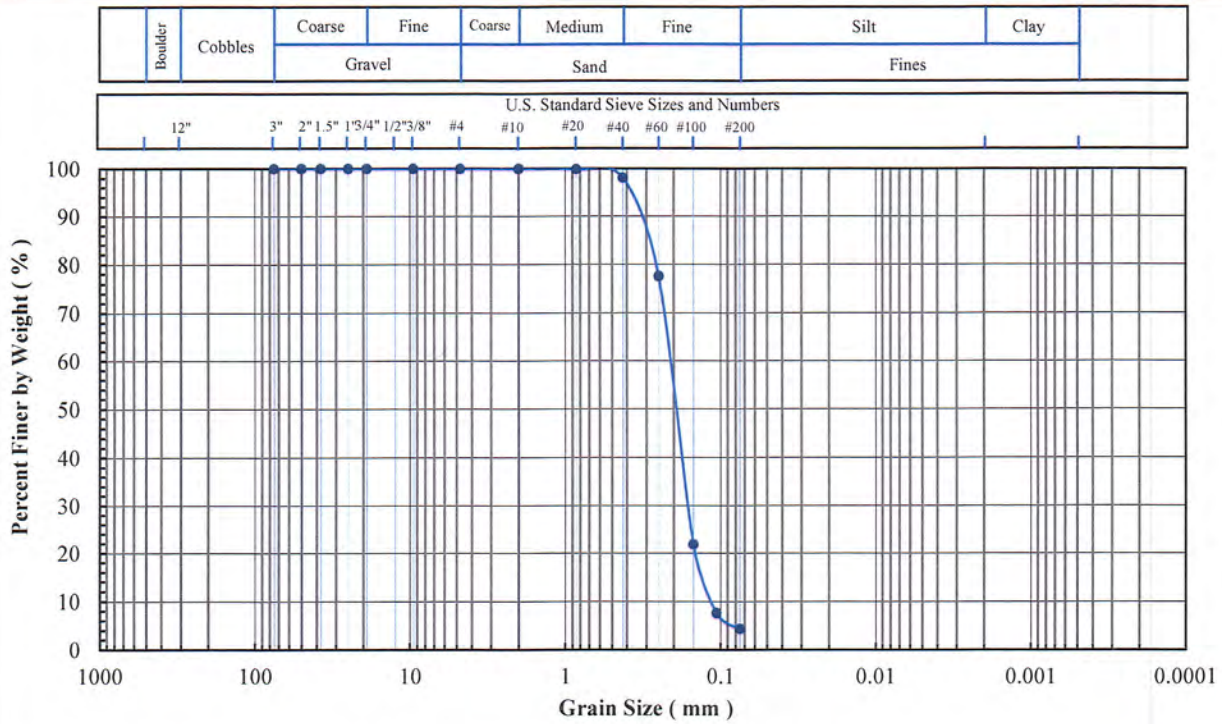
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-23
Lab Sample No:	21B026

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

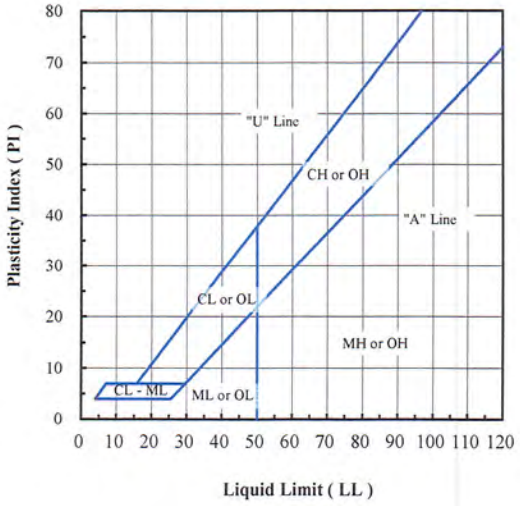


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.1
#60	0.250	77.5
#100	0.150	21.8
#140	0.106	7.6
#200	0.075	4.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.7
Fines (%):	4.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-23	21B026	5.7	4.3	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

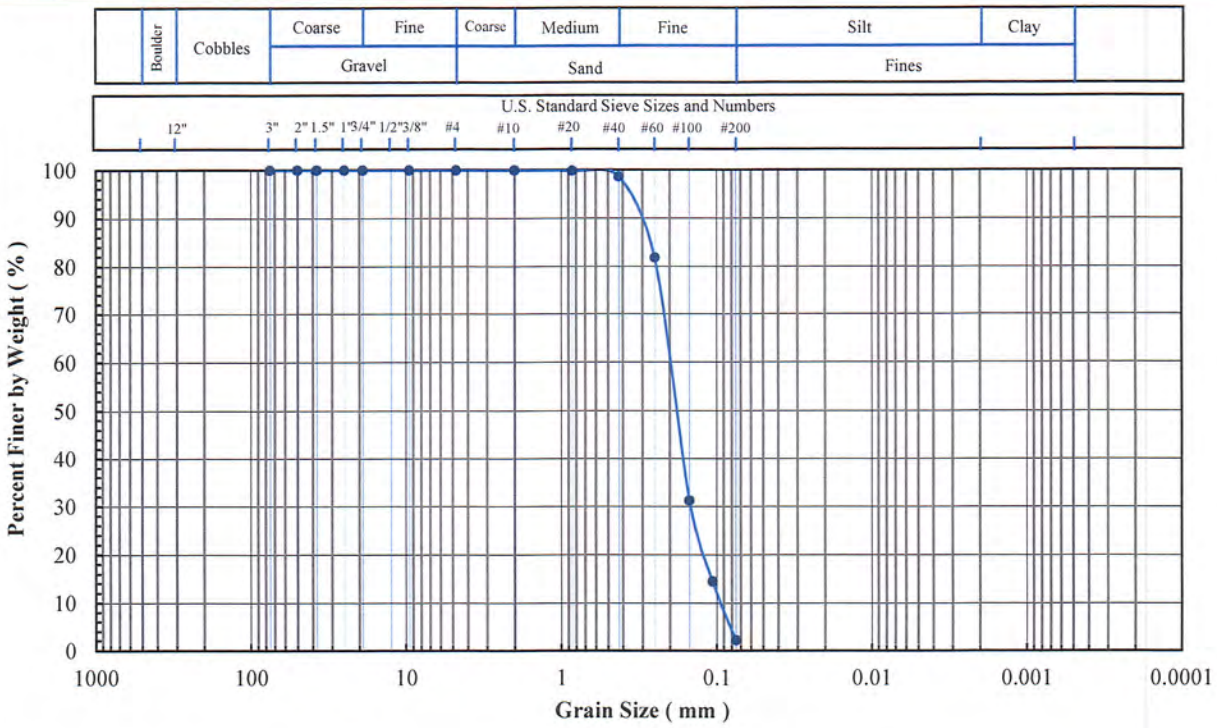
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-24
Lab Sample No:	21B027

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

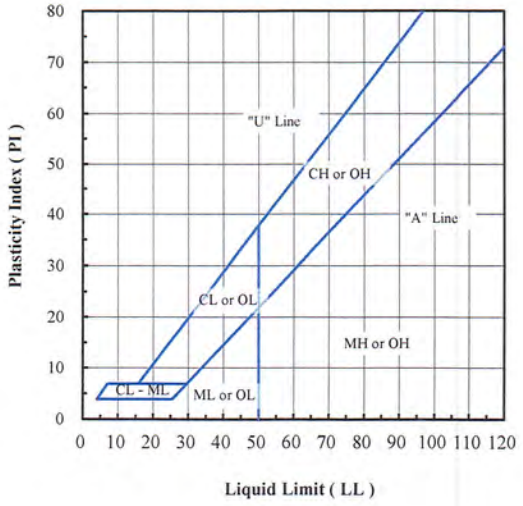


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.6
#60	0.250	81.8
#100	0.150	31.2
#140	0.106	14.5
#200	0.075	2.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.8
Fines (%):	2.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.1
Coeff. Curv. (Cc):	1.2



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-24	21B027	5.7	2.2	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ARK, MSR

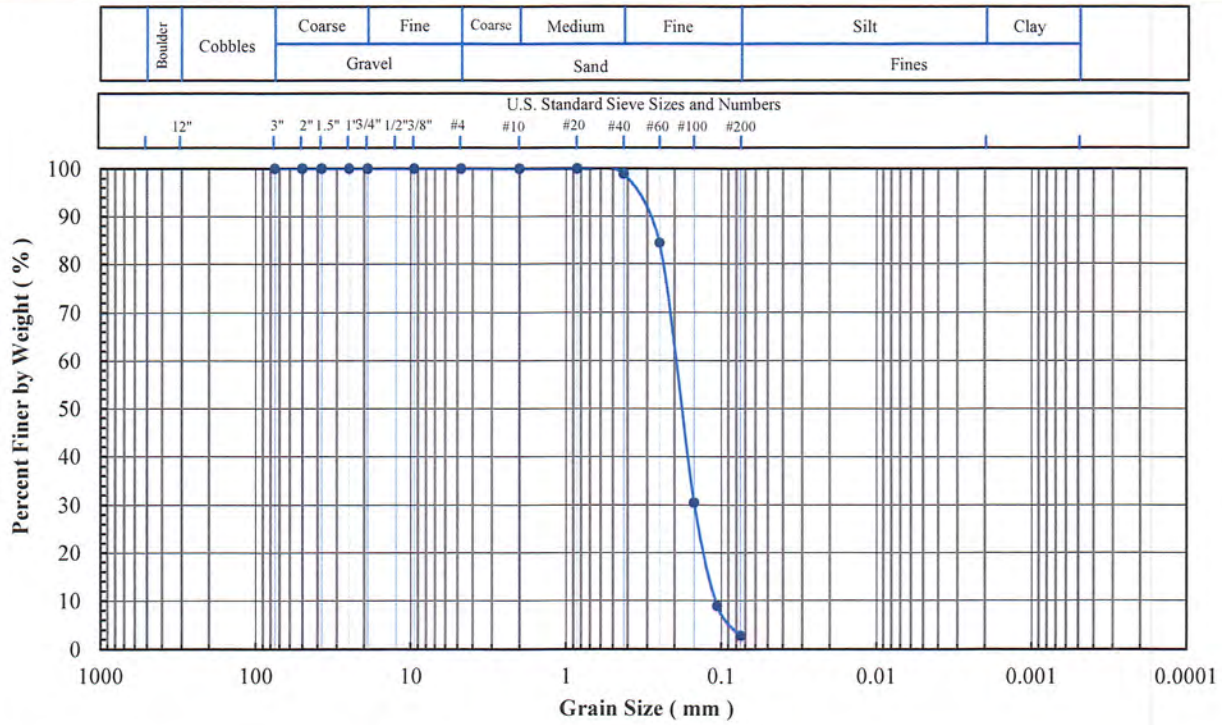
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-25
Lab Sample No:	21B028

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

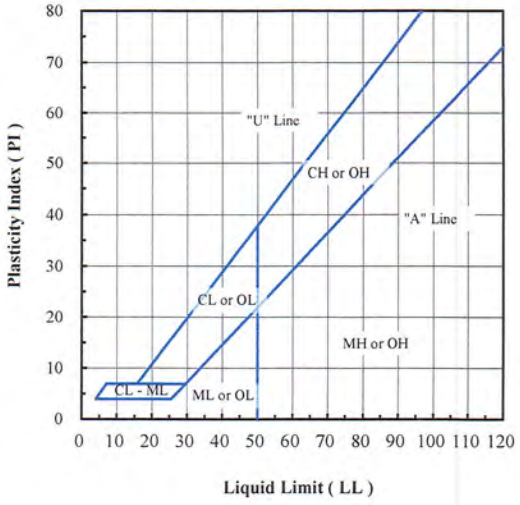


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.9
#60	0.250	84.3
#100	0.150	30.4
#140	0.106	8.8
#200	0.075	2.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.3
Fines (%):	2.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-25	21B028	5.8	2.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ARK, NSR

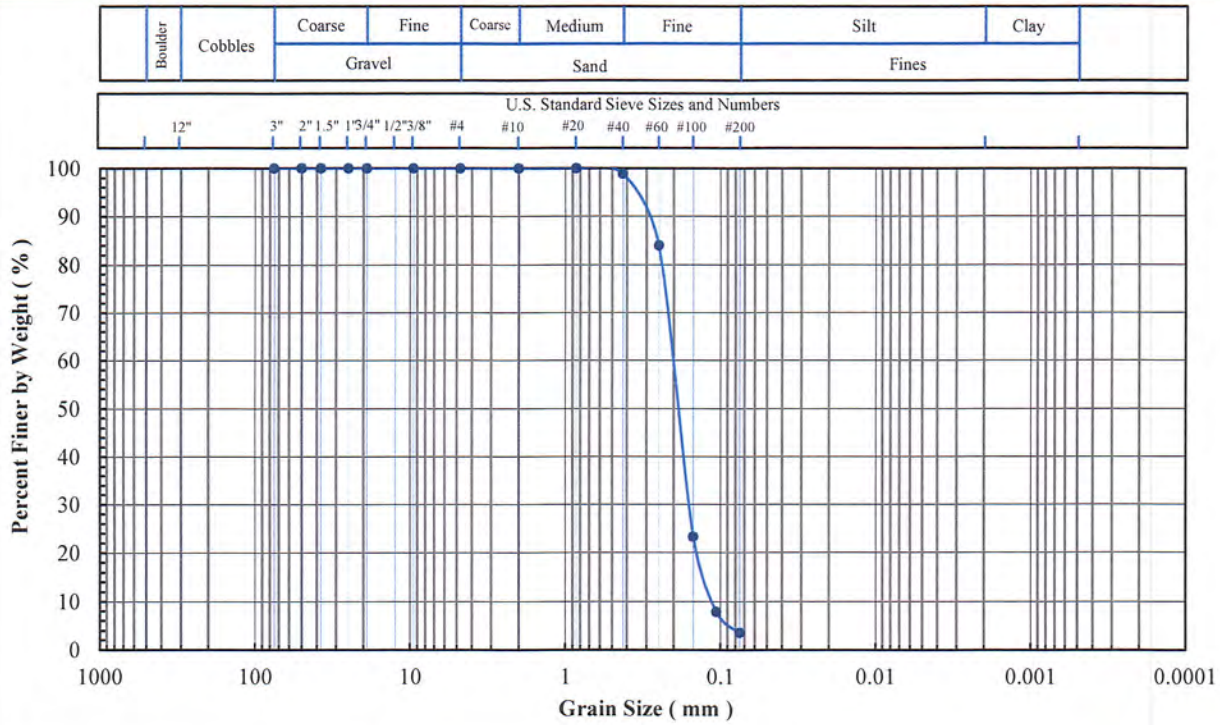
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-26
Lab Sample No:	21B029

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

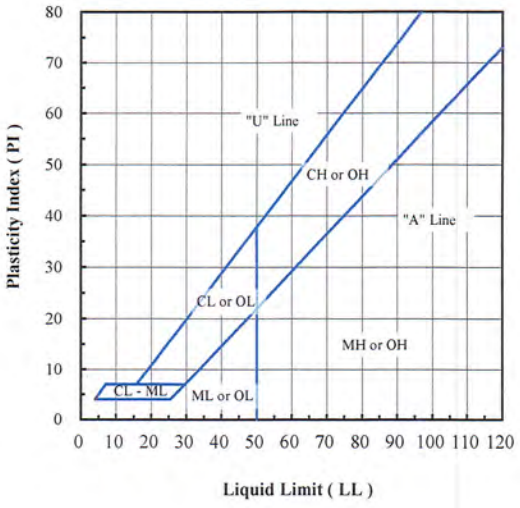


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.8
#60	0.250	83.9
#100	0.150	23.2
#140	0.106	7.8
#200	0.075	3.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.5
Fines (%):	3.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-26	21B029	6.4	3.5	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ATK, NSR

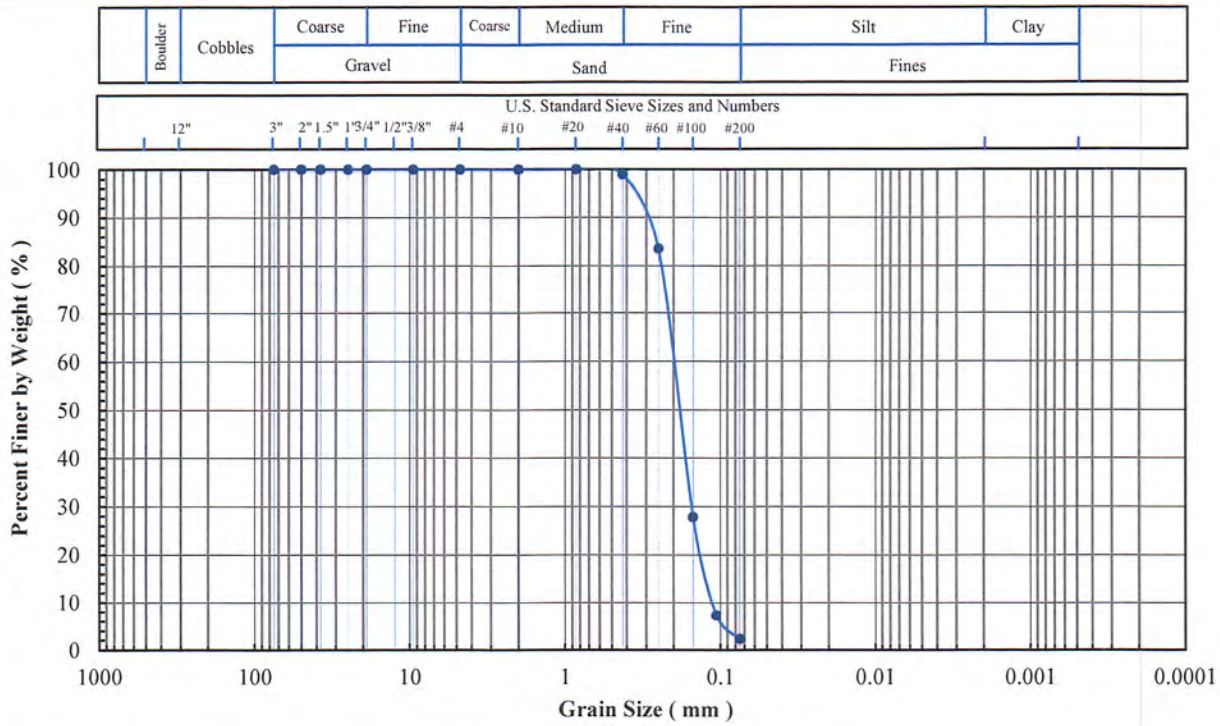
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-27
Lab Sample No:	21B030

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

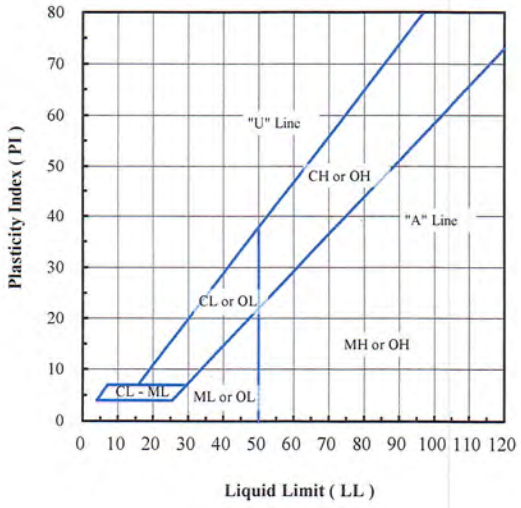


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.9
#60	0.250	83.5
#100	0.150	27.7
#140	0.106	7.3
#200	0.075	2.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.7
Fines (%):	2.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-27	21B030	4.7	2.3	NP	NP	NP	SP - Poorly graded sand

Note(s):

11-07-2021
APK, NSR

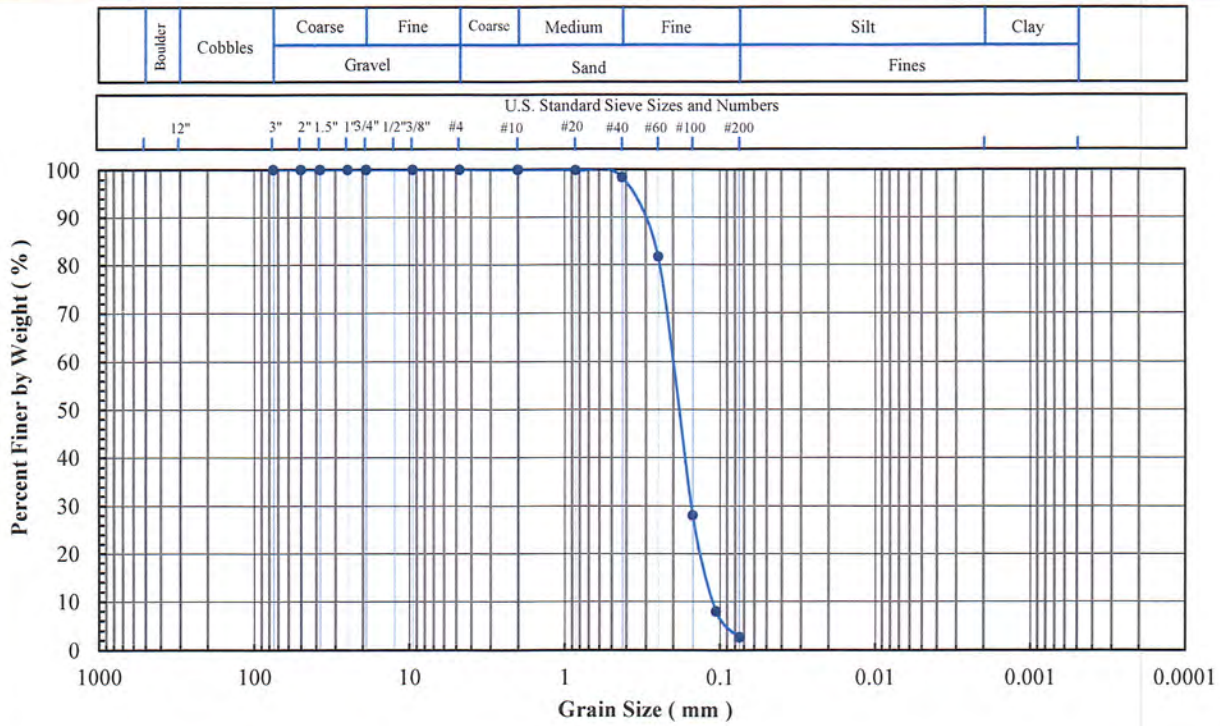
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-28
Lab Sample No:	21B031

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

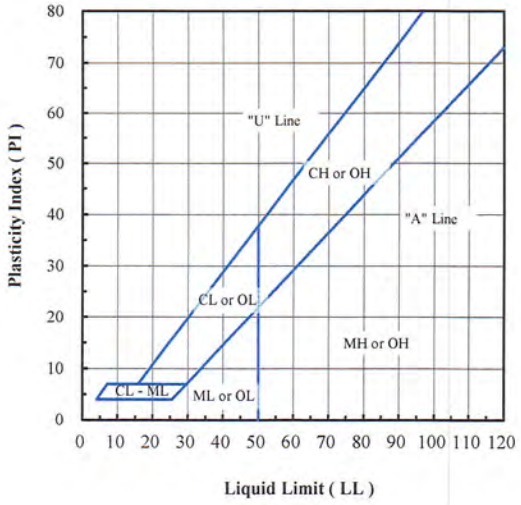


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	81.6
#100	0.150	28.0
#140	0.106	7.9
#200	0.075	2.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.4
Fines (%):	2.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-28	21B031	4.9	2.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 AFK, NSR

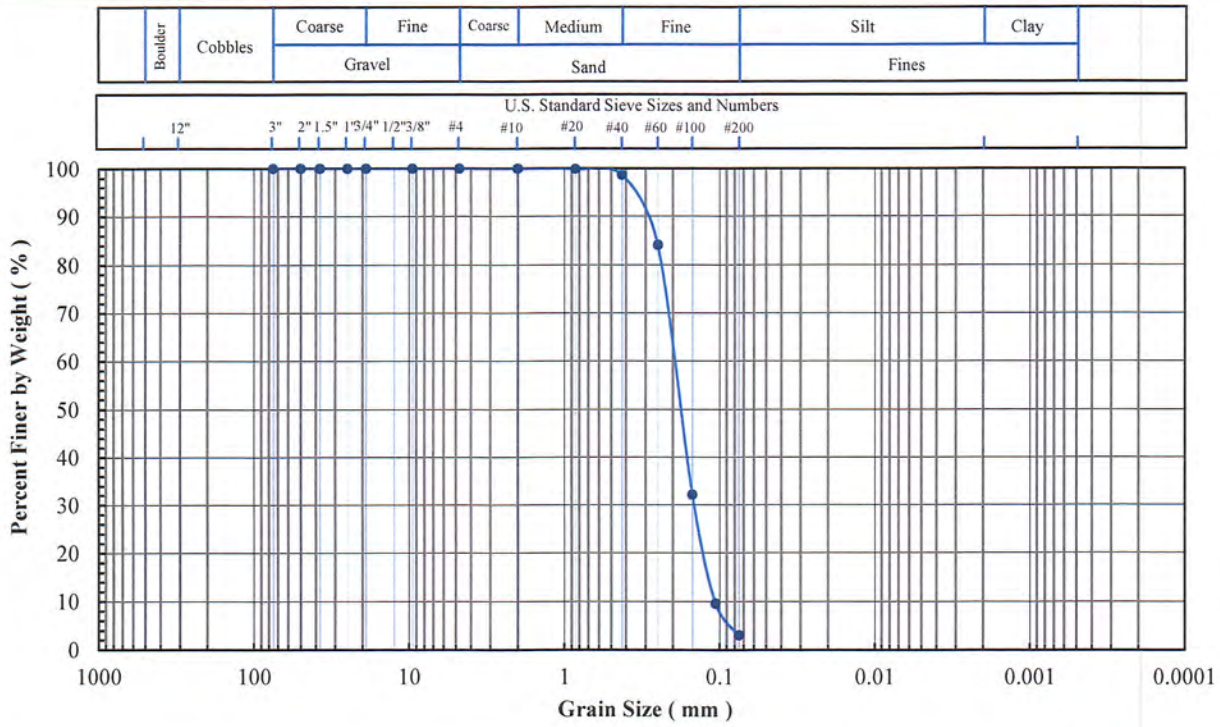
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-29
Lab Sample No:	21B032

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

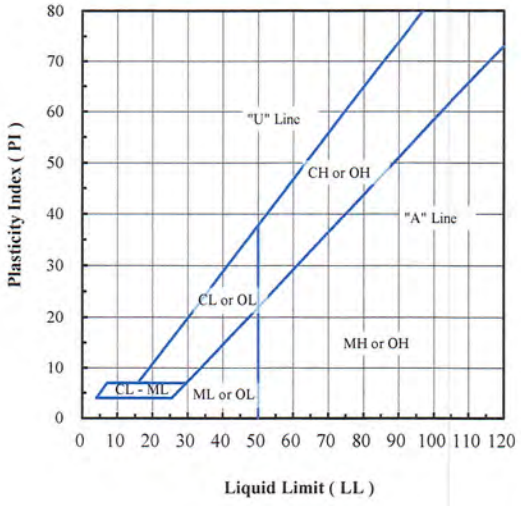


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.6
#60	0.250	84.0
#100	0.150	32.1
#140	0.106	9.5
#200	0.075	3.0

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.0
Fines (%):	3.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-29	21B032	4.9	3.0	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ARK, NSR

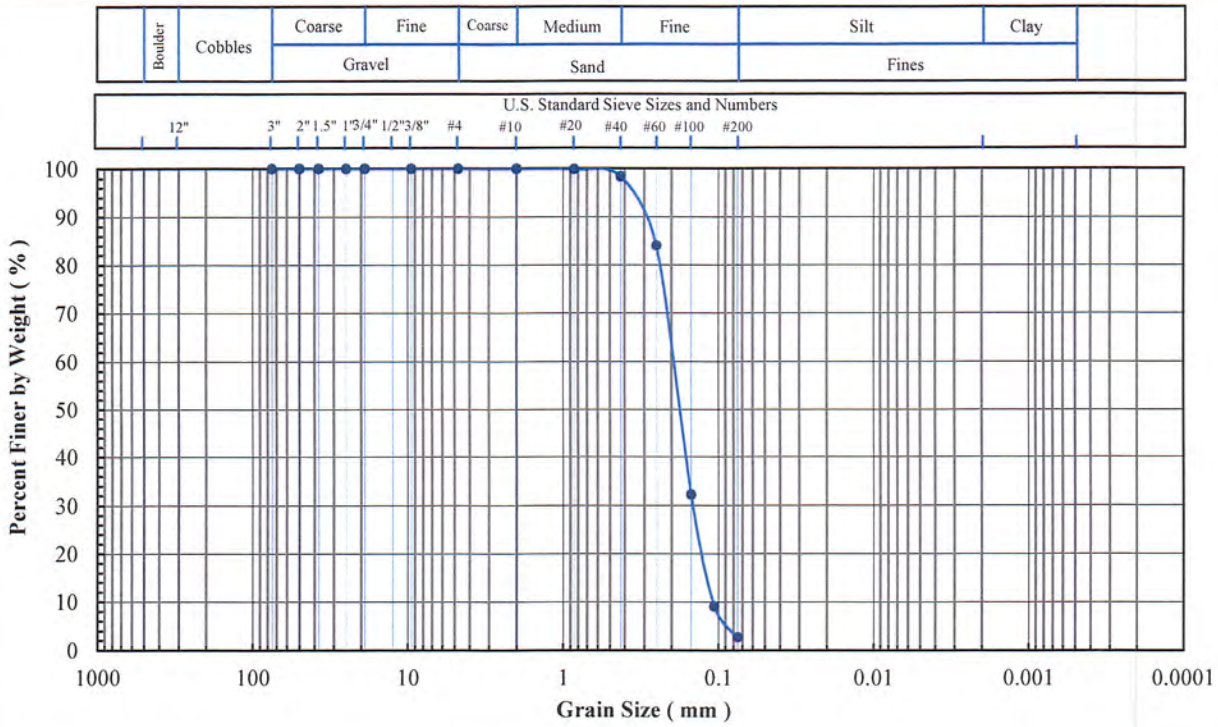
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-30
Lab Sample No:	21B033

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

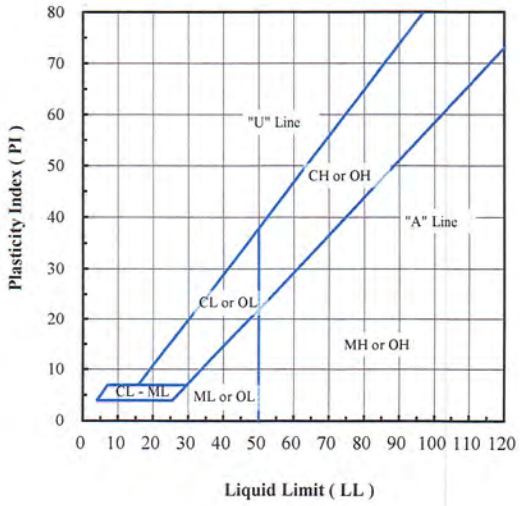


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	84.0
#100	0.150	32.1
#140	0.106	9.1
#200	0.075	2.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.3
Fines (%):	2.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-30	21B033	5.4	2.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

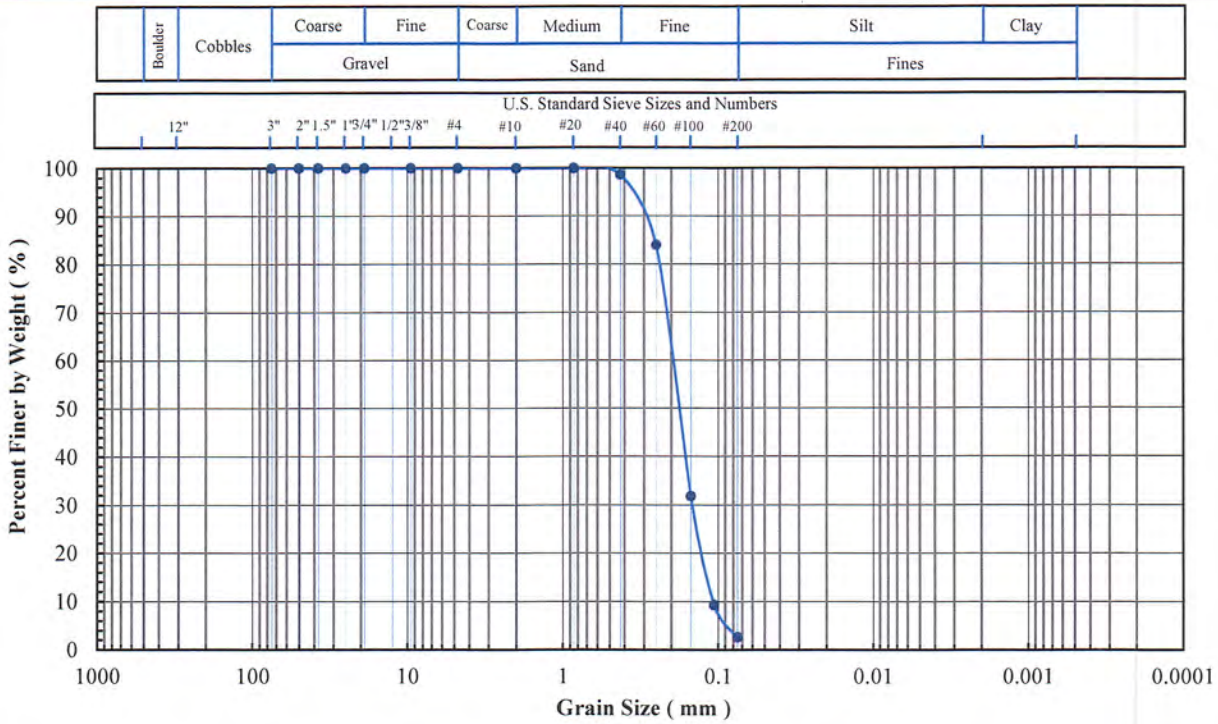
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-31
Lab Sample No:	21B034

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

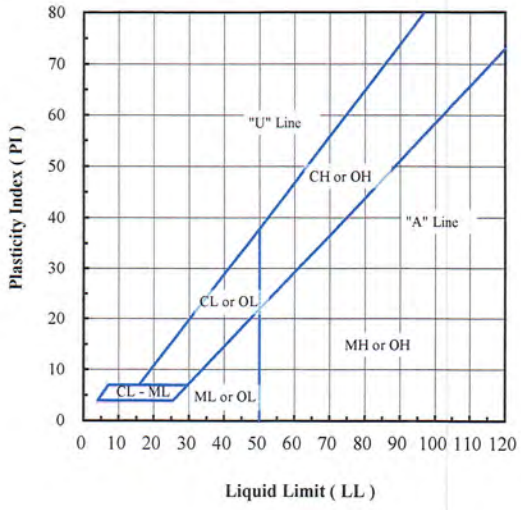


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	83.9
#100	0.150	31.7
#140	0.106	9.3
#200	0.075	2.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.4
Fines (%):	2.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.8



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
SF-31	21B034	5.7	2.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

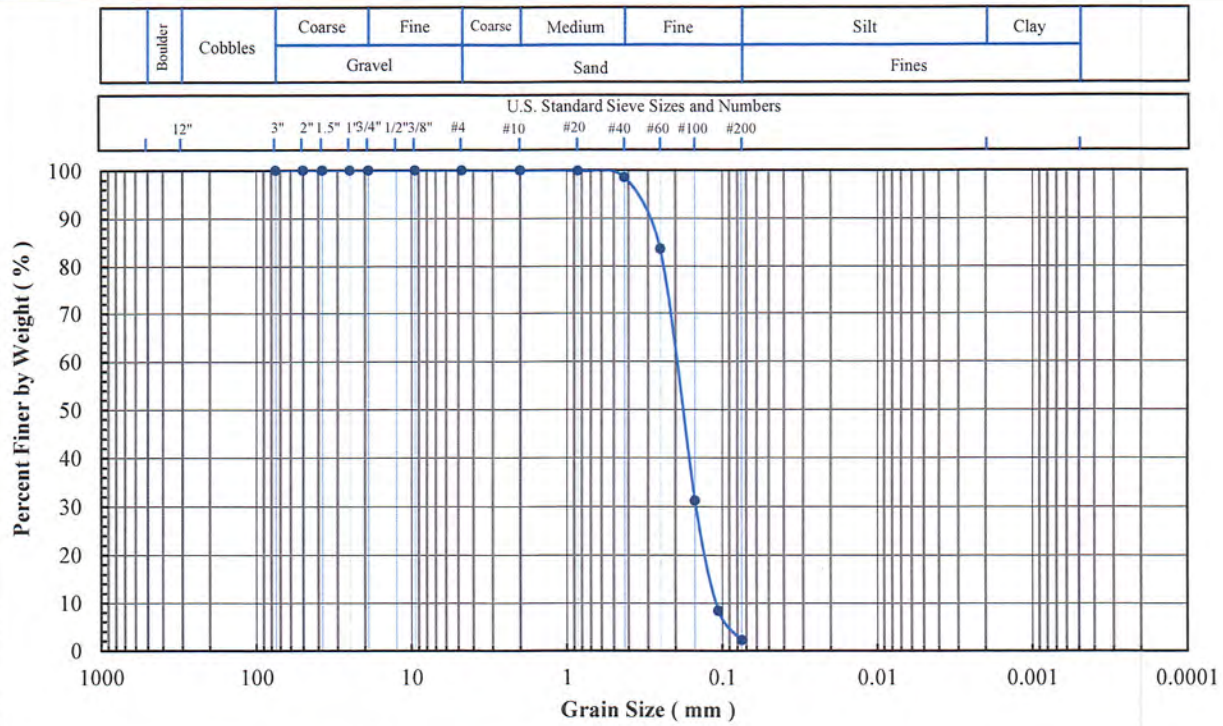
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-32
Lab Sample No:	21B035

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

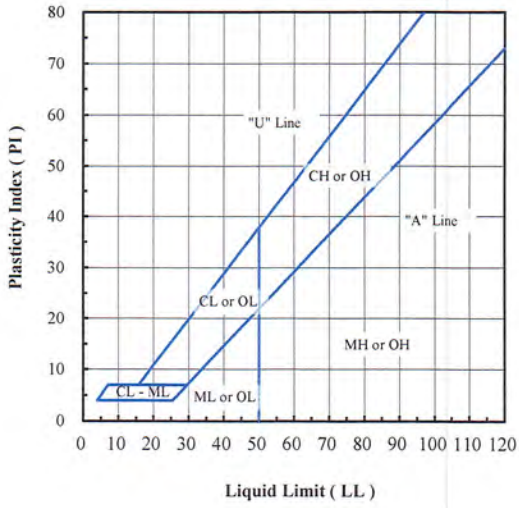


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	83.6
#100	0.150	31.2
#140	0.106	8.4
#200	0.075	2.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.8
Fines (%):	2.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-32	21B035	4.2	2.2	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

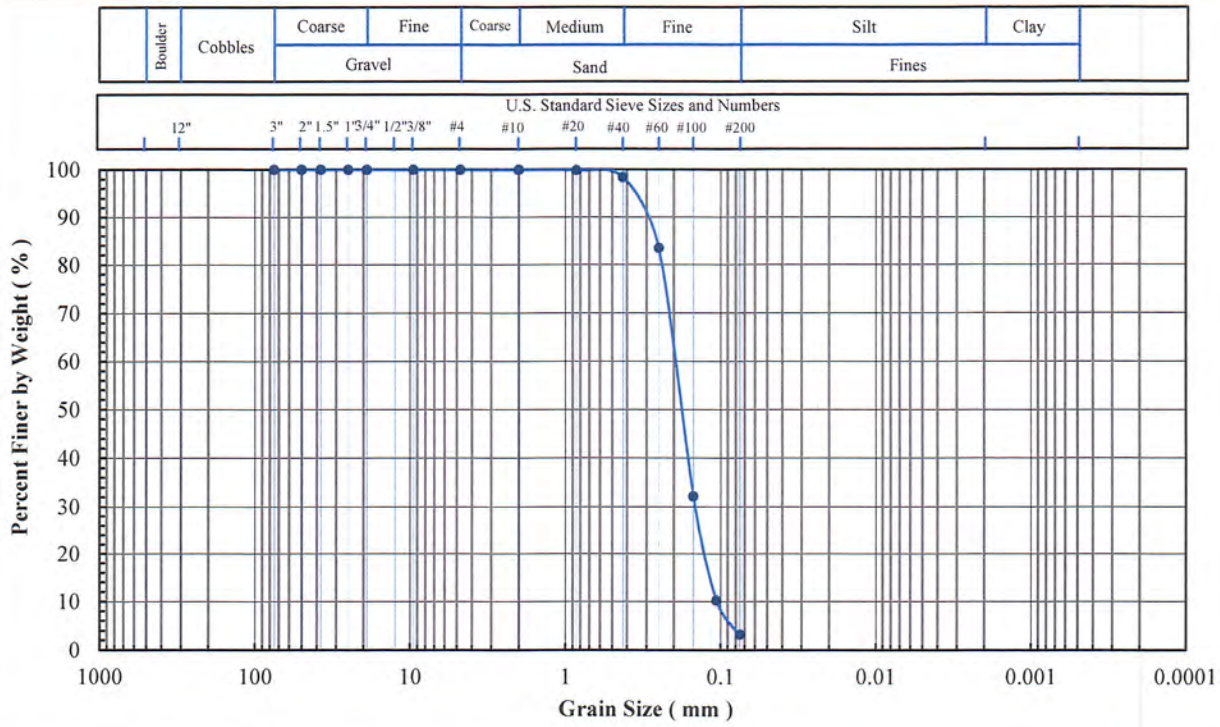
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-33
Lab Sample No:	21B036

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

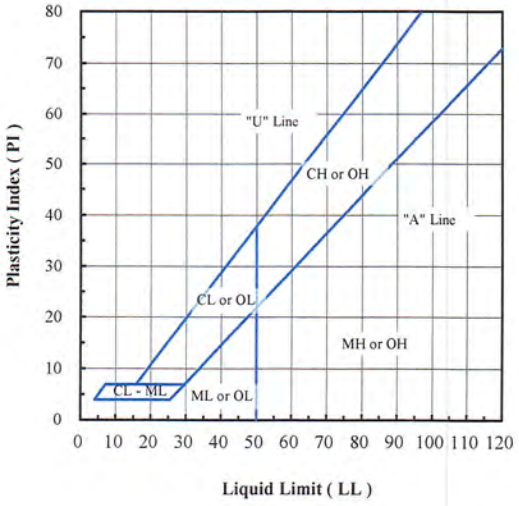


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	83.4
#100	0.150	32.1
#140	0.106	10.2
#200	0.075	3.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.8
Fines (%):	3.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-33	21B036	5.2	3.2	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ARK, NSA

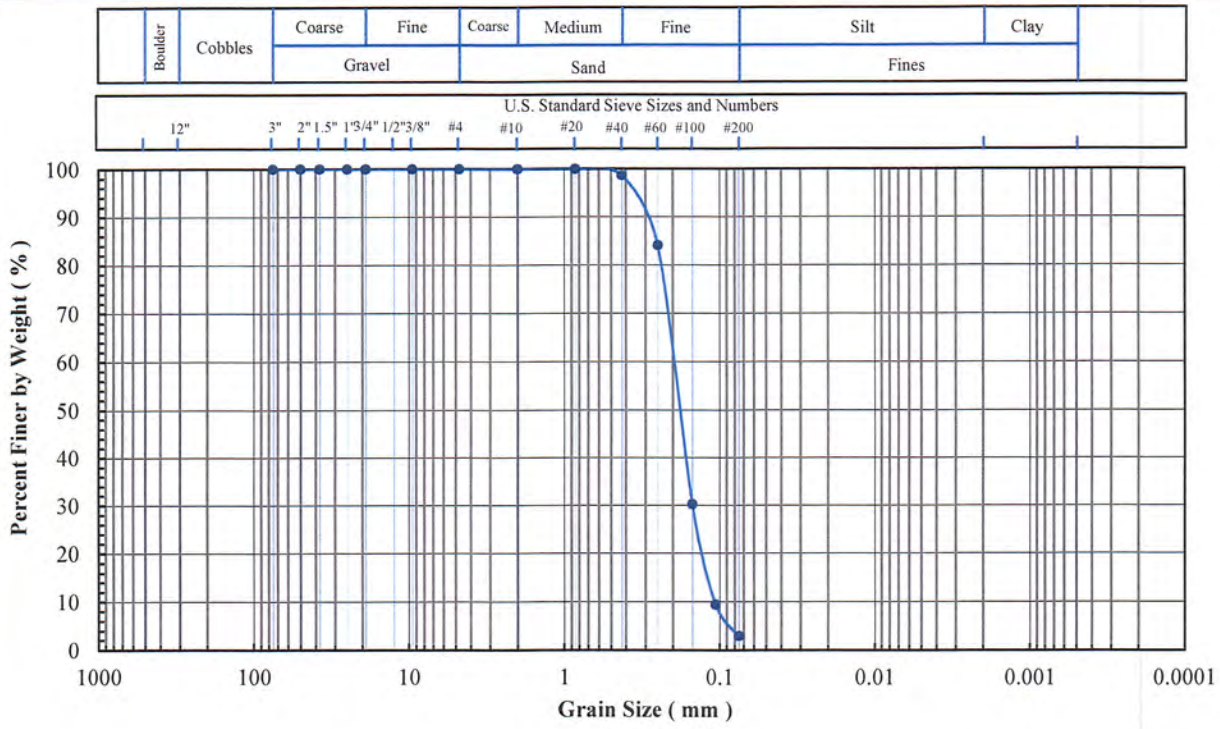
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-34
Lab Sample No:	21B037

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

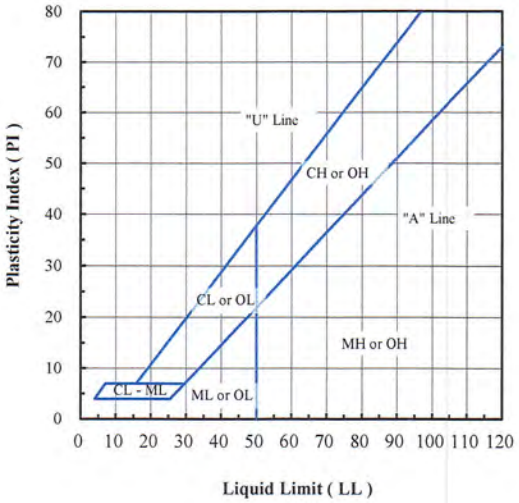


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.6
#60	0.250	84.0
#100	0.150	30.2
#140	0.106	9.4
#200	0.075	2.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.1
Fines (%):	2.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-34	21B037	5.7	2.9	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AHK, JSR

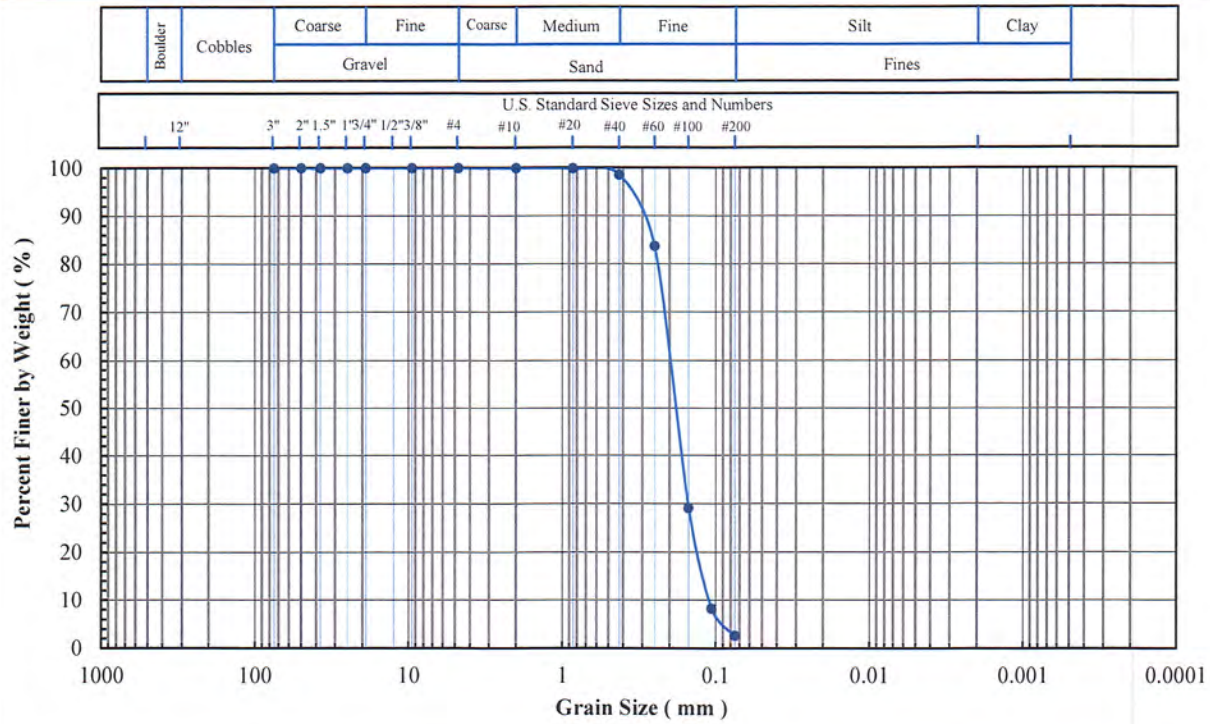
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	SF-35
Lab Sample No:	21B038

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont., Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

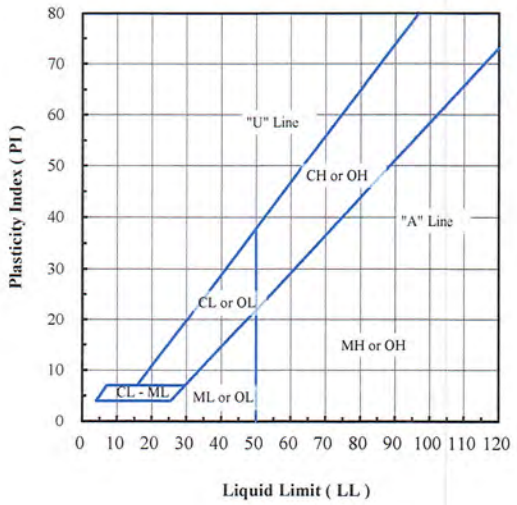


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.6
#60	0.250	83.7
#100	0.150	29.1
#140	0.106	8.2
#200	0.075	2.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.4
Fines (%):	2.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
SF-35	21B038	5.6	2.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 APK, NSA

Section 2
Protective Cover

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Test Results Summary

Protective Layer

Project Name: JED Cell 14 Construction

Project No.: PN1023

Site ID	Lab No.	Test Information															Remarks
		Moisture Content ASTM D2216	Grain Size Analysis ASTM D6913					Atterberg Limits ASTM D4318			Engine. Classifi. ASTM D2487	Specific Gravity ASTM D854	Carbonate Content ASTM D4373	Rigid Wall Permeability ASTM D2434			Other Tests	
			Gravel Content	Sand Content	Fines Content	Silt Content	Clay Content	LL	PL	PI				Dry Unit Weight	Moisture Content	Hydraulic Conductivity		
(-)	(-)	(%)	(%)	(%)	(%)	(%)	(%)	(-)	(-)	(-)	(-)	(-)	(%)	(pcf)	(%)	(cm / sec)		
PL-01	21B039	4.5	0.0	95.7	4.3			NP	NP	NP	SP		0.8	102.5	Air Dried	1.1E-02		
PL-02	21B040	4.9	0.0	96.2	3.8			NP	NP	NP	SP		0.4	103.4	Air Dried	8.2E-03		
PL-03	21B041	3.3	0.0	95.3	4.7			NP	NP	NP	SP		0.4	100.9	Air Dried	1.2E-02		
PL-04	21B042	3.9	0.0	96.5	3.5			NP	NP	NP	SP		0.5	101.9	Air Dried	1.0E-02		
PL-05	21B043	4.4	0.0	96.4	3.6			NP	NP	NP	SP		0.4	103.8	Air Dried	1.0E-02		
PL-06	21B044	6.1	0.0	97.4	2.6			NP	NP	NP	SP		0.4	103.3	Air Dried	1.0E-02		
PL-07	21B045	4.7	0.0	96.2	3.8			NP	NP	NP	SP		0.5	101.5	Air Dried	1.1E-02		
PL-08	21B046	5.9	0.0	96.0	4.0			NP	NP	NP	SP		0.5	101.1	Air Dried	1.2E-02		
PL-09	21B047	13.7	0.0	94.4	5.6			NP	NP	NP	SP-SM		0.2	89.6	Air Dried	7.8E-03		
PL-10	21B048	13.3	0.0	93.3	6.7			NP	NP	NP	SP-SM		0.4	90.5	Air Dried	1.4E-02		
PL-11	21B049	12.7	0.0	92.8	7.2			NP	NP	NP	SP-SM		0.2	90.3	Air Dried	1.5E-02		
PL-12	21B050	9.4	0.0	93.4	6.6			NP	NP	NP	SP-SM		0.4	88.7	Air Dried	2.0E-02		
PL-13	21B051	15.6	0.2	93.5	6.3			NP	NP	NP	SP-SM		0.2	90.9	Air Dried	9.6E-03		

Notes:

4-07-2021 ATK, MSR

Excel Geotechnical Testing, Inc.
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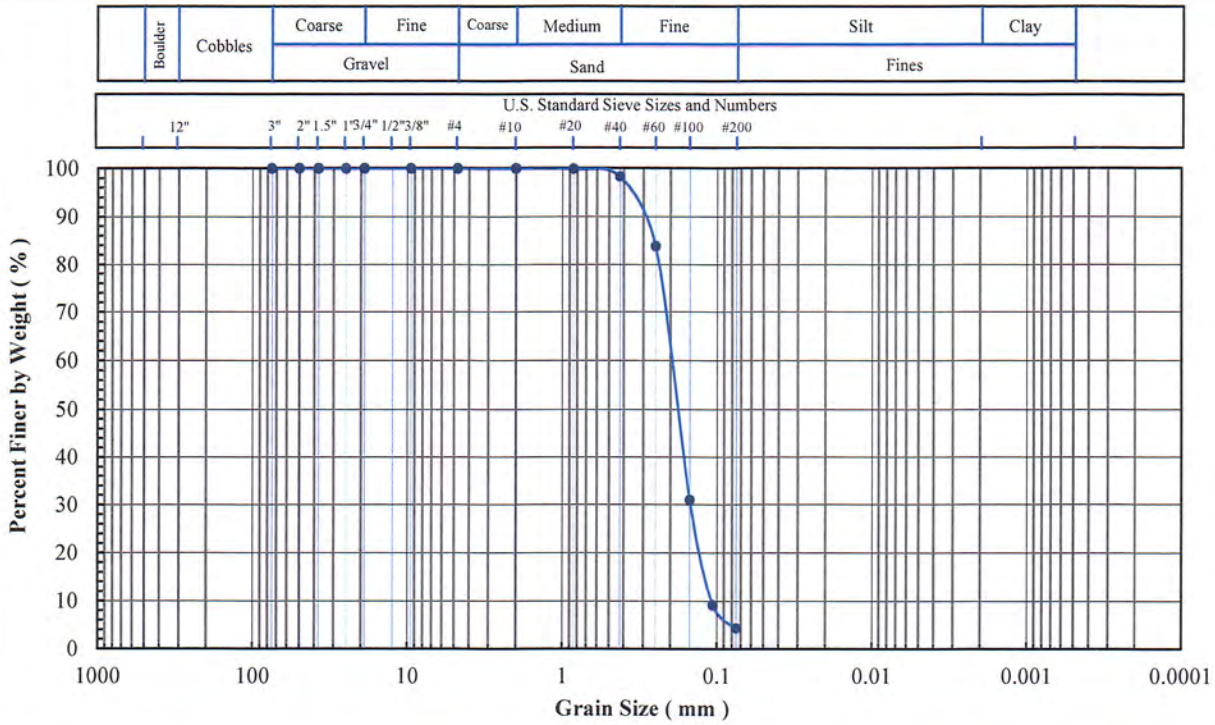
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-01
Lab Sample No:	21B039

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

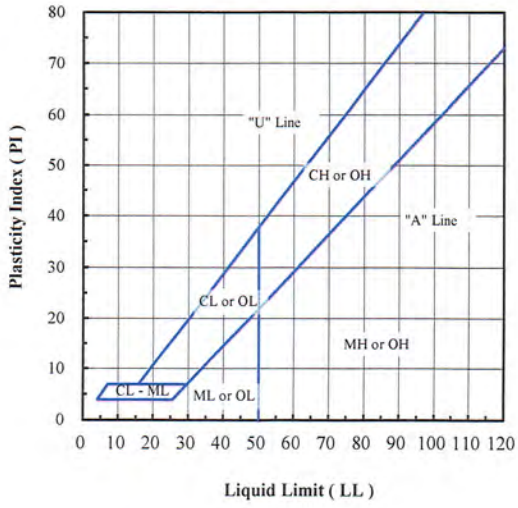


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.3
#60	0.250	83.8
#100	0.150	30.9
#140	0.106	9.2
#200	0.075	4.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.7
Fines (%):	4.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.8

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-01	21B039	4.5	4.3	NP	NP	NP	SP - Poorly graded sand

Note(s):

11-07-2021
AFK, JSK

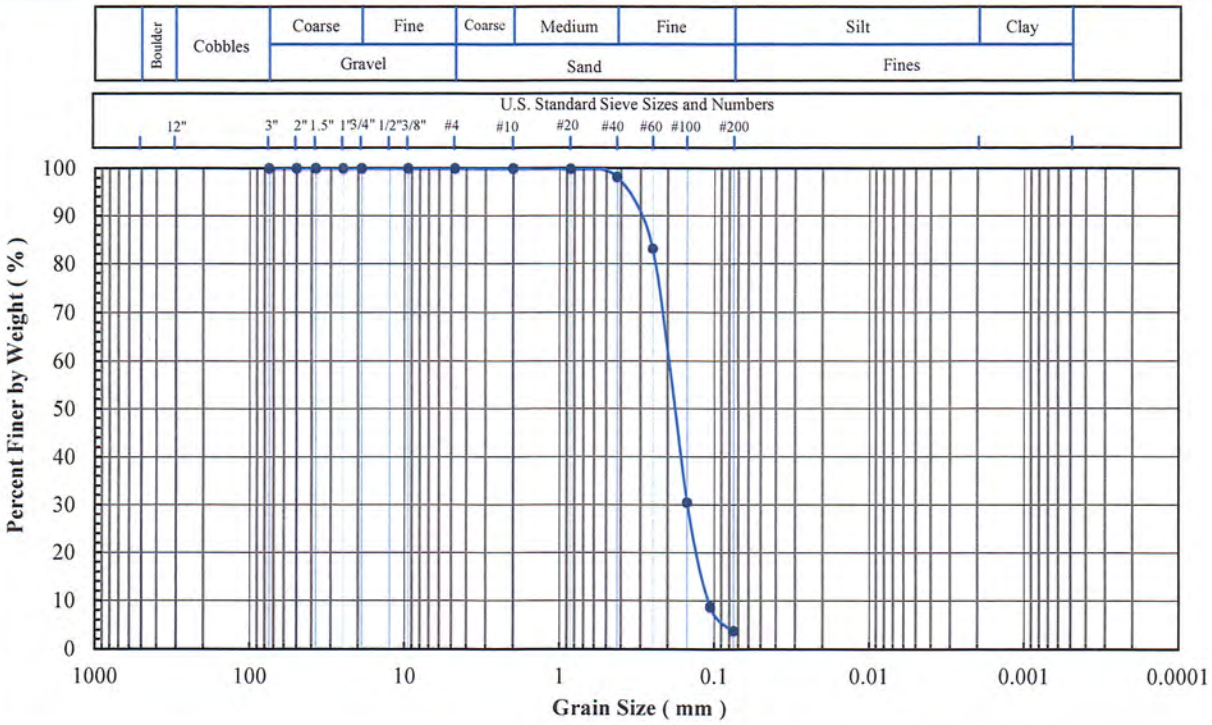
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-02
Lab Sample No:	21B040

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

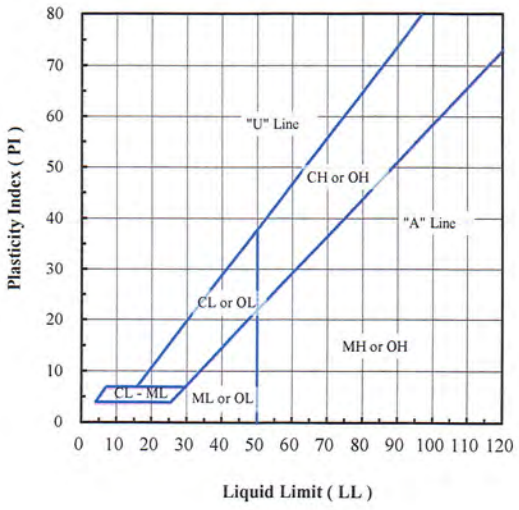


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.2
#60	0.250	83.1
#100	0.150	30.4
#140	0.106	8.7
#200	0.075	3.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.2
Fines (%):	3.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-02	21B040	4.9	3.8	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
ABK, MSR

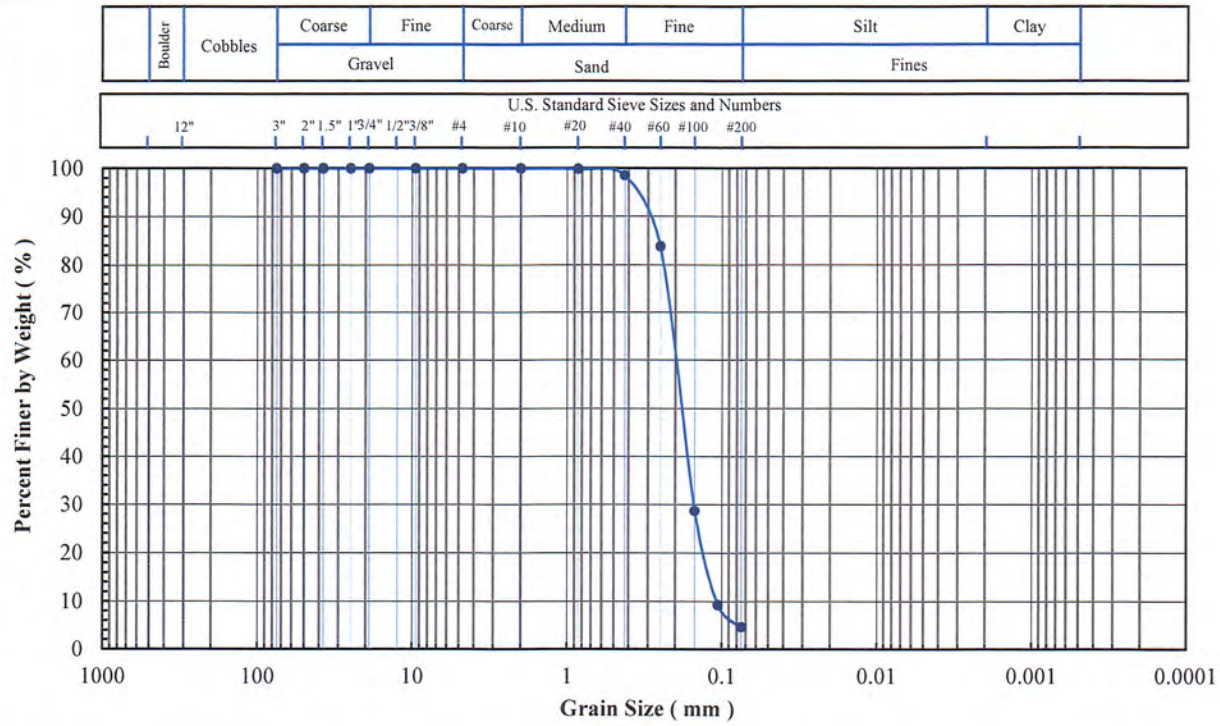
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-03
Lab Sample No:	21B041

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

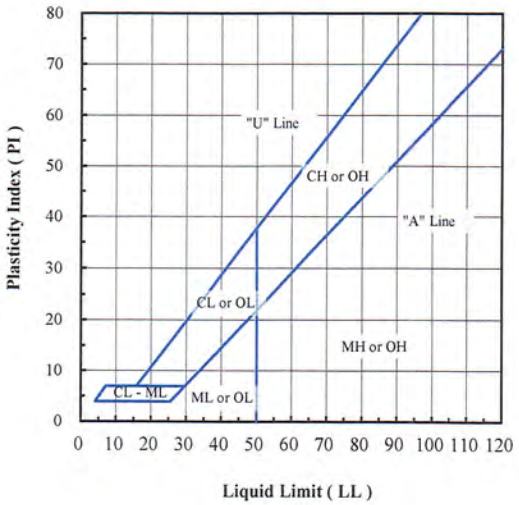


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.5
#60	0.250	83.8
#100	0.150	28.7
#140	0.106	9.3
#200	0.075	4.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	95.3
Fines (%):	4.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-03	21B041	3.3	4.7	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
APK, WSR

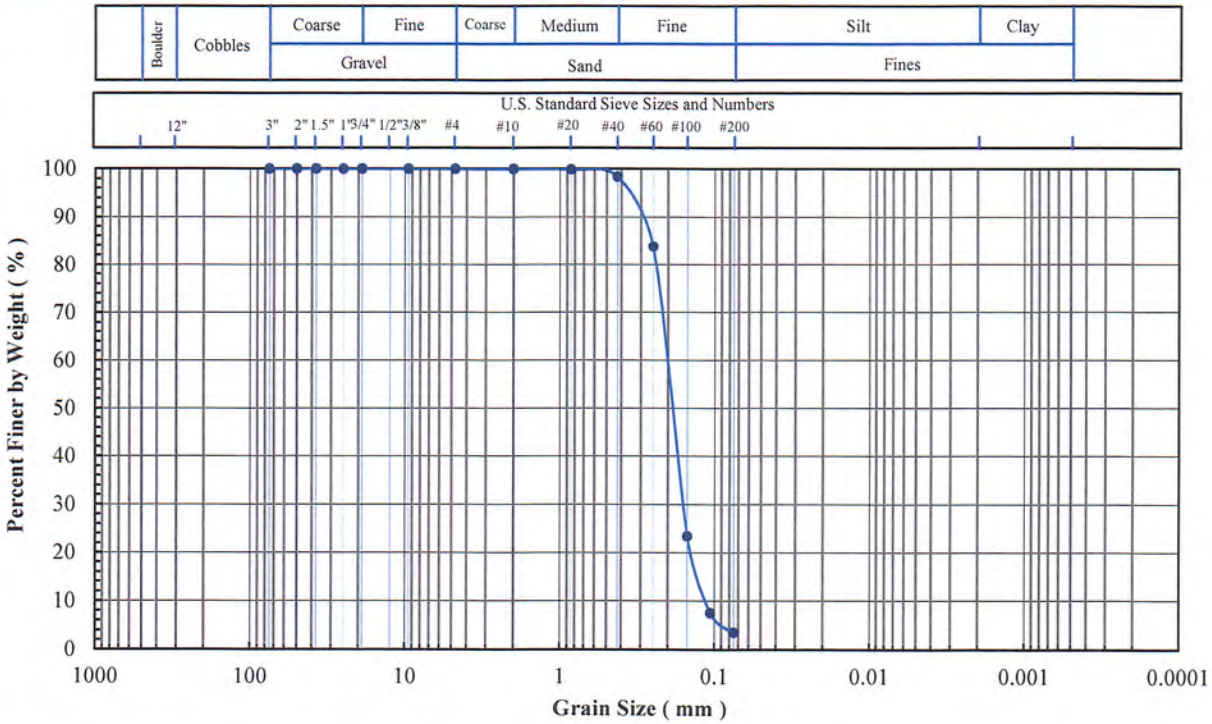
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-04
Lab Sample No:	21B042

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

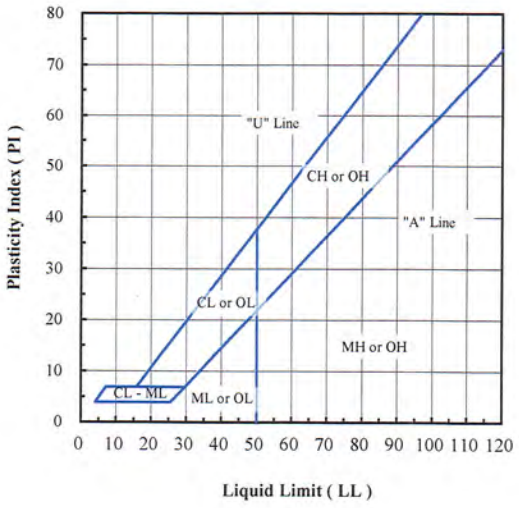


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	83.7
#100	0.150	23.5
#140	0.106	7.5
#200	0.075	3.5

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.5
Fines (%):	3.5
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.5

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-04	21B042	3.9	3.5	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AK, NSR

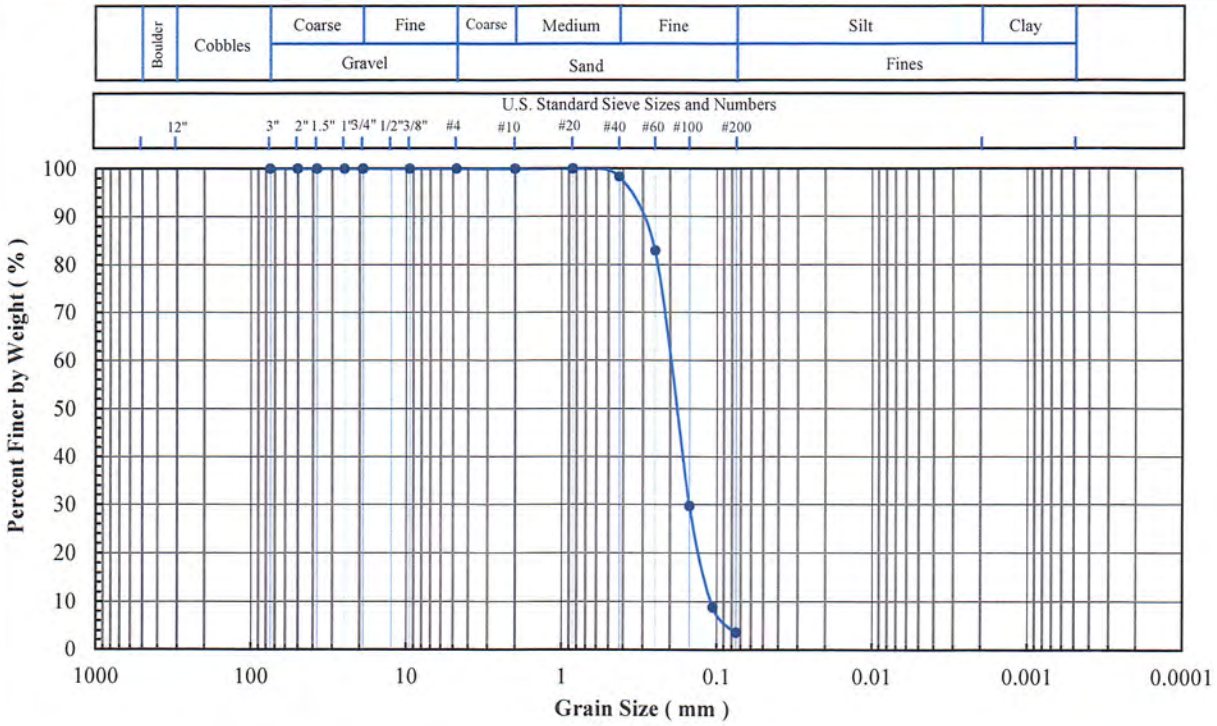
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-05
Lab Sample No:	21B043

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

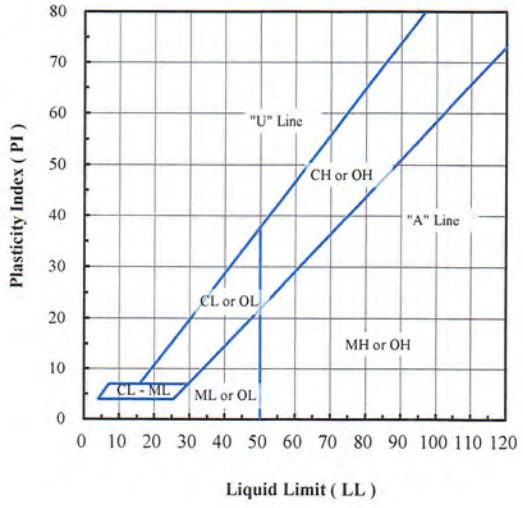


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.3
#60	0.250	82.9
#100	0.150	29.7
#140	0.106	8.8
#200	0.075	3.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.4
Fines (%):	3.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-05	21B043	4.4	3.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, MSK

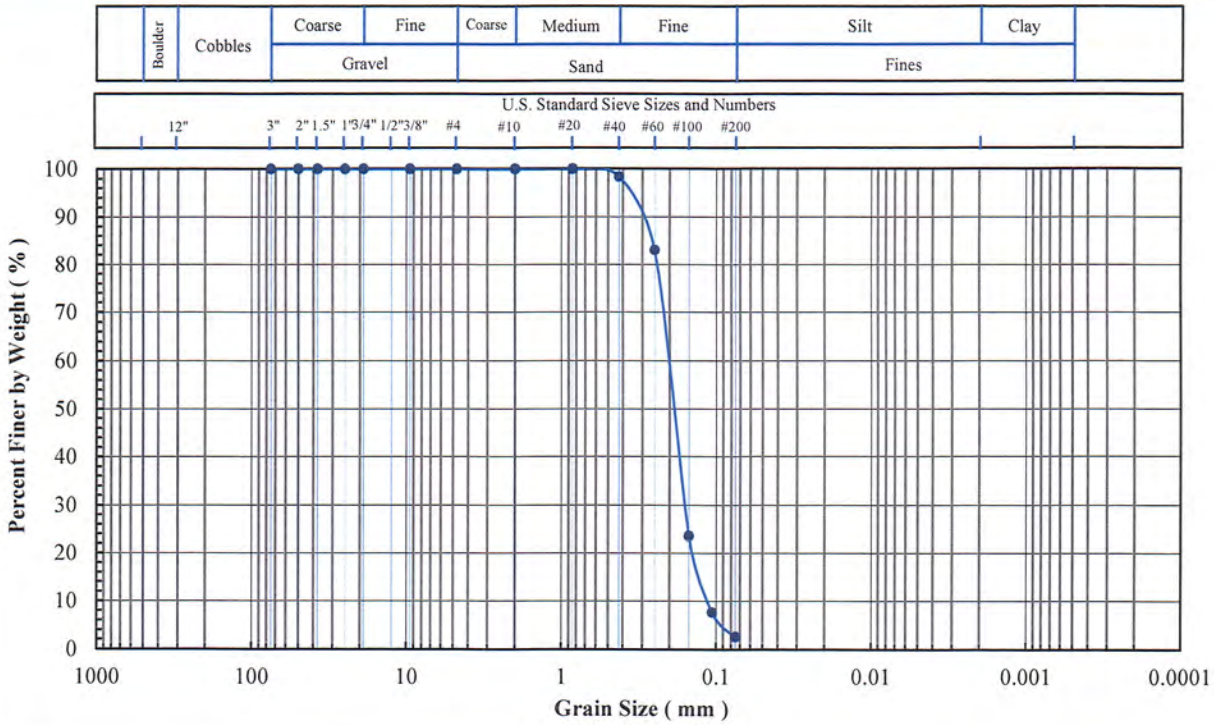
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-06
Lab Sample No:	21B044

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

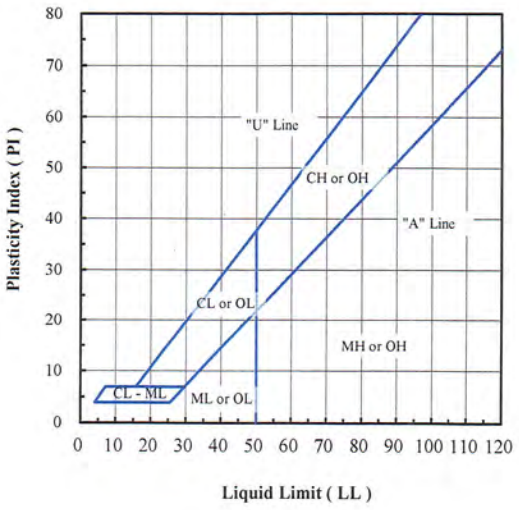


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	100.0
#40	0.425	98.4
#60	0.250	83.0
#100	0.150	23.6
#140	0.106	7.7
#200	0.075	2.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	97.4
Fines (%):	2.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.6
Coeff. Curv. (Cc):	1.0



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-06	21B044	6.1	2.6	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 AFK, NSR

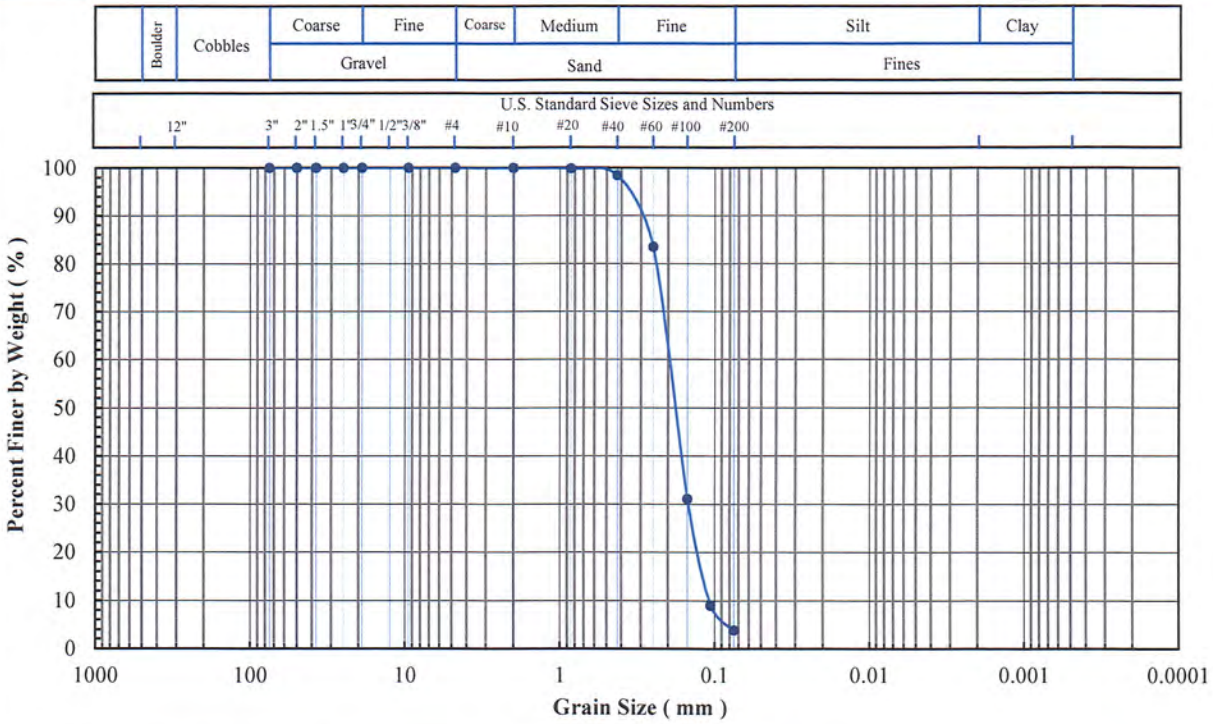
Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-07
Lab Sample No:	21B045

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

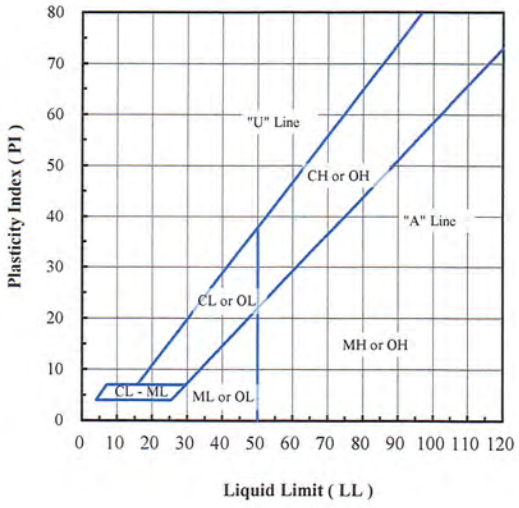


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.4
#60	0.250	83.4
#100	0.150	31.0
#140	0.106	9.0
#200	0.075	3.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.2
Fines (%):	3.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.5

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-07	21B045	4.7	3.8	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021
AK, NSR

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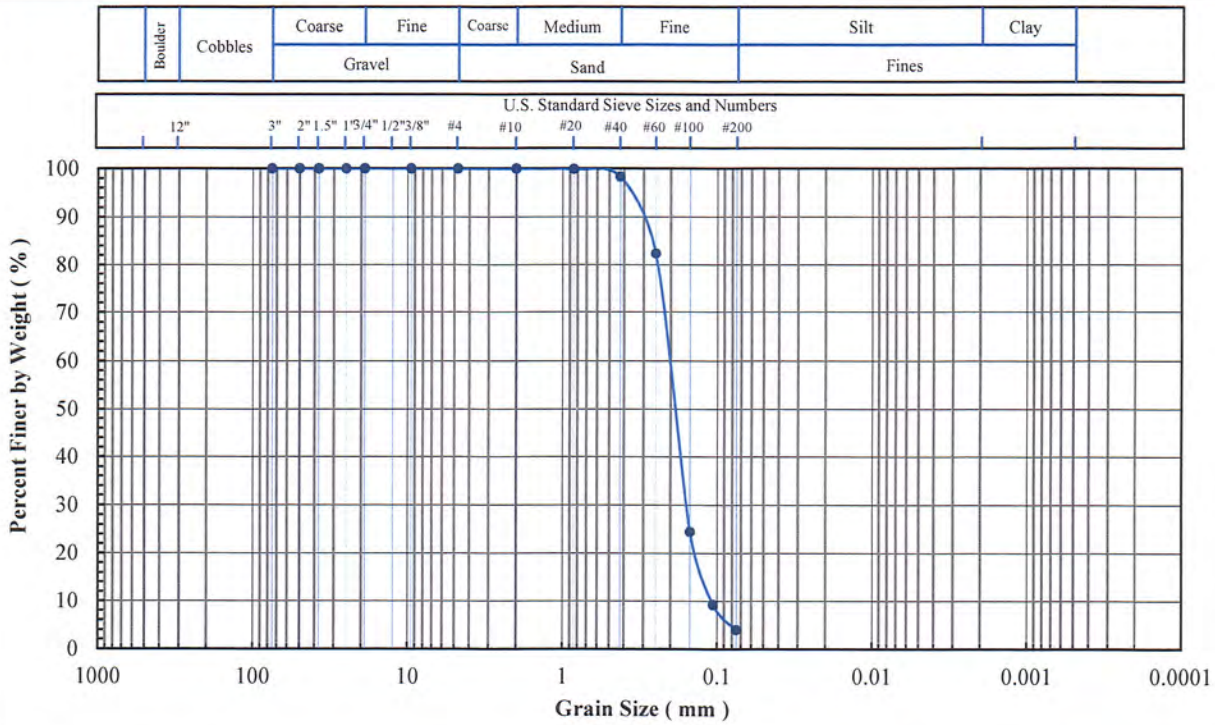
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-08
Lab Sample No:	21B046

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

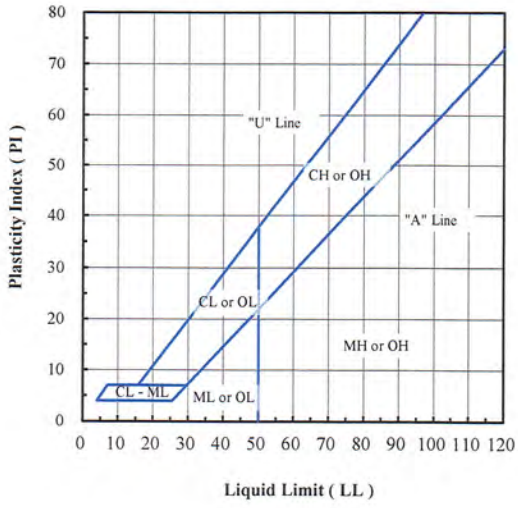


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	98.3
#60	0.250	82.3
#100	0.150	24.5
#140	0.106	9.2
#200	0.075	4.0

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	96.0
Fines (%):	4.0
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.7
Coeff. Curv. (Cc):	1.1



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.5

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-08	21B046	5.9	4.0	NP	NP	NP	SP - Poorly graded sand

Note(s):

4-07-2021 ARK, NSR

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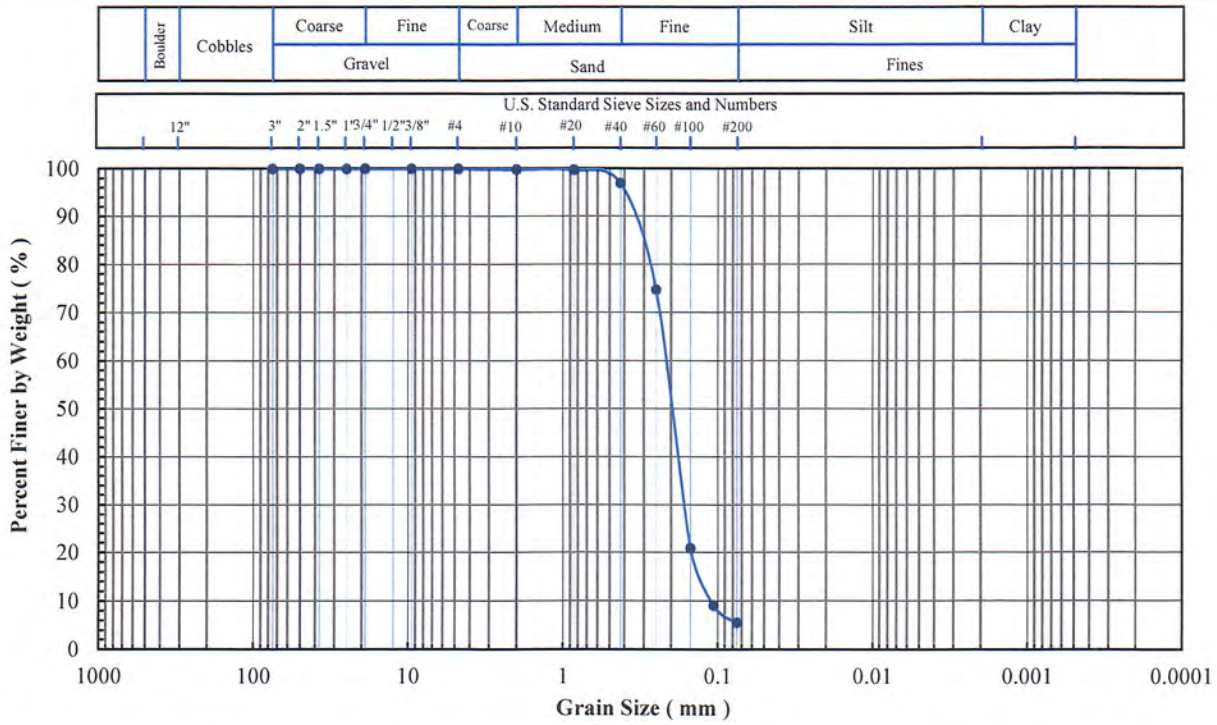
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-09
Lab Sample No:	21B047

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

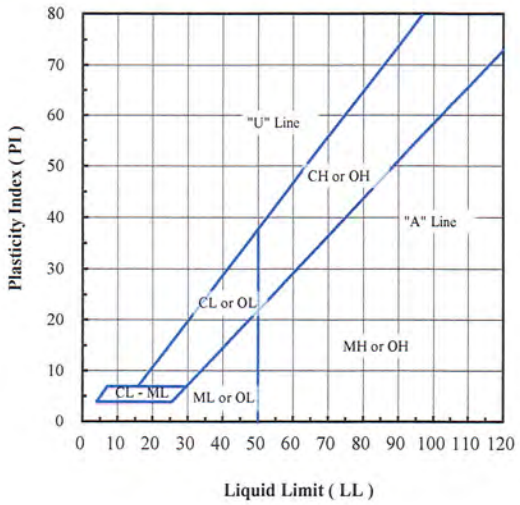


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.9
#20	0.850	99.8
#40	0.425	97.0
#60	0.250	74.7
#100	0.150	20.8
#140	0.106	9.1
#200	0.075	5.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	94.4
Fines (%):	5.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	0.9



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.2

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-09	21B047	13.7	5.6	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021
ARK, MSA

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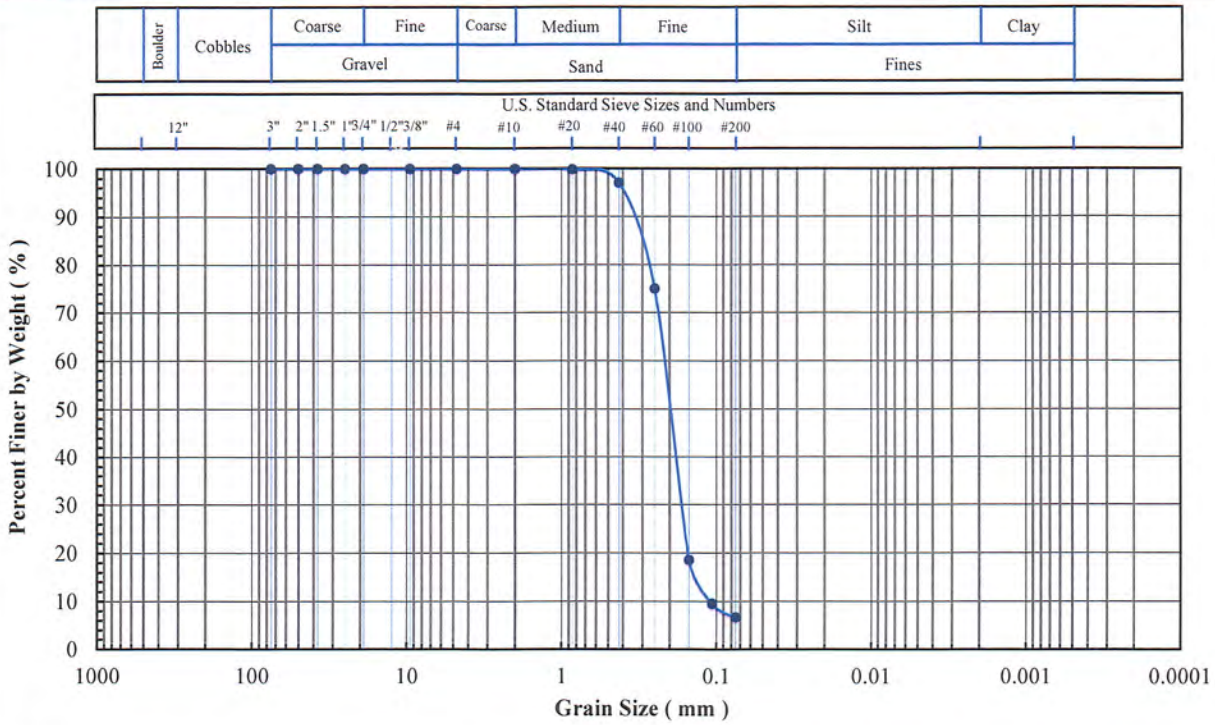
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-10
Lab Sample No:	21B048

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

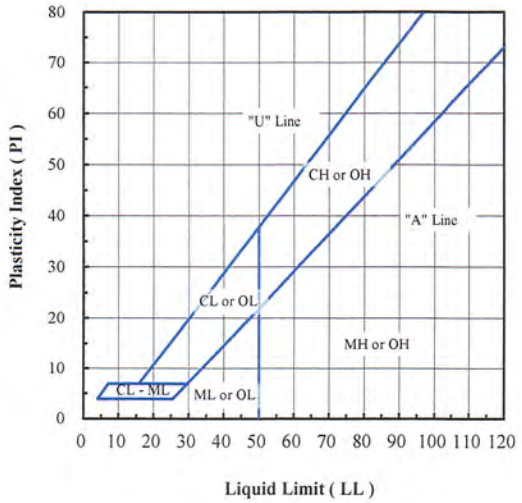


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	97.1
#60	0.250	75.0
#100	0.150	18.6
#140	0.106	9.5
#200	0.075	6.7

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.3
Fines (%):	6.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	1.8
Coeff. Curv. (Cc):	1.2



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-10	21B048	13.3	6.7	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021 AK, NSR

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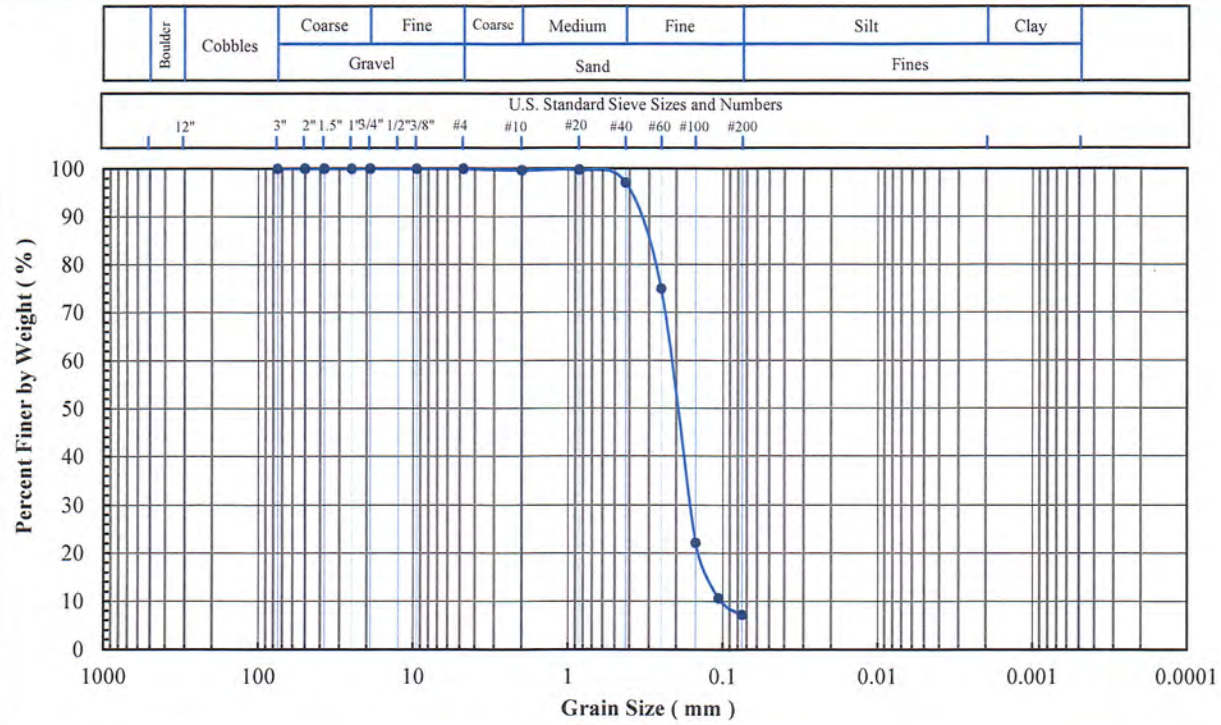
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-11
Lab Sample No:	21B049

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

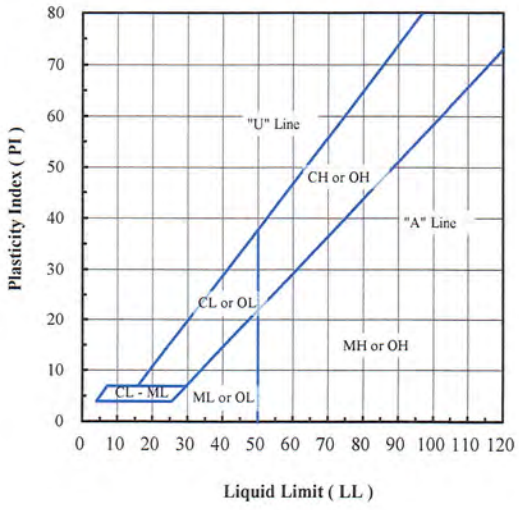


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	99.7
#20	0.850	99.8
#40	0.425	97.1
#60	0.250	74.9
#100	0.150	22.1
#140	0.106	10.6
#200	0.075	7.2

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	92.8
Fines (%):	7.2
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.1
Coeff. Curv. (Cc):	1.2



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.2

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-11	21B049	12.7	7.2	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021 ARK, NSR

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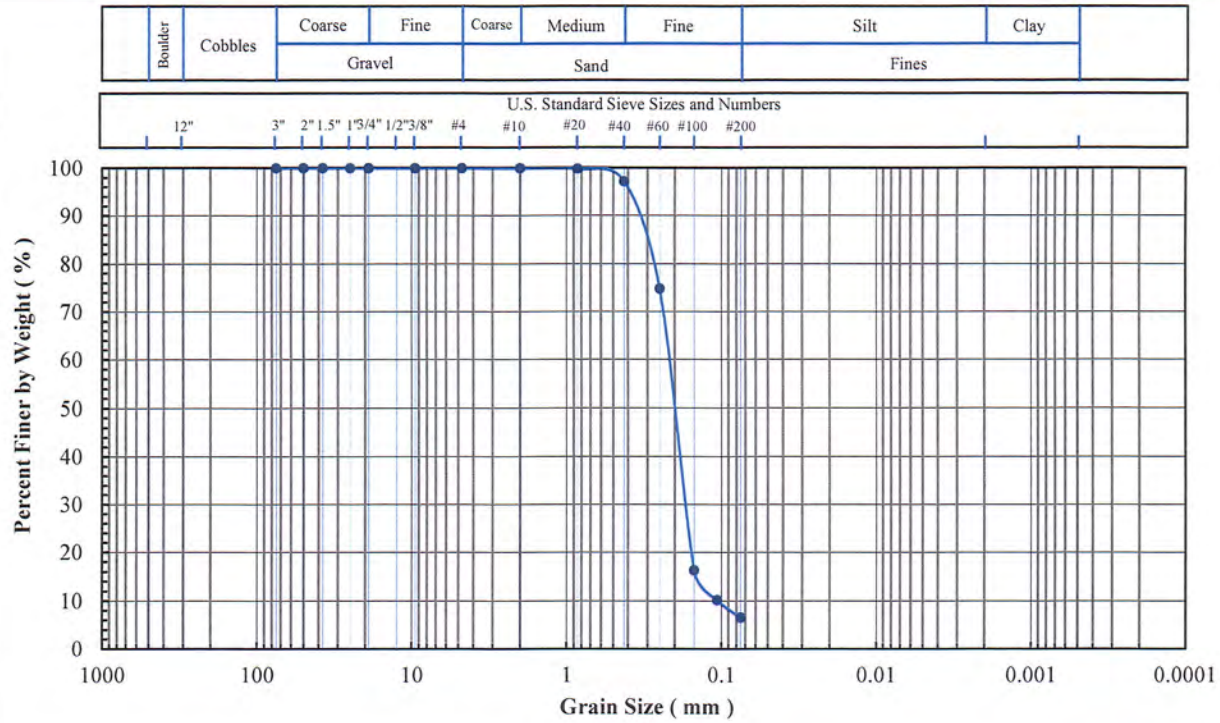
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-12
Lab Sample No:	21B050

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

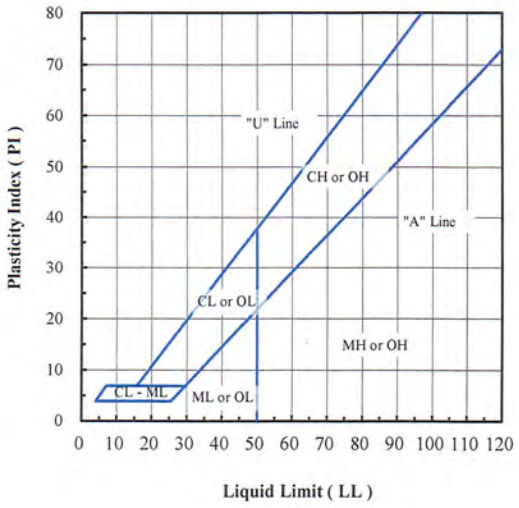


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	100.0
#10	2.00	100.0
#20	0.850	99.9
#40	0.425	97.2
#60	0.250	74.8
#100	0.150	16.3
#140	0.106	10.2
#200	0.075	6.6

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	
Sand (%):	93.4
Fines (%):	6.6
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.1
Coeff. Curv. (Cc):	1.3



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.4

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
PL-12	21B050	9.4	6.6	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021 AFK, MSR

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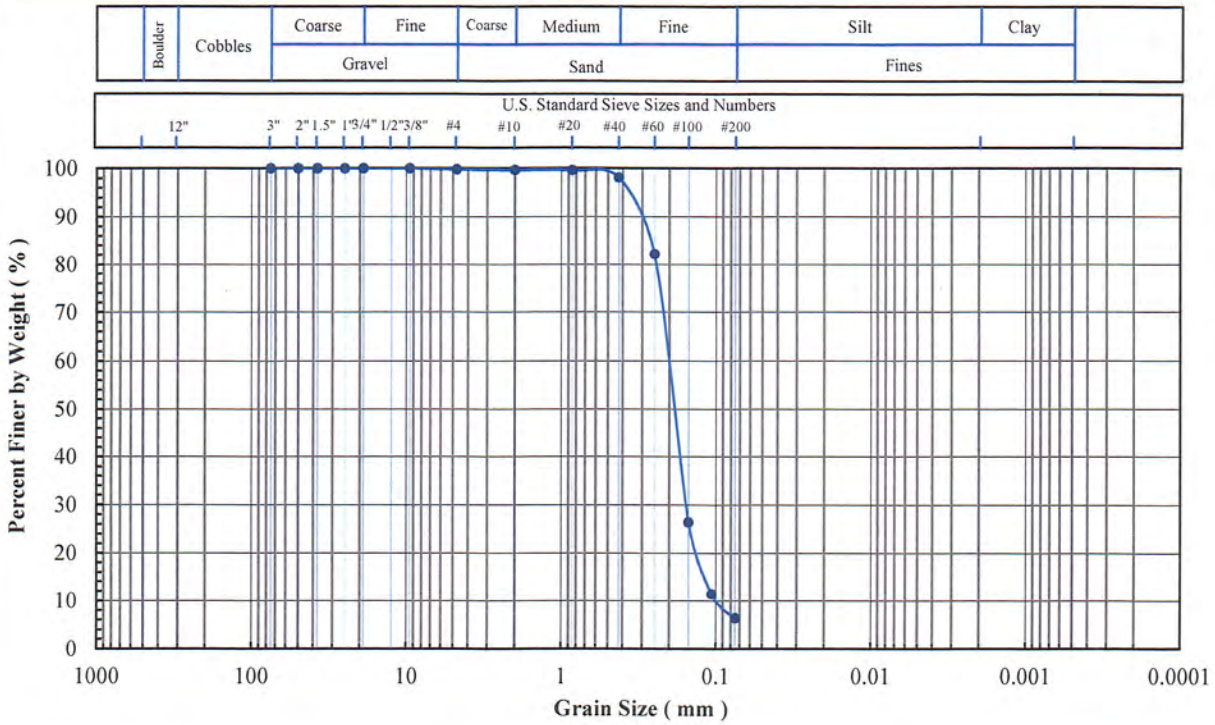
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	PL-13
Lab Sample No:	21B051

ASTM C136, D422, D854, D1140, D2216, D2487, D2974, D4318, D4373, D6913, D7928

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Cont, Eng. Classification, Organic Content, Atterberg Limits, Carbonate Content

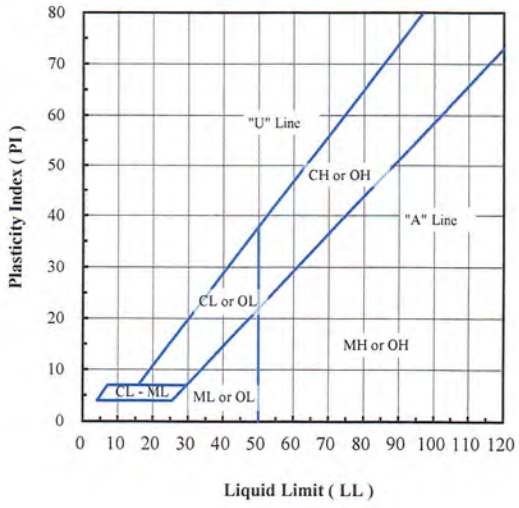


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	100.0
3/4"	19	100.0
3/8"	9.5	100.0
#4	4.75	99.8
#10	2.00	99.7
#20	0.850	99.6
#40	0.425	98.1
#60	0.250	82.1
#100	0.150	26.4
#140	0.106	11.4
#200	0.075	6.3

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	0.2
Sand (%):	93.5
Fines (%):	6.3
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	2.0
Coeff. Curv. (Cc):	1.3



Specific Gravity (-):	

Org. Content (%):	

Carbon. Content (%):	0.2

Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Engineering Classification
PL-13	21B051	15.6	6.3	NP	NP	NP	SP-SM - Poorly graded sand with silt

Note(s): Engineering classification is based on the assumption that the fines are either ML or MH.

4-07-2021
AFK, NSA

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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-01
Lab Sample Number:	21B039
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	02/16/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	14.0	7.6	102.5	0.0	DTW	0.08 - 0.21	1.1E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
APK, NSK

Excel Geotechnical Testing, Inc.
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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-02
Lab Sample Number:	21B040
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	02/23/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	14.2	7.6	103.4	0.0	DTW	0.08 - 0.20	8.2E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
ATK, NJK

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-03
Lab Sample Number:	21B041
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	02/26/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	14.1	7.6	100.9	0.0	DTW	0.07 - 0.22	1.2E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
AFK, NSR

Excel Geotechnical Testing, Inc.
"Excellence in Testing"

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Tel: (770) 910 7537, www.excelgeotesting.com

RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-04
Lab Sample Number:	21B042
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	03/26/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	13.8	7.6	101.9	0.0	DTW	0.07 - 0.21	1.0E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
AFK, NSR

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953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

RIGID WALL PERMEABILITY TEST (1)

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-05
Lab Sample Number:	21B043
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	03/26/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid (4)	Gradient Range	Hydraulic Conductivity
	Spec. Prep. (2) (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (3) (%)	(-)	(-)	(cm/s)
1	R	13.6	7.6	103.8	0.0	DTW	0.08 - 0.20	1.0E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
ATK, NSR

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RIGID WALL PERMEABILITY TEST (1)

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-06
Lab Sample Number:	21B044
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	03/05/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid (4)	Gradient Range	Hydraulic Conductivity
	Spec. Prep. (2) (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (3) (%)	(-)	(-)	(cm/s)
1	R	13.7	7.6	103.3	0.0	DTW	0.07 - 0.24	1.0E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
AFK, NSK

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RIGID WALL PERMEABILITY TEST [1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-07
Lab Sample Number:	21B045
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	03/09/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)	(-)	(-)	(cm/s)
1	R	14.1	7.6	101.5	0.0	DTW	0.07 - 0.29	1.1E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
AFK, NJR

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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-08
Lab Sample Number:	21B046
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	03/11/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	13.9	7.6	101.1	0.0	DTW	0.07 - 0.26	1.2E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
RK, NSM

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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-09
Lab Sample Number:	21B047
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/12/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	14.1	7.6	89.6	0.0	DTW	0.07 - 0.25	7.8E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
APK, NSR

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RIGID WALL PERMEABILITY TEST [1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Brantley Engineering
Site Sample ID:	PL-10
Lab Sample Number:	21B048
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/17/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)	(-)	(-)	(cm/s)
1	R	13.7	7.6	90.5	0.0	DTW	0.07 - 0.21	1.4E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
ABK, NVR

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RIGID WALL PERMEABILITY TEST[1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Branttey Engeneering
Site Sample ID:	PL-11
Lab Sample Number:	21B049
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/16/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content[3] (%)	(-)	(-)	(cm/s)
1	R	13.7	7.6	90.3	0.0	DTW	0.07 - 0.21	1.5E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.

Test specimen final conditions are not presented.

4-07-2021
AFK, MSR

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RIGID WALL PERMEABILITY TEST [1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Branttey Engeneering
Site Sample ID:	PL-12
Lab Sample Number:	21B050
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/16/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)	(-)	(-)	(cm/s)
1	R	14.0	7.6	88.7	0.0	DTW	0.07 - 0.20	2.0E-2

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
ATK, 1SR

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RIGID WALL PERMEABILITY TEST [1]

ASTM D 2434 *

Project Name:	JED Cell 14 Construction
Project Number:	PN1023
Client Name:	Branttey Engeneering
Site Sample ID:	PL-13
Lab Sample Number:	21B051
Material Type:	Sand
Specified Value (cm/sec):	NA
Date Tested:	3/16/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)	(-)	(-)	(cm/s)
1	R	13.7	7.6	90.9	0.0	DTW	0.08 - 0.21	9.6E-3

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 7 layers, each approximately 2.0 cm, utilizing moderate energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDI = Deaired Deionized Water

* Deviations:

Laboratory temperature at 22±3 °C.
Test specimen final conditions are not presented.

4-07-2021
ABK, NSA

Section 3
#4 Stone and #57 Stone

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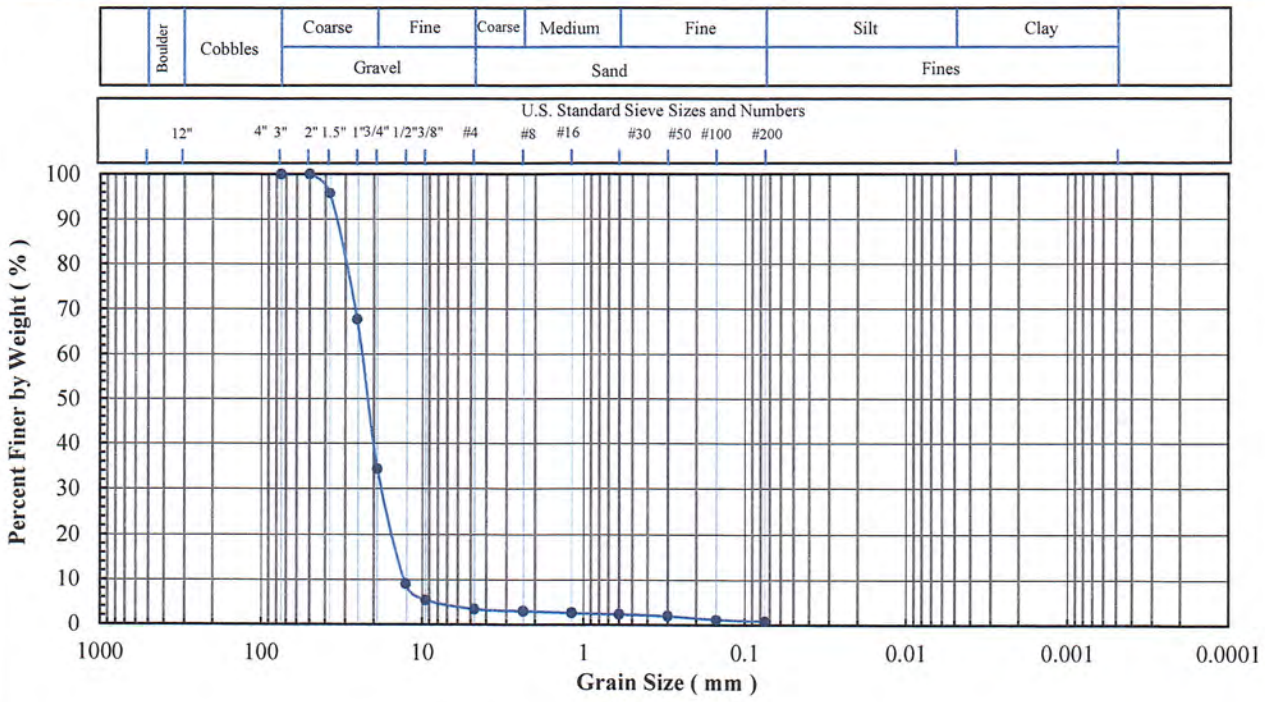
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#4 Stone
Lab Sample No:	21G172

ASTM C 136, D 422, D 854, D 1140, D 2216, D 2487, D 4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits

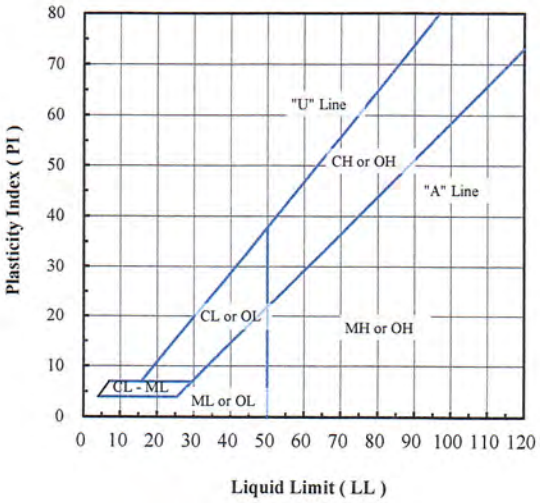


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	95.8
1"	25	67.7
3/4"	19	34.4
1/2"	12.7	9.0
3/8"	9.5	5.4
#4	4.75	3.4
#8	2.36	3.0
#16	1.180	2.6
#30	0.600	2.3
#50	0.300	2.0
#100	0.150	1.2
#200	0.075	0.9

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	96.6
Sand (%):	2.5
Fines (%):	0.9
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Engineering Classification
#4 Stone	21G172		0.9	

Note(s): LL:
PL:
PI:

5-03-2021
AFK, NSR

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RIGID WALL PERMEABILITY TEST [1]

ASTM D 2434 *

Project Name:	Branttey Engeneering
Project Number:	PN1023
Client Name:	JED Cell 14 Construction
Site Sample ID:	#4 Stone
Lab Sample Number:	21G172
Material Type:	Stone
Specified Value (cm/sec):	NA
Date Tested:	7/29/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid [4]	Gradient Range	Hydraulic [5], [6] Conductivity
	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content [3] (%)		(-)	(cm/s)
1	R	31.0	23.0	106.4	0.0	DTW	0.002 - 0.007	3.3E+1

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 5 layers, each approximately 6.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDW= Deaired Deionized (Distilled) Water
5. Burette readings are commonly unstable for high permeability materials and the permeability measurements are some what inaccurate.
6. The entire sample was used (i.e., particles larger than 3/4 in. Sieve, if any, were not removed)

* Deviation (s):

The entire sample was used (i.e., particles larger than 3/4 in. Sieve, if any, were not removed).

8-02-2021
APK, NSR

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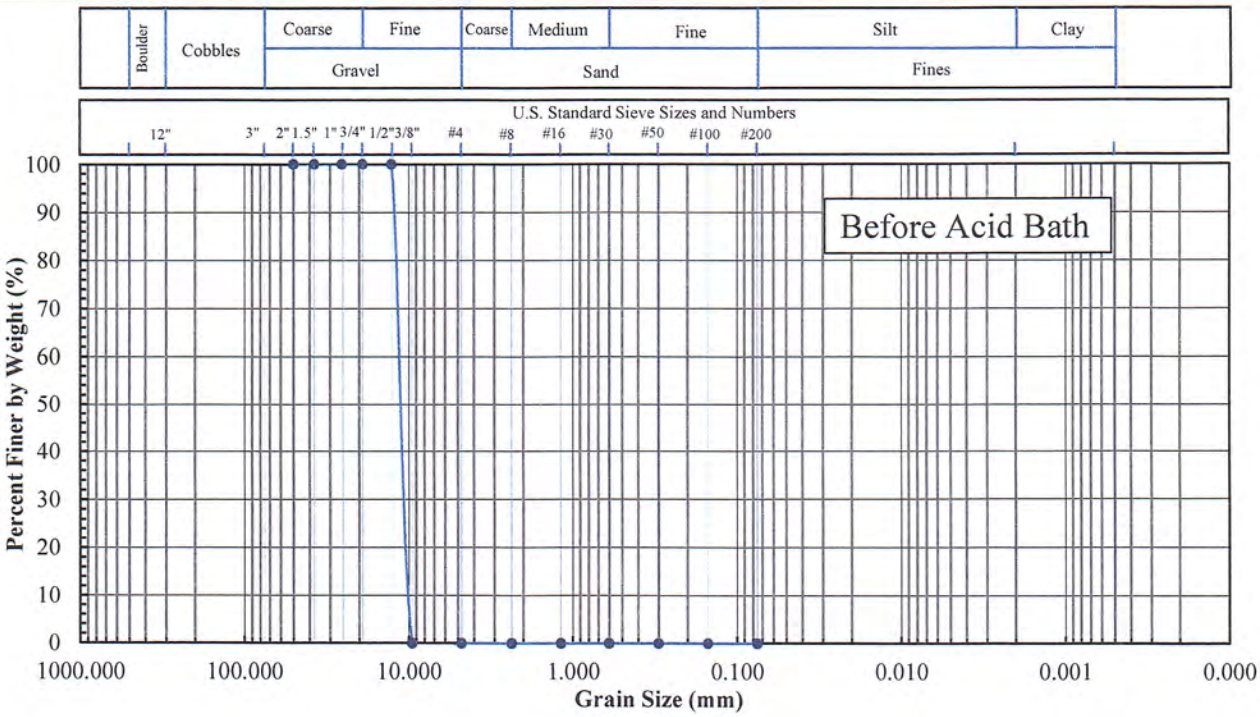
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#4 Stone
Lab Sample No:	21G172

ASTM D 3042

INSOLUBLE RESIDUE IN CARBONATE AGGREGATES

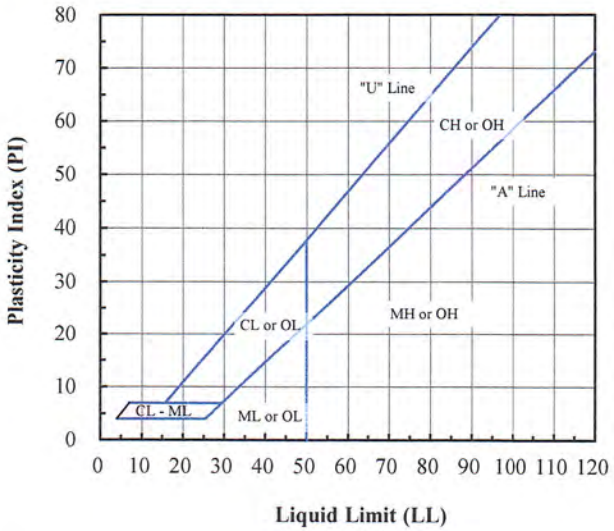


Sieve No.	Size (mm)	% Finer
2"	50.0	100.0
1.5"	37.5	100.0
1"	25.0	100.0
3/4"	19.0	100.0
1/2"	12.5	100.0
3/8"	9.50	
#4	4.75	
#8	2.36	
#16	1.180	
#30	0.600	
#50	0.300	
#100	0.150	
#200	0.075	

Hydrometer Particle Diameter (mm)	% Finer
0.050	
0.020	
0.005	
0.002	
0.001	

Gravel (%):	100.0
Sand (%):	
Fines (%):	
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
#4 Stone	21G172						

Note(s): Only particles passed through 1/2 in. Sieve and washed over 3/8 in. Sieve were used.

8-06-2021 ATK, NSR

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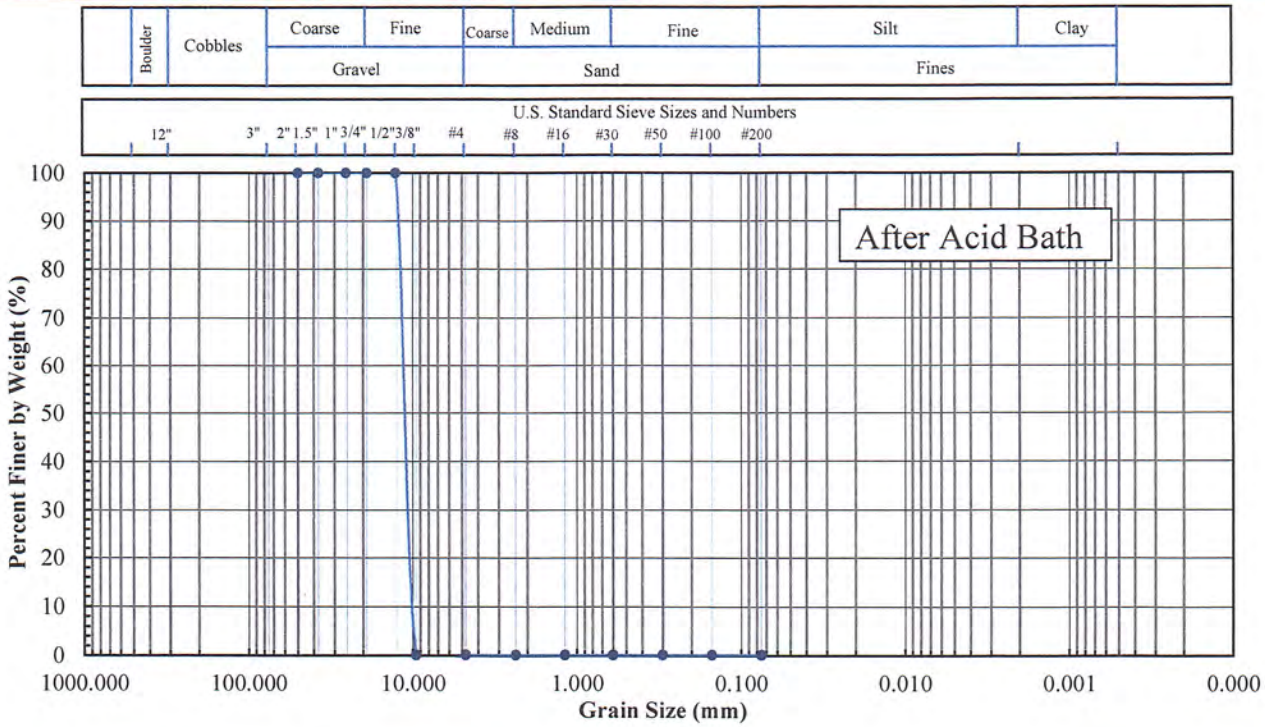
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#4 Stone
Lab Sample No:	21G172

ASTM D 3042

INSOLUBLE RESIDUE IN CARBONATE AGGREGATES

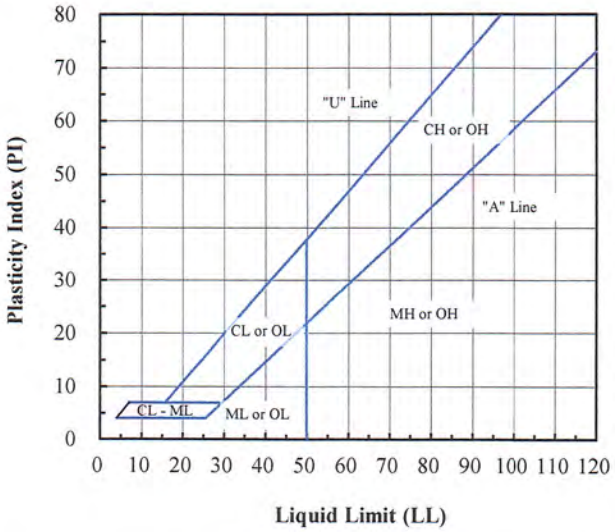


Sieve No.	Size (mm)	% Finer
2"	50.0	100.0
1.5"	37.5	100.0
1"	25.0	100.0
3/4"	19.0	100.0
1/2"	12.7	100.0
3/8"	9.50	0.1
#4	4.75	0.1
#8	2.36	0.1
#16	1.180	0.1
#30	0.600	0.1
#50	0.300	0.1
#100	0.150	0.1
#200	0.075	0.1

Hydrometer Particle Diameter (mm)	% Finer
0.050	
0.020	
0.005	
0.002	
0.001	

Gravel (%):	99.9
Sand (%):	
Fines (%):	0.1
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	**Total Insoluble Residue** (%)
#4 Stone	21G172		0.1				99.9

Note(s): Only particles passed through 1/2 in. Sieve and washed over 3/8 in. Sieve were used.

5-06-2021
AK, NSR

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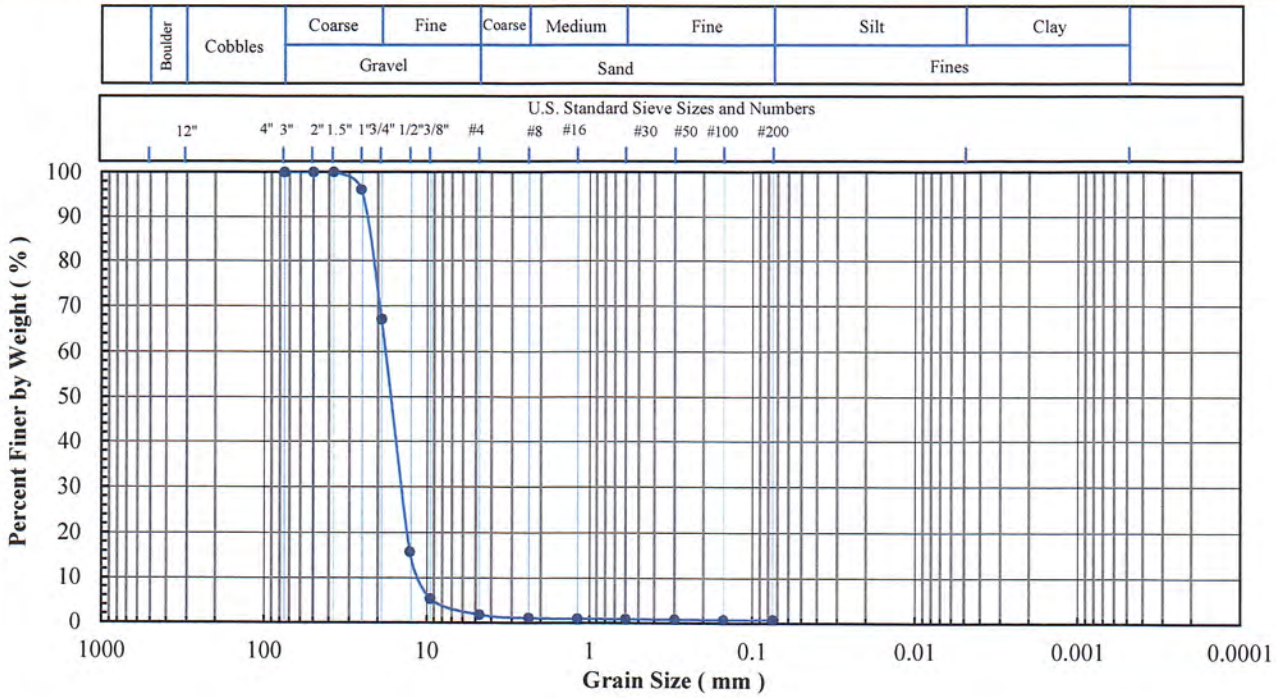
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#57 Stone
Lab Sample No:	21G137

ASTM C 136, D 422, D 854, D 1140, D 2216, D 2487, D 4318

SOIL INDEX PROPERTIES

Grain Size, Spec. Gravity, Moist. Content, Eng. Classification, Atterberg Limits

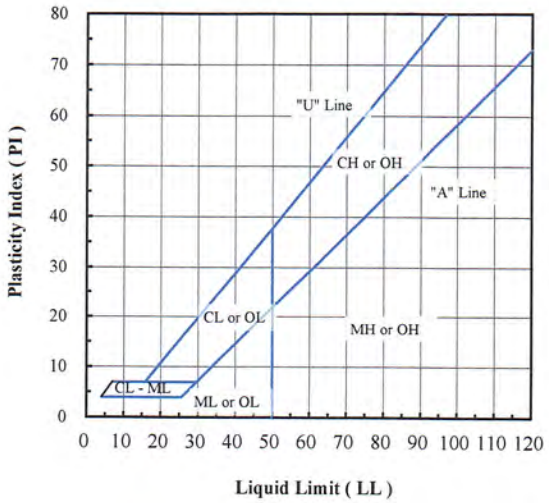


Sieve No.	Size (mm)	% Finer
3"	75	100.0
2"	50	100.0
1.5"	37.5	100.0
1"	25	96.1
3/4"	19	67.2
1/2"	12.7	15.8
3/8"	9.5	5.3
#4	4.75	1.8
#8	2.36	1.1
#16	1.180	0.9
#30	0.600	0.9
#50	0.300	0.8
#100	0.150	0.8
#200	0.075	0.8

Hydrometer Particle Diameter (mm)	% Finer

Gravel (%):	98.2
Sand (%):	1.0
Fines (%):	0.8
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Engineering Classification
#57 Stone	21G137		0.8	

Note(s):

7-27-2021 HRK, NSP

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RIGID WALL PERMEABILITY TEST (1)

ASTM D2434 *

Project Name:	Branttey Engeneering
Project Number:	PN1023
Client Name:	JED Cell 14 Construction
Site Sample ID:	#57 Stone
Lab Sample Number:	21G137
Material Type:	Stone
Specified Value (cm/sec):	NA
Date Tested:	7/20/2021

Specimen Number	Specimen Initial Conditions					Permeant Liquid (4)	Gradient Range	Hydraulic (5), (6) Conductivity
	Spec. Prep. (2) (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (3) (%)		(-)	(cm/s)
1	R	30.8	23.0	109.2	0.0	DTW	0.004 - 0.013	1.4E+1

Notes:

1. Constant head test procedures were followed during the testing.
2. Remolded specimen was formed by tamping the soil in 5 layers, each approximately 6.0 cm, utilizing moderate compaction energy.
3. A moisture content of 0.0% indicates that the sample was air/oven dried before being tested.
4. Type of permeant liquid: TW = Tap Water, DTW = Deaired Tap Water, DDW= Deaired Deionized (Distilled) Water
5. Burette readings are commonly unstable for high permeability materials and the permeability measurements are some what inaccurate.
6. The entire sample was used (i.e., particles larger than 3/4 in. Sieve, if any, were not removed)

* Deviation (s):

The entire sample was used (i.e., particles larger than 3/4 in. Sieve, if any, were not removed).

7-27-2021
ABK, MSA

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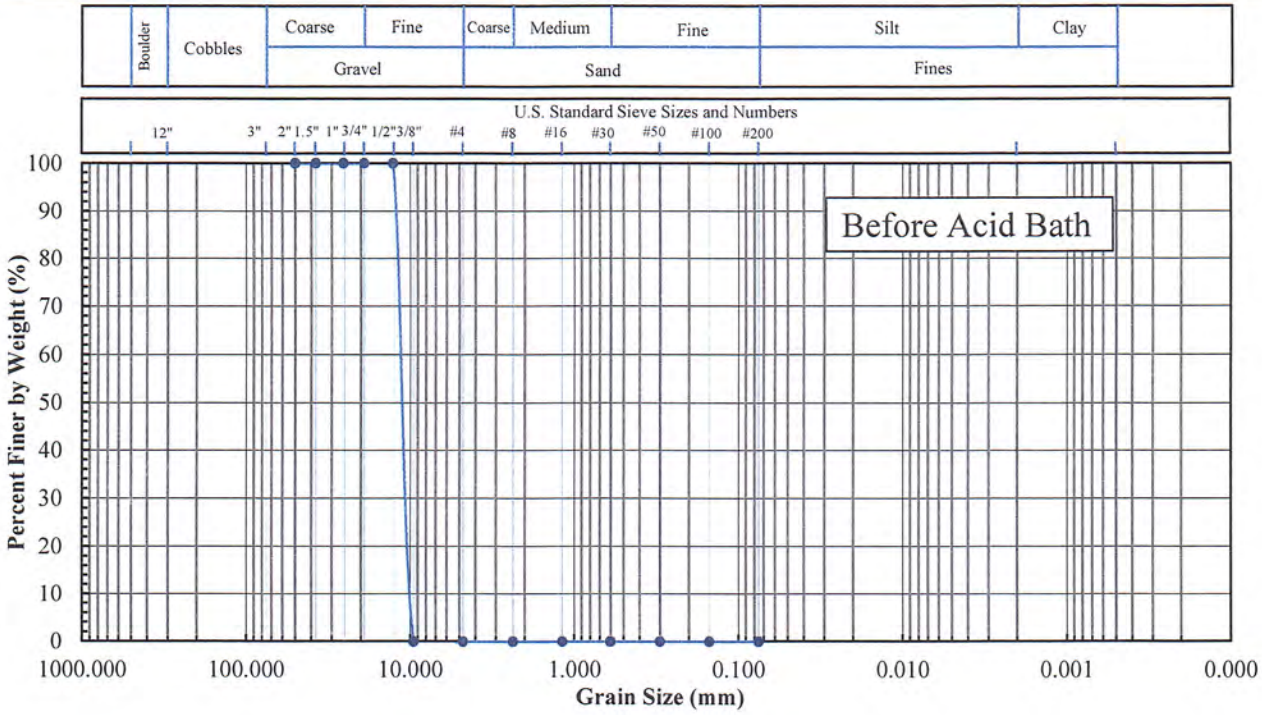
Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#57 Stone
Lab Sample No:	21G137

ASTM D 3042

INSOLUBLE RESIDUE IN CARBONATE AGGREGATES

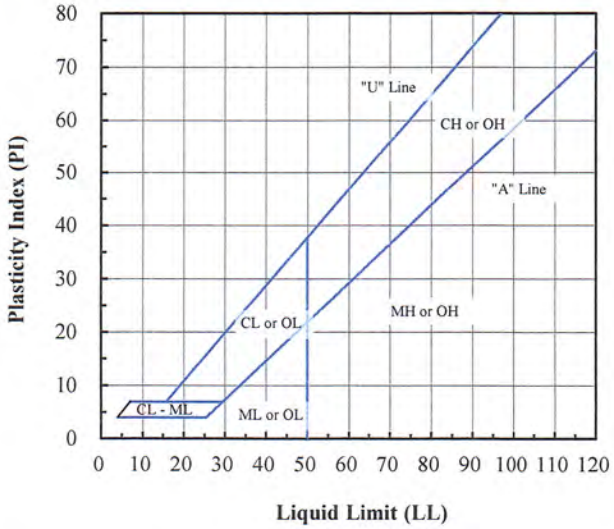


Sieve No.	Size (mm)	% Finer
2"	50.0	100.0
1.5"	37.5	100.0
1"	25.0	100.0
3/4"	19.0	100.0
1/2"	12.5	100.0
3/8"	9.50	
#4	4.75	
#8	2.36	
#16	1.180	
#30	0.600	
#50	0.300	
#100	0.150	
#200	0.075	

Hydrometer Particle Diameter (mm)	% Finer
0.050	
0.020	
0.005	
0.002	
0.001	

Gravel (%):	100.0
Sand (%):	
Fines (%):	
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	Atterberg Limits PL (-)	Atterberg Limits PI (-)	Engineering Classification
#57 Stone	21G137						

Note(s): Only particles passed through 1/2 in. Sieve and washed over 3/8 in. Sieve were used.

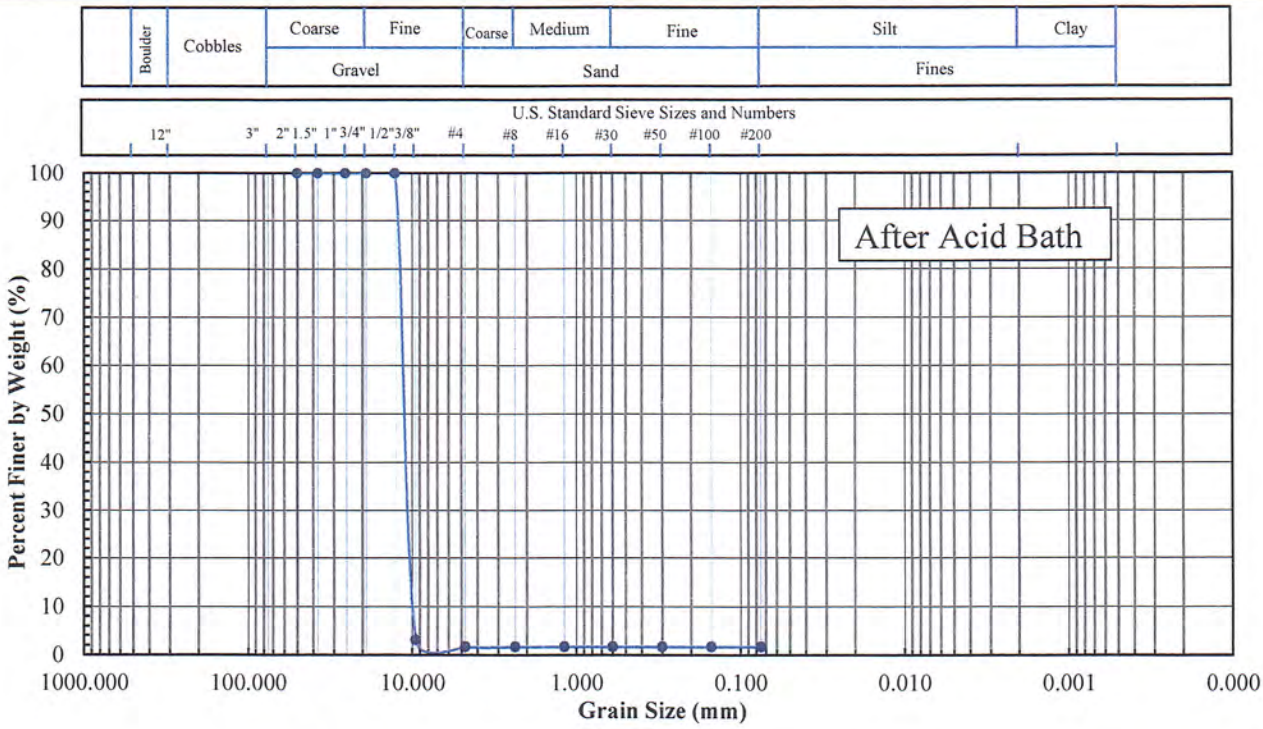
6-06-2021 ARK, NSR

Excel Geotechnical Testing, Inc.
"Excellence in Testing"
953 Forrest Street, Roswell, Georgia 30075
Tel: (770) 910 7537, www.excelgeotesting.com

Project Name:	JED Cell 14 Construction
Project No:	PN1023
Client Sample ID:	#57 Stone
Lab Sample No:	21G137

ASTM D 3042

INSOLUBLE RESIDUE IN CARBONATE AGGREGATES

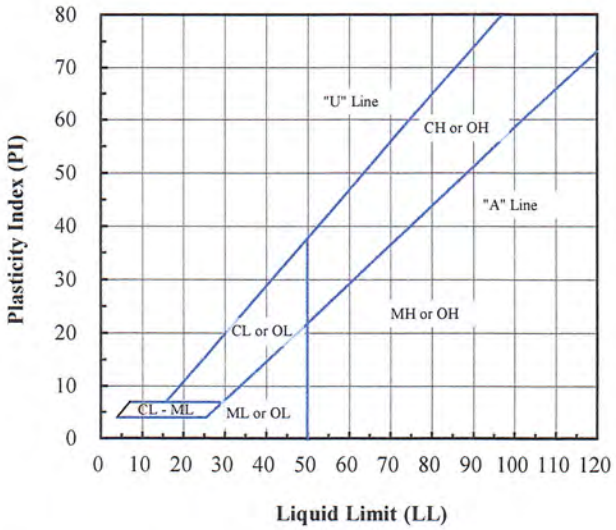


Sieve No.	Size (mm)	% Finer
2"	50.0	100.0
1.5"	37.5	100.0
1"	25.0	100.0
3/4"	19.0	100.0
1/2"	12.7	100.0
3/8"	9.50	3.2
#4	4.75	1.7
#8	2.36	1.7
#16	1.180	1.7
#30	0.600	1.7
#50	0.300	1.7
#100	0.150	1.7
#200	0.075	1.7

Hydrometer Particle Diameter (mm)	% Finer
0.050	
0.020	
0.005	
0.002	
0.001	

Gravel (%):	98.3
Sand (%):	
Fines (%):	1.7
Silt (%):	
Clay (%):	

Coeff. Unif. (Cu):	
Coeff. Curv. (Cc):	



Client Sample ID.	Lab Sample No:	Moisture Content (%)	Fines Content < No. 200 (%)	Atterberg Limits LL (-)	PL (-)	PI (-)	Total Insoluble Residue (%)
#57 Stone	21G137		1.7				98.3

Note(s): Only particles passed through 1/2 in. Sieve and washed over 3/8 in. Sieve were used.

8-06-2021
APK, NSR

APPENDIX C
Soils Field Testing Results

Section 1
General Fill Density Summary and Field Tests

Brantley Engineering, LLC

SUMMARY OF FIELD DENSITY TESTING RESULTS

Cell 14
Fill

PROJECT NUMBER: 2021-002

OWNER/ENGINEER: Omni Waste of Osceola, LLC

PROJECT TITLE: JED Cell 14 Construction

CONTRACTOR: Gulfstream Building Group, Inc.

DATES: FROM 04/08/21 TO 07/16/21 PAGE 1

		IN PLACE DETERMINATION		MATCHING PROTOR			TEST RESULTS			
TEST NUMBER	TEST DATE	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	CURVE NUMBER	MAX DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMP (%)	DIFFER FROM OPT MOISTURE (%)	PASS/ FAIL	REMARK
1	04/08/21	98.7	18.9	SF-7	104.1	15.5	94.8	3.4	F	High Moisture
1R	04/08/21	102.1	15.9	SF-7	104.1	15.5	98.1	0.4	P	Retest for 1
2	04/08/21	101.6	18.5	SF-7	104.1	15.5	97.6	3.0	P	
3	04/08/21	101.8	17.3	SF-7	104.1	15.5	97.8	1.8	P	
4	04/08/21	100.3	18.4	SF-7	104.1	15.5	96.3	2.9	P	
5	04/08/21	101.1	18.0	SF-7	104.1	15.5	97.1	2.5	P	
6	04/08/21	102.2	17.9	SF-7	104.1	15.5	98.2	2.4	P	
7	04/08/21	100.4	18.2	SF-7	104.1	15.5	96.4	2.7	P	
8	04/08/21	99.3	16.6	SF-7	104.1	15.5	95.4	1.1	P	
9	04/08/21	99.9	18.0	SF-7	104.1	15.5	96.0	2.5	P	
10	04/08/21	99.1	17.7	SF-7	104.1	15.5	95.2	2.2	P	
11	04/08/21	100.6	18.1	SF-7	104.1	15.5	96.6	2.6	P	
12	04/08/21	101.5	17.3	SF-7	104.1	15.5	97.5	1.8	P	
13	04/08/21	100.1	17.9	SF-7	104.1	15.5	96.2	2.4	P	
14	04/08/21	101.9	15.9	SF-7	104.1	15.5	97.9	0.4	P	
15	04/08/21	100.2	15.1	SF-7	104.1	15.5	96.3	-0.4	P	
16	04/08/21	102.6	14.7	SF-7	104.1	15.5	98.6	-0.8	P	
17	04/08/21	101.7	17.2	SF-7	104.1	15.5	97.7	1.7	P	
18	04/08/21	101.3	17.6	SF-7	104.1	15.5	97.3	2.1	P	
19	04/08/21	105.6	14.7	SF-5	109.5	11.8	96.4	2.9	P	
20	04/08/21	104.7	14.8	SF-5	109.5	11.8	95.6	3.0	P	
21	04/08/21	102.6	16.7	SF-7	104.1	15.5	98.6	1.2	P	
22	04/08/21	101.4	15.3	SF-7	104.1	15.5	97.4	-0.2	P	
23	04/08/21	99.8	16.3	SF-7	104.1	15.5	95.9	0.8	P	
24	04/09/21	101.2	16.2	SF-7	104.1	15.5	97.2	0.7	P	
25	04/09/21	102.2	18.1	SF-7	104.1	15.5	98.2	2.6	P	
26	04/09/21	100.4	15.4	SF-7	104.1	15.5	96.4	-0.1	P	
27	04/09/21	99.8	18.1	SF-7	104.1	15.5	95.9	2.6	P	
28	04/09/21	103.1	17.4	SF-7	104.1	15.5	99.0	1.9	P	
29	04/09/21	100.3	17.0	SF-7	104.1	15.5	96.3	1.5	P	
30	04/09/21	99.6	12.5	SF-7	104.1	15.5	95.7	-3.0	P	
31	04/09/21	102.3	14.4	SF-7	104.1	15.5	98.3	-1.1	P	
32	04/09/21	103.0	15.1	SF-7	104.1	15.5	98.9	-0.4	P	
33	04/09/21	99.5	17.6	SF-7	104.1	15.5	95.6	2.1	P	
34	04/09/21	102.0	16.1	SF-7	104.1	15.5	98.0	0.6	P	
35	04/09/21	99.9	17.1	SF-7	104.1	15.5	96.0	1.6	P	
36	04/09/21	102.5	14.5	SF-7	104.1	15.5	98.5	-1.0	P	
37	04/09/21	99.7	17.7	SF-7	104.1	15.5	95.8	2.2	P	

38	04/09/21	100.1	16.2	SF-7	104.1	15.5	96.2	0.7	P	
39	04/09/21	101.3	17.0	SF-7	104.1	15.5	97.3	1.5	P	
40	04/09/21	102.1	16.7	SF-7	104.1	15.5	98.1	1.2	P	
41	04/09/21	100.7	15.9	SF-7	104.1	15.5	96.7	0.4	P	
42	04/09/21	99.8	15.2	SF-7	104.1	15.5	95.9	-0.3	P	
43	04/09/21	101.1	17.8	SF-7	104.1	15.5	97.1	2.3	P	
44	04/09/21	101.7	18.4	SF-7	104.1	15.5	97.7	2.9	P	
45	04/09/21	100.0	17.1	SF-7	104.1	15.5	96.1	1.6	P	
46	04/09/21	101.7	16.7	SF-7	104.1	15.5	97.7	1.2	P	
47	04/09/21	102.2	17.9	SF-7	104.1	15.5	98.2	2.4	P	
48	04/09/21	100.9	17.3	SF-7	104.1	15.5	96.9	1.8	P	
49	04/09/21	105.1	14.7	SF-5	109.5	11.8	96.0	2.9	P	
50	04/09/21	104.7	11.8	SF-5	109.5	11.8	95.6	0.0	P	
51	04/09/21	102.6	16.7	SF-7	104.1	15.5	98.6	1.2	P	
52	04/09/21	101.4	14.1	SF-7	104.1	15.5	97.4	-1.4	P	
53	04/09/21	99.8	16.0	SF-7	104.1	15.5	95.9	0.5	P	
54	04/09/21	101.8	16.6	SF-7	104.1	15.5	97.8	1.1	P	
55	04/09/21	102.4	18.1	SF-7	104.1	15.5	98.4	2.6	P	
56	04/09/21	100.0	13.5	SF-7	104.1	15.5	96.1	-2.0	P	
57	04/09/21	101.7	16.7	SF-7	104.1	15.5	97.7	1.2	P	
58	04/09/21	100.1	16.2	SF-7	104.1	15.5	96.2	0.7	P	
59	04/09/21	99.5	14.2	SF-7	104.1	15.5	95.6	-1.3	P	
60	04/09/21	99.6	17.4	SF-7	104.1	15.5	95.7	1.9	P	
61	04/09/21	99.2	16.8	SF-7	104.1	15.5	95.3	1.3	P	
62	04/09/21	99.7	16.0	SF-7	104.1	15.5	95.8	0.5	P	
63	04/09/21	99.8	16.1	SF-7	104.1	15.5	95.9	0.6	P	
64	04/10/21	99.6	15.9	SF-7	104.1	15.5	95.7	0.4	P	
65	04/10/21	102.7	14.3	SF-7	104.1	15.5	98.7	-1.2	P	
66	04/10/21	102.2	14.6	SF-7	104.1	15.5	98.2	-0.9	P	
67	04/10/21	101.9	14.1	SF-7	104.1	15.5	97.9	-1.4	P	
68	04/10/21	100.9	14.5	SF-7	104.1	15.5	96.9	-1.0	P	
69	04/10/21	100.0	14.9	SF-7	104.1	15.5	96.1	-0.6	P	
70	04/10/21	101.6	16.5	SF-7	104.1	15.5	97.6	1.0	P	
71	04/10/21	101.8	17.5	SF-7	104.1	15.5	97.8	2.0	P	
72	04/10/21	102.3	13.5	SF-7	104.1	15.5	98.3	-2.0	P	
73	04/10/21	101.4	17.2	SF-7	104.1	15.5	97.4	1.7	P	
74	04/10/21	100.8	17.5	SF-7	104.1	15.5	96.8	2.0	P	
75	04/10/21	101.7	16.7	SF-7	104.1	15.5	97.7	1.2	P	
76	04/10/21	98.3	14.4	SF-13	100.1	14.6	98.2	-0.2	P	
77	04/10/21	98.8	15.9	SF-13	100.1	14.6	98.7	1.3	P	
78	04/10/21	97.9	17.2	SF-13	100.1	14.6	97.8	2.6	P	
79	04/10/21	101.2	18.3	SF-7	104.1	15.5	97.2	2.8	P	
80	04/10/21	101.8	14.7	SF-7	104.1	15.5	97.8	-0.8	P	
81	04/10/21	102.7	14.9	SF-7	104.1	15.5	98.7	-0.6	P	
82	04/10/21	102.1	13.0	SF-7	104.1	15.5	98.1	-2.5	P	
83	04/10/21	100.9	13.6	SF-7	104.1	15.5	96.9	-1.9	P	
84	04/10/21	101.0	15.9	SF-7	104.1	15.5	97.0	0.4	P	
85	04/10/21	99.4	15.5	SF-7	104.1	15.5	95.5	0.0	P	
86	04/10/21	98.6	14.2	SF-13	100.1	14.6	98.5	-0.4	P	
87	04/10/21	96.2	12.8	SF-13	100.1	14.6	96.1	-1.8	P	
88	04/10/21	100.3	15.8	SF-7	104.1	15.5	96.3	0.3	P	
89	04/10/21	102.0	15.4	SF-7	104.1	15.5	98.0	-0.1	P	

90	04/10/21	102.1	15.4	SF-7	104.1	15.5	98.1	-0.1	P	
91	04/10/21	102.9	13.9	SF-7	104.1	15.5	98.8	-1.6	P	
92	04/10/21	102.9	13.1	SF-7	104.1	15.5	98.8	-2.4	P	
93	04/10/21	101.4	13.2	SF-7	104.1	15.5	97.4	-2.3	P	
94	04/10/21	98.9	13.2	SF-13	100.1	14.6	98.8	-1.4	P	
95	04/10/21	99.0	15.1	SF-13	100.1	14.6	98.9	0.5	P	
96	04/10/21	102.1	15.8	SF-7	104.1	15.5	98.1	0.3	P	
97	04/10/21	100.5	14.2	SF-7	104.1	15.5	96.5	-1.3	P	
98	04/10/21	101.3	16.9	SF-7	104.1	15.5	97.3	1.4	P	
99	04/10/21	100.8	14.8	SF-7	104.1	15.5	96.8	-0.7	P	
100	04/10/21	100.4	14.7	SF-7	104.1	15.5	96.4	-0.8	P	
101	04/10/21	101.2	14.4	SF-7	104.1	15.5	97.2	-1.1	P	
102	04/10/21	98.8	15.9	SF-13	100.1	14.6	98.7	1.3	P	
103	04/10/21	98.3	17.5	SF-13	100.1	14.6	98.2	2.9	P	
104	04/10/21	97.9	17.6	SF-13	100.1	14.6	97.8	3.0	P	
105	04/10/21	99.0	15.1	SF-13	100.1	14.6	98.9	0.5	P	
106	04/14/21	101.1	17.6	SF-7	104.1	15.5	97.1	2.1	P	
107	04/14/21	102.4	14.3	SF-7	104.1	15.5	98.4	-1.2	P	
108	04/14/21	100.5	18.2	SF-7	104.1	15.5	96.5	2.7	P	
109	04/14/21	100.7	17.0	SF-7	104.1	15.5	96.7	1.5	P	
110	04/14/21	103.5	14.3	SF-7	104.1	15.5	99.4	-1.2	P	
111	04/14/21	100.6	13.7	SF-7	104.1	15.5	96.6	-1.8	P	
112	04/14/21	103.4	15.4	SF-7	104.1	15.5	99.3	-0.1	P	
113	04/14/21	102.8	18.2	SF-7	104.1	15.5	98.8	2.7	P	
114	04/14/21	102.8	17.1	SF-7	104.1	15.5	98.8	1.6	P	
115	04/14/21	100.0	17.4	SF-7	104.1	15.5	96.1	1.9	P	
116	04/14/21	102.6	18.2	SF-7	104.1	15.5	98.6	2.7	P	
117	04/14/21	102.6	17.8	SF-7	104.1	15.5	98.6	2.3	P	
118	04/14/21	101.0	17.8	SF-7	104.1	15.5	97.0	2.3	P	
119	04/14/21	101.3	17.4	SF-7	104.1	15.5	97.3	1.9	P	
120	04/14/21	100.2	14.3	SF-7	104.1	15.5	96.3	-1.2	P	
121	04/14/21	102.7	17.0	SF-7	104.1	15.5	98.7	1.5	P	
122	04/14/21	102.6	17.5	SF-7	104.1	15.5	98.6	2.0	P	
123	04/14/21	103.6	16.3	SF-7	104.1	15.5	99.5	0.8	P	
124	04/14/21	104.0	16.5	SF-7	104.1	15.5	99.9	1.0	P	
125	04/14/21	101.3	14.8	SF-7	104.1	15.5	97.3	-0.7	P	
126	04/14/21	100.2	18.5	SF-7	104.1	15.5	96.3	3.0	P	
127	04/14/21	99.9	18.1	SF-7	104.1	15.5	96.0	2.6	P	
128	04/14/21	102.3	16.5	SF-7	104.1	15.5	98.3	1.0	P	
129	04/14/21	99.7	18.2	SF-7	104.1	15.5	95.8	2.7	P	
130	04/14/21	100.5	18.3	SF-7	104.1	15.5	96.5	2.8	P	
131	04/14/21	100.1	18.3	SF-7	104.1	15.5	96.2	2.8	P	
132	04/14/21	100.0	18.2	SF-7	104.1	15.5	96.1	2.7	P	
133	04/14/21	99.6	16.1	SF-7	104.1	15.5	95.7	0.6	P	
134	04/14/21	99.8	15.9	SF-7	104.1	15.5	95.9	0.4	P	
135	04/14/21	103.0	16.6	SF-7	104.1	15.5	98.9	1.1	P	
136	04/14/21	102.0	18.1	SF-7	104.1	15.5	98.0	2.6	P	
137	04/14/21	102.9	16.3	SF-7	104.1	15.5	98.8	0.8	P	
138	04/14/21	102.1	15.5	SF-7	104.1	15.5	98.1	0.0	P	
139	04/14/21	102.0	17.6	SF-7	104.1	15.5	98.0	2.1	P	
140	04/14/21	102.2	15.8	SF-7	104.1	15.5	98.2	0.3	P	
141	04/14/21	102.7	15.2	SF-7	104.1	15.5	98.7	-0.3	P	

142	04/14/21	101.3	15.9	SF-7	104.1	15.5	97.3	0.4	P	
143	04/14/21	102.0	16.9	SF-7	104.1	15.5	98.0	1.4	P	
144	04/14/21	102.5	17.6	SF-7	104.1	15.5	98.5	2.1	P	
145	04/14/21	101.0	18.3	SF-7	104.1	15.5	97.0	2.8	P	
146	04/14/21	102.8	18.5	SF-7	104.1	15.5	98.8	3.0	P	
147	04/14/21	100.3	17.8	SF-7	104.1	15.5	96.3	2.3	P	
148	04/14/21	99.9	17.3	SF-7	104.1	15.5	96.0	1.8	P	
149	04/14/21	98.0	19.5	SF-7	104.1	15.5	94.1	4.0	F	High Moisture
149R	04/14/21	99.9	16.5	SF-7	104.1	15.5	96.0	1.0	P	Retest for 149
150	04/15/21	101.3	14.6	SF-7	104.1	15.5	97.3	-0.9	P	
151	04/15/21	100.2	16.0	SF-7	104.1	15.5	96.3	0.5	P	
152	04/15/21	100.3	14.5	SF-7	104.1	15.5	96.3	-1.0	P	
153	04/15/21	101.3	16.2	SF-7	104.1	15.5	97.3	0.7	P	
154	04/15/21	101.5	16.7	SF-7	104.1	15.5	97.5	1.2	P	
155	04/15/21	101.4	14.6	SF-7	104.1	15.5	97.4	-0.9	P	
156	04/15/21	103.1	14.8	SF-7	104.1	15.5	99.0	-0.7	P	
157	04/15/21	103.2	14.7	SF-7	104.1	15.5	99.1	-0.8	P	
158	04/15/21	103.4	15.0	SF-7	104.1	15.5	99.3	-0.5	P	
159	04/15/21	99.6	17.9	SF-7	104.1	15.5	95.7	2.4	P	
160	04/15/21	99.8	17.6	SF-7	104.1	15.5	95.9	2.1	P	
161	04/15/21	101.1	17.0	SF-7	104.1	15.5	97.1	1.5	P	
162	04/15/21	100.9	17.5	SF-7	104.1	15.5	96.9	2.0	P	
163	04/15/21	102.5	17.1	SF-7	104.1	15.5	98.5	1.6	P	
164	04/15/21	102.3	17.4	SF-7	104.1	15.5	98.3	1.9	P	
165	04/15/21	102.4	17.2	SF-7	104.1	15.5	98.4	1.7	P	
166	04/15/21	103.2	17.0	SF-7	104.1	15.5	99.1	1.5	P	
167	04/15/21	103.3	17.5	SF-7	104.1	15.5	99.2	2.0	P	
168	04/15/21	99.5	16.0	SF-7	104.1	15.5	95.6	0.5	P	
169	04/15/21	101.7	17.1	SF-7	104.1	15.5	97.7	1.6	P	
170	04/15/21	100.9	18.4	SF-7	104.1	15.5	96.9	2.9	P	
171	04/15/21	103.2	16.5	SF-7	104.1	15.5	99.1	1.0	P	
172	04/15/21	102.3	16.5	SF-7	104.1	15.5	98.3	1.0	P	
173	04/15/21	101.4	16.2	SF-7	104.1	15.5	97.4	0.7	P	
174	04/15/21	101	18.2	SF-7	104.1	15.5	97.0	2.7	P	
175	04/15/21	101.4	15.2	SF-7	104.1	15.5	97.4	-0.3	P	
176	04/15/21	101.1	15.3	SF-7	104.1	15.5	97.1	-0.2	P	
177	04/15/21	102.2	14.9	SF-7	104.1	15.5	98.2	-0.6	P	
178	04/15/21	99.3	15.0	SF-7	104.1	15.5	95.4	-0.5	P	
179	04/15/21	99.2	16.3	SF-7	104.1	15.5	95.3	0.8	P	
180	04/17/21	99.2	17.0	SF-8	102.0	14.8	97.3	2.2	P	
181	04/17/21	99.9	16.7	SF-8	102.0	14.8	97.9	1.9	P	
182	04/17/21	99.2	17.3	SF-8	102.0	14.8	97.3	2.5	P	
183	04/17/21	99.1	17.2	SF-8	102.0	14.8	97.2	2.4	P	
184	04/17/21	98.5	16.9	SF-8	102.0	14.8	96.6	2.1	P	
185	04/17/21	97.6	15.6	SF-8	102.0	14.8	95.7	0.8	P	
186	04/17/21	100.0	16.3	SF-8	102.0	14.8	98.0	1.5	P	
187	04/17/21	101.1	16.2	SF-8	102.0	14.8	99.1	1.4	P	
188	04/17/21	100.6	16.0	SF-8	102.0	14.8	98.6	1.2	P	
189	04/17/21	99.9	17.4	SF-8	102.0	14.8	97.9	2.6	P	
190	04/17/21	98.2	15.0	SF-8	102.0	14.8	96.3	0.2	P	
191	04/17/21	97.8	15.0	SF-8	102.0	14.8	95.9	0.2	P	
192	04/17/21	99.0	14.7	SF-8	102.0	14.8	97.1	-0.1	P	

193	04/17/21	100.2	14.7	SF-8	102.0	14.8	98.2	-0.1	P	
194	04/17/21	97.6	13.1	SF-8	102.0	14.8	95.7	-1.7	P	
195	04/17/21	97.5	15.3	SF-8	102.0	14.8	95.6	0.5	P	
196	04/17/21	97.4	14.6	SF-8	102.0	14.8	95.5	-0.2	P	
197	04/17/21	98.5	15.9	SF-8	102.0	14.8	96.6	1.1	P	
198	04/17/21	98.6	15.0	SF-8	102.0	14.8	96.7	0.2	P	
199	04/17/21	99.2	16.2	SF-8	102.0	14.8	97.3	1.4	P	
200	04/17/21	99.4	16.0	SF-8	102.0	14.8	97.5	1.2	P	
201	04/17/21	97.3	16.3	SF-8	102.0	14.8	95.4	1.5	P	
202	04/17/21	98.9	16.1	SF-8	102.0	14.8	97.0	1.3	P	
203	04/17/21	99.9	15.0	SF-8	102.0	14.8	97.9	0.2	P	
204	04/17/21	98.3	16.3	SF-8	102.0	14.8	96.4	1.5	P	
205	04/17/21	97.6	14.2	SF-8	102.0	14.8	95.7	-0.6	P	
206	04/17/21	99.4	16.3	SF-8	102.0	14.8	97.5	1.5	P	
207	04/17/21	98.6	15.3	SF-8	102.0	14.8	96.7	0.5	P	
208	04/17/21	97.6	14.8	SF-8	102.0	14.8	95.7	0.0	P	
209	04/17/21	98.0	14.4	SF-8	102.0	14.8	96.1	-0.4	P	
210	04/17/21	99.0	15.1	SF-8	102.0	14.8	97.1	0.3	P	
211	04/17/21	97.7	14.1	SF-8	102.0	14.8	95.8	-0.7	P	
212	04/17/21	98.5	14.7	SF-8	102.0	14.8	96.6	-0.1	P	
213	04/17/21	99.4	13.1	SF-8	102.0	14.8	97.5	-1.7	P	
214	04/17/21	97.3	14.9	SF-8	102.0	14.8	95.4	0.1	P	
215	04/17/21	98.2	15.1	SF-8	102.0	14.8	96.3	0.3	P	
216	04/17/21	98.6	13.8	SF-8	102.0	14.8	96.7	-1.0	P	
217	04/18/21	99.6	16.7	SF-8	102.0	14.8	97.6	1.9	P	
218	04/18/21	97.5	17.2	SF-8	102.0	14.8	95.6	2.4	P	
219	04/18/21	98.4	17.5	SF-8	102.0	14.8	96.5	2.7	P	
220	04/18/21	97.6	17.0	SF-8	102.0	14.8	95.7	2.2	P	
221	04/18/21	97.6	16.0	SF-8	102.0	14.8	95.7	1.2	P	
222	04/18/21	98.4	16.5	SF-8	102.0	14.8	96.5	1.7	P	
223	04/18/21	97.4	16.2	SF-8	102.0	14.8	95.5	1.4	P	
224	04/18/21	99.1	16.0	SF-8	102.0	14.8	97.2	1.2	P	
225	04/18/21	98.0	17.0	SF-8	102.0	14.8	96.1	2.2	P	
226	04/18/21	98.4	16.2	SF-8	102.0	14.8	96.5	1.4	P	
227	04/18/21	96.5	18.2	SF-8	102.0	14.8	94.6	3.4	F	High Moisture
227R	04/18/21	97.5	15.8	SF-8	102.0	14.8	95.6	1.0	P	Retest for 227
228	04/18/21	97.9	16.5	SF-8	102.0	14.8	96.0	1.7	P	
229	04/18/21	97.2	15.3	SF-8	102.0	14.8	95.3	0.5	P	
230	04/18/21	98.6	15.9	SF-8	102.0	14.8	96.7	1.1	P	
231	04/18/21	99.5	15.4	SF-8	102.0	14.8	97.5	0.6	P	
232	04/18/21	98.9	14.9	SF-8	102.0	14.8	97.0	0.1	P	
233	04/18/21	97.3	14.8	SF-8	102.0	14.8	95.4	0.0	P	
234	04/18/21	99.0	13.9	SF-8	102.0	14.8	97.1	-0.9	P	
235	04/18/21	99.1	17.0	SF-8	102.0	14.8	97.2	2.2	P	
236	04/18/21	98.5	17.2	SF-8	102.0	14.8	96.6	2.4	P	
237	04/18/21	98.3	16.9	SF-8	102.0	14.8	96.4	2.1	P	
238	04/18/21	99.0	16.4	SF-8	102.0	14.8	97.1	1.6	P	
239	04/18/21	97.1	16.2	SF-8	102.0	14.8	95.2	1.4	P	
240	04/18/21	97.8	15.6	SF-8	102.0	14.8	95.9	0.8	P	
241	04/18/21	97.6	15.7	SF-8	102.0	14.8	95.7	0.9	P	
242	04/18/21	98.6	15.0	SF-8	102.0	14.8	96.7	0.2	P	
243	04/18/21	98.9	15.6	SF-8	102.0	14.8	97.0	0.8	P	

244	04/18/21	99.2	17.0	SF-8	102.0	14.8	97.3	2.2	P	
245	04/18/21	99.1	16.0	SF-8	102.0	14.8	97.2	1.2	P	
246	04/18/21	98.7	16.8	SF-8	102.0	14.8	96.8	2.0	P	
247	04/18/21	97.9	16.4	SF-8	102.0	14.8	96.0	1.6	P	
248	04/18/21	98.0	14.8	SF-8	102.0	14.8	96.1	0.0	P	
249	04/18/21	98.2	14.9	SF-8	102.0	14.8	96.3	0.1	P	
250	04/18/21	98.6	16.4	SF-8	102.0	14.8	96.7	1.6	P	
251	04/18/21	98.9	15.2	SF-8	102.0	14.8	97.0	0.4	P	
252	04/18/21	99.3	15.1	SF-8	102.0	14.8	97.4	0.3	P	
253	04/23/21	99.0	17.6	SF-12	102.5	15.2	96.6	2.4	P	
254	04/23/21	100.0	16.6	SF-12	102.5	15.2	97.6	1.4	P	
255	04/23/21	100.1	16.9	SF-12	102.5	15.2	97.7	1.7	P	
256	04/23/21	99.8	17.4	SF-12	102.5	15.2	97.4	2.2	P	
257	04/23/21	99.3	15.6	SF-12	102.5	15.2	96.9	0.4	P	
258	04/23/21	98.4	15.8	SF-12	102.5	15.2	96.0	0.6	P	
259	04/23/21	97.9	16.4	SF-12	102.5	15.2	95.5	1.2	P	
260	04/23/21	97.9	16.1	SF-12	102.5	15.2	95.5	0.9	P	
261	04/23/21	98.6	17.0	SF-12	102.5	15.2	96.2	1.8	P	
262	04/23/21	98.1	17.0	SF-12	102.5	15.2	95.7	1.8	P	
263	04/23/21	99.6	17.4	SF-12	102.5	15.2	97.2	2.2	P	
264	04/23/21	99.1	16.9	SF-12	102.5	15.2	96.7	1.7	P	
265	04/23/21	98.9	15.2	SF-12	102.5	15.2	96.5	0.0	P	
266	04/23/21	99.5	15.9	SF-12	102.5	15.2	97.1	0.7	P	
267	04/23/21	99.7	16.0	SF-12	102.5	15.2	97.3	0.8	P	
268	04/26/21	101.3	14.9	SF-12	102.5	15.2	98.8	-0.3	P	
269	04/26/21	100.0	15.2	SF-12	102.5	15.2	97.6	0.0	P	
270	04/26/21	99.4	16.6	SF-12	102.5	15.2	97.0	1.4	P	
271	04/26/21	99.0	16.9	SF-12	102.5	15.2	96.6	1.7	P	
272	04/26/21	98.8	16.8	SF-12	102.5	15.2	96.4	1.6	P	
273	04/26/21	100.4	17.0	SF-12	102.5	15.2	98.0	1.8	P	
274	04/26/21	100.2	16.0	SF-12	102.5	15.2	97.8	0.8	P	
275	04/26/21	100.3	15.9	SF-12	102.5	15.2	97.9	0.7	P	
276	04/26/21	101.1	16.9	SF-12	102.5	15.2	98.6	1.7	P	
277	04/26/21	101.2	14.6	SF-12	102.5	15.2	98.7	-0.6	P	
278	04/26/21	101.0	14.8	SF-12	102.5	15.2	98.5	-0.4	P	
279	04/26/21	99.6	17.0	SF-12	102.5	15.2	97.2	1.8	P	
280	04/26/21	98.8	15.4	SF-12	102.5	15.2	96.4	0.2	P	
281	04/26/21	101.1	16.4	SF-12	102.5	15.2	98.6	1.2	P	
282	04/26/21	102.3	16.4	SF-12	102.5	15.2	99.8	1.2	P	
283	04/26/21	97.6	16.1	SF-12	102.5	15.2	95.2	0.9	P	
284	04/26/21	99.2	16.3	SF-12	102.5	15.2	96.8	1.1	P	
285	04/26/21	99.3	15.1	SF-12	102.5	15.2	96.9	-0.1	P	
286	04/26/21	99.0	15.2	SF-12	102.5	15.2	96.6	0.0	P	
287	04/26/21	100.1	14.8	SF-12	102.5	15.2	97.7	-0.4	P	
288	04/26/21	101.4	14.9	SF-12	102.5	15.2	98.9	-0.3	P	
289	04/26/21	98.6	14.9	SF-12	102.5	15.2	96.2	-0.3	P	
290	04/26/21	99.3	15.5	SF-12	102.5	15.2	96.9	0.3	P	
291	04/26/21	98.5	15.4	SF-12	102.5	15.2	96.1	0.2	P	
292	04/26/21	99.2	16.1	SF-12	102.5	15.2	96.8	0.9	P	
293	04/26/21	99.4	15.1	SF-12	102.5	15.2	97.0	-0.1	P	
294	04/26/21	98.6	16.4	SF-12	102.5	15.2	96.2	1.2	P	
295	04/26/21	101.0	16.1	SF-12	102.5	15.2	98.5	0.9	P	

296	04/26/21	100.6	16.5	SF-12	102.5	15.2	98.1	1.3	P	
297	04/26/21	100.4	16.2	SF-12	102.5	15.2	98.0	1.0	P	
298	04/26/21	100.0	15.2	SF-12	102.5	15.2	97.6	0.0	P	
299	04/26/21	99.4	16.4	SF-12	102.5	15.2	97.0	1.2	P	
300	04/26/21	99.6	14.4	SF-12	102.5	15.2	97.2	-0.8	P	
301	04/26/21	99.3	16.4	SF-12	102.5	15.2	96.9	1.2	P	
302	04/26/21	98.9	15.5	SF-12	102.5	15.2	96.5	0.3	P	
303	04/26/21	98.7	14.9	SF-12	102.5	15.2	96.3	-0.3	P	
304	04/26/21	99.2	14.6	SF-12	102.5	15.2	96.8	-0.6	P	
305	04/26/21	100.1	15.2	SF-12	102.5	15.2	97.7	0.0	P	
306	04/26/21	98.9	14.3	SF-12	102.5	15.2	96.5	-0.9	P	
307	04/26/21	99.6	14.8	SF-12	102.5	15.2	97.2	-0.4	P	
308	04/26/21	98.4	15.7	SF-12	102.5	15.2	96.0	0.5	P	
309	04/26/21	98.4	16.2	SF-12	102.5	15.2	96.0	1.0	P	
310	04/26/21	101.0	15.3	SF-12	102.5	15.2	98.5	0.1	P	
311	04/26/21	98.4	16.2	SF-12	102.5	15.2	96.0	1.0	P	
312	04/26/21	98.3	16.0	SF-12	102.5	15.2	95.9	0.8	P	
313	04/27/21	101.4	15.0	SF-12	102.5	15.2	98.9	-0.2	P	
314	04/27/21	99.9	15.1	SF-12	102.5	15.2	97.5	-0.1	P	
315	04/27/21	99.6	16.8	SF-12	102.5	15.2	97.2	1.6	P	
316	04/27/21	99.1	17.0	SF-12	102.5	15.2	96.7	1.8	P	
317	04/27/21	98.7	16.7	SF-12	102.5	15.2	96.3	1.5	P	
318	04/27/21	100.6	17.2	SF-12	102.5	15.2	98.1	2.0	P	
319	04/27/21	100.3	16.1	SF-12	102.5	15.2	97.9	0.9	P	
320	04/27/21	100.2	15.8	SF-12	102.5	15.2	97.8	0.6	P	
321	04/27/21	101.3	17.1	SF-12	102.5	15.2	98.8	1.9	P	
322	04/27/21	101.3	14.7	SF-12	102.5	15.2	98.8	-0.5	P	
323	04/27/21	100.9	14.7	SF-12	102.5	15.2	98.4	-0.5	P	
324	04/27/21	99.8	17.2	SF-12	102.5	15.2	97.4	2.0	P	
325	04/27/21	98.9	15.5	SF-12	102.5	15.2	96.5	0.3	P	
326	04/27/21	101.0	16.3	SF-12	102.5	15.2	98.5	1.1	P	
327	04/27/21	99.0	16.6	SF-12	102.5	15.2	96.6	1.4	P	
328	04/27/21	98.2	16.2	SF-12	102.5	15.2	95.8	1.0	P	
329	04/27/21	99.1	16.2	SF-12	102.5	15.2	96.7	1.0	P	
330	04/27/21	99.5	15.3	SF-12	102.5	15.2	97.1	0.1	P	
331	04/27/21	99.1	15.3	SF-12	102.5	15.2	96.7	0.1	P	
332	04/27/21	100.0	14.7	SF-12	102.5	15.2	97.6	-0.5	P	
333	04/27/21	101.6	15.1	SF-12	102.5	15.2	99.1	-0.1	P	
334	04/27/21	98.7	15.0	SF-12	102.5	15.2	96.3	-0.2	P	
335	04/27/21	99.2	15.4	SF-12	102.5	15.2	96.8	0.2	P	
336	04/27/21	98.7	15.6	SF-12	102.5	15.2	96.3	0.4	P	
337	04/27/21	99.3	16.2	SF-12	102.5	15.2	96.9	1.0	P	
338	04/27/21	99.3	15.0	SF-12	102.5	15.2	96.9	-0.2	P	
339	04/27/21	98.8	16.6	SF-12	102.5	15.2	96.4	1.4	P	
340	04/27/21	101.1	16.2	SF-12	102.5	15.2	98.6	1.0	P	
341	04/27/21	100.5	16.4	SF-12	102.5	15.2	98.0	1.2	P	
342	04/27/21	100.6	16.4	SF-12	102.5	15.2	98.1	1.2	P	
343	04/27/21	100.1	15.3	SF-12	102.5	15.2	97.7	0.1	P	
344	04/27/21	99.3	16.3	SF-12	102.5	15.2	96.9	1.1	P	
345	04/27/21	99.8	14.6	SF-12	102.5	15.2	97.4	-0.6	P	
346	04/27/21	99.4	16.5	SF-12	102.5	15.2	97.0	1.3	P	
347	04/27/21	98.8	15.4	SF-12	102.5	15.2	96.4	0.2	P	

348	04/27/21	98.9	15.1	SF-12	102.5	15.2	96.5	-0.1	P	
349	04/27/21	99.3	14.7	SF-12	102.5	15.2	96.9	-0.5	P	
350	04/27/21	100.0	15.1	SF-12	102.5	15.2	97.6	-0.1	P	
351	04/27/21	99.1	14.5	SF-12	102.5	15.2	96.7	-0.7	P	
352	04/27/21	99.7	14.9	SF-12	102.5	15.2	97.3	-0.3	P	
353	04/27/21	98.3	15.6	SF-12	102.5	15.2	95.9	0.4	P	
354	04/27/21	98.6	16.4	SF-12	102.5	15.2	96.2	1.2	P	
355	04/27/21	101.1	15.4	SF-12	102.5	15.2	98.6	0.2	P	
356	04/27/21	98.3	16.1	SF-12	102.5	15.2	95.9	0.9	P	
357	04/27/21	98.5	16.2	SF-12	102.5	15.2	96.1	1.0	P	
358	04/28/21	99.8	15.4	SF-12	102.5	15.2	97.4	0.2	P	
359	04/28/21	99.5	15.6	SF-12	102.5	15.2	97.1	0.4	P	
360	04/28/21	101.3	14.2	SF-12	102.5	15.2	98.8	-1.0	P	
361	04/28/21	102.0	13.8	SF-12	102.5	15.2	99.5	-1.4	P	
362	04/28/21	101.3	14.3	SF-12	102.5	15.2	98.8	-0.9	P	
363	04/28/21	100.9	14.8	SF-12	102.5	15.2	98.4	-0.4	P	
364	04/28/21	100.2	13.8	SF-12	102.5	15.2	97.8	-1.4	P	
365	04/28/21	100.0	15.0	SF-12	102.5	15.2	97.6	-0.2	P	
366	04/28/21	99.8	14.6	SF-12	102.5	15.2	97.4	-0.6	P	
367	04/28/21	98.2	13.2	SF-12	102.5	15.2	95.8	-2.0	P	
368	04/28/21	99.0	14.3	SF-12	102.5	15.2	96.6	-0.9	P	
369	04/28/21	99.1	15.3	SF-12	102.5	15.2	96.7	0.1	P	
370	04/28/21	99.5	14.2	SF-12	102.5	15.2	97.1	-1.0	P	
371	04/28/21	98.0	16.3	SF-12	102.5	15.2	95.6	1.1	P	
372	04/28/21	99.2	15.7	SF-12	102.5	15.2	96.8	0.5	P	
373	04/28/21	101.0	14.8	SF-12	102.5	15.2	98.5	-0.4	P	
374	04/28/21	100.6	16.3	SF-12	102.5	15.2	98.1	1.1	P	
375	04/28/21	100.4	15.3	SF-12	102.5	15.2	98.0	0.1	P	
376	04/28/21	101.0	12.5	SF-12	102.5	15.2	98.5	-2.7	P	
377	04/28/21	102.0	12.7	SF-12	102.5	15.2	99.5	-2.5	P	
378	04/28/21	101.7	13.1	SF-12	102.5	15.2	99.2	-2.1	P	
379	04/28/21	99.4	12.6	SF-12	102.5	15.2	97.0	-2.6	P	
380	04/28/21	100.8	16.1	SF-12	102.5	15.2	98.3	0.9	P	
381	04/28/21	100.2	14.9	SF-12	102.5	15.2	97.8	-0.3	P	
382	04/28/21	101.7	15.2	SF-12	102.5	15.2	99.2	0.0	P	
383	04/28/21	100.4	15.1	SF-12	102.5	15.2	98.0	-0.1	P	
384	04/28/21	100.9	16.0	SF-12	102.5	15.2	98.4	0.8	P	
385	04/28/21	100.6	15.9	SF-12	102.5	15.2	98.1	0.7	P	
386	04/28/21	100.1	13.2	SF-12	102.5	15.2	97.7	-2.0	P	
387	04/28/21	100.4	12.9	SF-12	102.5	15.2	98.0	-2.3	P	
388	04/28/21	101.6	14.2	SF-12	102.5	15.2	99.1	-1.0	P	
389	04/28/21	102.3	14.6	SF-12	102.5	15.2	99.8	-0.6	P	
390	04/28/21	100.0	15.3	SF-12	102.5	15.2	97.6	0.1	P	
391	04/28/21	98.5	16.0	SF-12	102.5	15.2	96.1	0.8	P	
392	04/28/21	98.7	16.3	SF-12	102.5	15.2	96.3	1.1	P	
393	04/28/21	98.6	17.0	SF-12	102.5	15.2	96.2	1.8	P	
394	04/28/21	99.6	16.3	SF-12	102.5	15.2	97.2	1.1	P	
395	04/28/21	99.2	14.8	SF-12	102.5	15.2	96.8	-0.4	P	
396	04/28/21	99.4	13.9	SF-12	102.5	15.2	97.0	-1.3	P	
397	04/28/21	99.2	13.6	SF-12	102.5	15.2	96.8	-1.6	P	
398	04/28/21	100.6	15.3	SF-12	102.5	15.2	98.1	0.1	P	
399	04/28/21	100.4	16.2	SF-12	102.5	15.2	98.0	1.0	P	

400	04/28/21	99.8	13.8	SF-12	102.5	15.2	97.4	-1.4	P	
401	04/28/21	98.9	14.0	SF-12	102.5	15.2	96.5	-1.2	P	
402	04/28/21	101.3	14.2	SF-12	102.5	15.2	98.8	-1.0	P	
403	04/28/21	101.4	16.4	SF-12	102.5	15.2	98.9	1.2	P	
404	04/28/21	101.2	16.0	SF-12	102.5	15.2	98.7	0.8	P	
405	04/28/21	99.5	15.3	SF-12	102.5	15.2	97.1	0.1	P	
406	04/28/21	99.8	16.2	SF-12	102.5	15.2	97.4	1.0	P	
407	04/28/21	99.0	15.3	SF-12	102.5	15.2	96.6	0.1	P	
408	04/28/21	100.1	16.3	SF-12	102.5	15.2	97.7	1.1	P	
409	04/28/21	100.3	16.1	SF-12	102.5	15.2	97.9	0.9	P	
410	04/28/21	99.5	15.4	SF-12	102.5	15.2	97.1	0.2	P	
411	04/28/21	100.0	16.0	SF-12	102.5	15.2	97.6	0.8	P	
412	04/28/21	99.8	13.2	SF-12	102.5	15.2	97.4	-2.0	P	
413	04/28/21	98.4	13.7	SF-12	102.5	15.2	96.0	-1.5	P	
414	04/28/21	101.2	13.1	SF-12	102.5	15.2	98.7	-2.1	P	
415	04/28/21	101.4	14.2	SF-12	102.5	15.2	98.9	-1.0	P	
416	04/28/21	101.2	15.3	SF-12	102.5	15.2	98.7	0.1	P	
417	04/28/21	100.0	15.0	SF-12	102.5	15.2	97.6	-0.2	P	
418	04/29/21	97.0	14.9	SF-13	100.1	14.6	96.9	0.3	P	
419	04/29/21	99.0	14.8	SF-13	100.1	14.6	98.9	0.2	P	
420	04/29/21	98.3	13.9	SF-13	100.1	14.6	98.2	-0.7	P	
421	04/29/21	97.3	14.7	SF-13	100.1	14.6	97.2	0.1	P	
422	04/29/21	97.9	15.2	SF-13	100.1	14.6	97.8	0.6	P	
423	04/29/21	98.0	14.2	SF-13	100.1	14.6	97.9	-0.4	P	
424	04/29/21	97.9	13.8	SF-13	100.1	14.6	97.8	-0.8	P	
425	04/29/21	99.0	13.2	SF-13	100.1	14.6	98.9	-1.4	P	
426	04/29/21	98.3	14.2	SF-13	100.1	14.6	98.2	-0.4	P	
427	04/29/21	96.1	16.0	SF-13	100.1	14.6	96.0	1.4	P	
428	04/29/21	97.2	15.3	SF-13	100.1	14.6	97.1	0.7	P	
429	04/29/21	96.9	15.3	SF-13	100.1	14.6	96.8	0.7	P	
430	04/29/21	97.4	14.9	SF-13	100.1	14.6	97.3	0.3	P	
431	04/29/21	97.0	15.0	SF-13	100.1	14.6	96.9	0.4	P	
432	04/29/21	96.0	14.2	SF-13	100.1	14.6	95.9	-0.4	P	
433	04/29/21	96.9	13.9	SF-13	100.1	14.6	96.8	-0.7	P	
434	04/29/21	98.0	13.1	SF-13	100.1	14.6	97.9	-1.5	P	
435	04/29/21	99.0	16.1	SF-13	100.1	14.6	98.9	1.5	P	
436	04/29/21	96.3	14.2	SF-13	100.1	14.6	96.2	-0.4	P	
437	04/29/21	97.5	16.1	SF-13	100.1	14.6	97.4	1.5	P	
438	04/29/21	99.8	14.8	SF-13	100.1	14.6	99.7	0.2	P	
439	04/29/21	95.6	13.2	SF-13	100.1	14.6	95.5	-1.4	P	
440	04/29/21	95.4	13.6	SF-13	100.1	14.6	95.3	-1.0	P	
441	04/29/21	98.2	15.3	SF-13	100.1	14.6	98.1	0.7	P	
442	04/29/21	97.5	15.1	SF-13	100.1	14.6	97.4	0.5	P	
443	04/29/21	96.5	15.5	SF-13	100.1	14.6	96.4	0.9	P	
444	04/29/21	96.5	16.1	SF-13	100.1	14.6	96.4	1.5	P	
445	04/29/21	96.8	14.7	SF-13	100.1	14.6	96.7	0.1	P	
446	04/29/21	97.5	14.8	SF-13	100.1	14.6	97.4	0.2	P	
447	04/29/21	97.2	12.9	SF-13	100.1	14.6	97.1	-1.7	P	
448	04/29/21	97.6	12.6	SF-13	100.1	14.6	97.5	-2.0	P	
449	04/29/21	97.5	13.1	SF-13	100.1	14.6	97.4	-1.5	P	
450	04/29/21	97.6	14.2	SF-13	100.1	14.6	97.5	-0.4	P	
451	04/29/21	97.0	14.6	SF-13	100.1	14.6	96.9	0.0	P	

452	04/29/21	98.0	15.0	SF-13	100.1	14.6	97.9	0.4	P	
453	04/29/21	99.0	13.8	SF-13	100.1	14.6	98.9	-0.8	P	
454	04/29/21	96.2	13.1	SF-13	100.1	14.6	96.1	-1.5	P	
455	04/29/21	96.3	12.9	SF-13	100.1	14.6	96.2	-1.7	P	
456	04/29/21	96.4	12.6	SF-13	100.1	14.6	96.3	-2.0	P	
457	04/29/21	98.0	13.8	SF-13	100.1	14.6	97.9	-0.8	P	
458	04/29/21	97.6	14.2	SF-13	100.1	14.6	97.5	-0.4	P	
459	04/29/21	97.6	14.8	SF-13	100.1	14.6	97.5	0.2	P	
460	04/29/21	97.1	14.0	SF-13	100.1	14.6	97.0	-0.6	P	
461	04/29/21	96.2	15.2	SF-13	100.1	14.6	96.1	0.6	P	
462	05/01/21	96.8	15.7	SF-13	100.1	14.6	96.7	1.1	P	
463	05/01/21	96.1	16.0	SF-13	100.1	14.6	96.0	1.4	P	
464	05/01/21	97.0	13.2	SF-13	100.1	14.6	96.9	-1.4	P	
465	05/01/21	96.9	13.9	SF-13	100.1	14.6	96.8	-0.7	P	
466	05/01/21	95.4	13.0	SF-13	100.1	14.6	95.3	-1.6	P	
467	05/01/21	95.9	15.0	SF-13	100.1	14.6	95.8	0.4	P	
468	05/01/21	96.1	12.9	SF-13	100.1	14.6	96.0	-1.7	P	
469	05/01/21	96.0	14.2	SF-13	100.1	14.6	95.9	-0.4	P	
470	05/01/21	97.2	14.6	SF-13	100.1	14.6	97.1	0.0	P	
471	05/01/21	97.6	13.2	SF-13	100.1	14.6	97.5	-1.4	P	
472	05/01/21	96.9	12.7	SF-13	100.1	14.6	96.8	-1.9	P	
473	05/01/21	98.1	16.8	SF-13	100.1	14.6	98.0	2.2	P	
474	05/01/21	96.7	16.2	SF-13	100.1	14.6	96.6	1.6	P	
475	05/01/21	96.2	15.9	SF-13	100.1	14.6	96.1	1.3	P	
476	05/01/21	97.2	15.4	SF-13	100.1	14.6	97.1	0.8	P	
477	05/01/21	98.0	13.5	SF-13	100.1	14.6	97.9	-1.1	P	
478	05/01/21	96.0	14.2	SF-13	100.1	14.6	95.9	-0.4	P	
479	05/01/21	95.1	14.7	SF-13	100.1	14.6	95.0	0.1	P	
480	05/01/21	96.5	15.2	SF-13	100.1	14.6	96.4	0.6	P	
481	05/01/21	96.9	15.3	SF-13	100.1	14.6	96.8	0.7	P	
482	05/01/21	97.0	15.9	SF-13	100.1	14.6	96.9	1.3	P	
483	05/01/21	98.6	17.5	SF-13	100.1	14.6	98.5	2.9	P	
484	05/01/21	94.6	17.1	SF-13	100.1	14.6	94.5	2.5	F	Low Compaction
484R	05/01/21	97.1	15.3	SF-13	100.1	14.6	97.0	0.7	P	Retest for 484
485	05/01/21	96.0	15.0	SF-13	100.1	14.6	95.9	0.4	P	
486	05/01/21	96.6	13.9	SF-13	100.1	14.6	96.5	-0.7	P	
487	05/01/21	96.9	14.0	SF-13	100.1	14.6	96.8	-0.6	P	
488	05/01/21	98.2	14.2	SF-13	100.1	14.6	98.1	-0.4	P	
489	05/01/21	97.7	15.1	SF-13	100.1	14.6	97.6	0.5	P	
490	05/01/21	97.0	15.2	SF-13	100.1	14.6	96.9	0.6	P	
491	05/01/21	96.2	16.1	SF-13	100.1	14.6	96.1	1.5	P	
492	05/01/21	97.1	16.4	SF-13	100.1	14.6	97.0	1.8	P	
493	05/01/21	98.2	14.9	SF-13	100.1	14.6	98.1	0.3	P	
494	05/01/21	98.6	15.1	SF-13	100.1	14.6	98.5	0.5	P	
495	05/01/21	98.8	14.3	SF-13	100.1	14.6	98.7	-0.3	P	
496	05/01/21	99.0	16.3	SF-13	100.1	14.6	98.9	1.7	P	
497	05/01/21	97.2	16.0	SF-13	100.1	14.6	97.1	1.4	P	
498	05/01/21	98.1	15.3	SF-13	100.1	14.6	98.0	0.7	P	
499	05/01/21	98.5	15.8	SF-13	100.1	14.6	98.4	1.2	P	
500	05/01/21	98.9	14.8	SF-13	100.1	14.6	98.8	0.2	P	
501	05/01/21	97.2	14.7	SF-13	100.1	14.6	97.1	0.1	P	
502	05/03/21	98.7	13.9	SF-13	100.1	14.6	98.6	-0.7	P	

503	05/03/21	96.4	12.8	SF-13	100.1	14.6	96.3	-1.8	P	
504	05/03/21	96.3	12.6	SF-13	100.1	14.6	96.2	-2.0	P	
505	05/03/21	95.4	13.0	SF-13	100.1	14.6	95.3	-1.6	P	
506	05/03/21	96.5	13.5	SF-13	100.1	14.6	96.4	-1.1	P	
507	05/03/21	95.6	13.7	SF-13	100.1	14.6	95.5	-0.9	P	
508	05/03/21	96.2	14.1	SF-13	100.1	14.6	96.1	-0.5	P	
509	05/03/21	97.3	15.2	SF-13	100.1	14.6	97.2	0.6	P	
510	05/03/21	95.6	14.9	SF-13	100.1	14.6	95.5	0.3	P	
511	05/03/21	96.7	13.7	SF-13	100.1	14.6	96.6	-0.9	P	
512	05/03/21	97.2	13.2	SF-13	100.1	14.6	97.1	-1.4	P	
513	05/03/21	97.7	13.5	SF-13	100.1	14.6	97.6	-1.1	P	
514	05/03/21	98.6	13.9	SF-13	100.1	14.6	98.5	-0.7	P	
515	05/03/21	99.3	15.0	SF-13	100.1	14.6	99.2	0.4	P	
516	05/03/21	98.5	14.2	SF-13	100.1	14.6	98.4	-0.4	P	
517	05/03/21	97.4	16.3	SF-13	100.1	14.6	97.3	1.7	P	
518	05/03/21	96.3	16.6	SF-13	100.1	14.6	96.2	2.0	P	
519	05/03/21	95.3	15.9	SF-13	100.1	14.6	95.2	1.3	P	
520	05/03/21	97.5	15.4	SF-13	100.1	14.6	97.4	0.8	P	
521	05/03/21	97.2	14.3	SF-13	100.1	14.6	97.1	-0.3	P	
522	05/03/21	96.9	14.8	SF-13	100.1	14.6	96.8	0.2	P	
523	05/03/21	96.1	14.1	SF-13	100.1	14.6	96.0	-0.5	P	
524	05/03/21	95.6	13.5	SF-13	100.1	14.6	95.5	-1.1	P	
525	05/03/21	96.7	13.1	SF-13	100.1	14.6	96.6	-1.5	P	
526	05/03/21	97.2	13.9	SF-13	100.1	14.6	97.1	-0.7	P	
527	05/03/21	96.5	13.0	SF-13	100.1	14.6	96.4	-1.6	P	
528	05/03/21	97.6	12.6	SF-13	100.1	14.6	97.5	-2.0	P	
529	05/03/21	98.7	12.8	SF-13	100.1	14.6	98.6	-1.8	P	
530	05/03/21	99.4	13.7	SF-13	100.1	14.6	99.3	-0.9	P	
531	05/03/21	97.1	14.2	SF-13	100.1	14.6	97.0	-0.4	P	
532	05/03/21	97.3	15.1	SF-13	100.1	14.6	97.2	0.5	P	
533	05/04/21	98.3	16.2	SF-13	100.1	14.6	98.2	1.6	P	
534	05/04/21	98.9	15.8	SF-13	100.1	14.6	98.8	1.2	P	
535	05/04/21	98.2	16.3	SF-13	100.1	14.6	98.1	1.7	P	
536	05/04/21	97.6	16.0	SF-13	100.1	14.6	97.5	1.4	P	
537	05/04/21	97.5	16.3	SF-13	100.1	14.6	97.4	1.7	P	
538	05/04/21	97.6	15.9	SF-13	100.1	14.6	97.5	1.3	P	
539	05/04/21	97.6	14.7	SF-13	100.1	14.6	97.5	0.1	P	
540	05/04/21	98.2	13.9	SF-13	100.1	14.6	98.1	-0.7	P	
541	05/04/21	99.0	14.2	SF-13	100.1	14.6	98.9	-0.4	P	
542	05/04/21	98.8	14.8	SF-13	100.1	14.6	98.7	0.2	P	
543	05/04/21	98.1	12.9	SF-13	100.1	14.6	98.0	-1.7	P	
544	05/04/21	97.2	12.6	SF-13	100.1	14.6	97.1	-2.0	P	
545	05/04/21	97.0	13.2	SF-13	100.1	14.6	96.9	-1.4	P	
546	05/04/21	98.4	13.9	SF-13	100.1	14.6	98.3	-0.7	P	
547	05/04/21	98.2	14.2	SF-13	100.1	14.6	98.1	-0.4	P	
548	05/04/21	99.0	14.7	SF-13	100.1	14.6	98.9	0.1	P	
549	05/04/21	99.1	14.0	SF-13	100.1	14.6	99.0	-0.6	P	
550	05/04/21	98.9	13.7	SF-13	100.1	14.6	98.8	-0.9	P	
551	05/04/21	98.6	13.5	SF-13	100.1	14.6	98.5	-1.1	P	
552	05/04/21	97.7	14.4	SF-13	100.1	14.6	97.6	-0.2	P	
553	05/04/21	98.8	13.6	SF-13	100.1	14.6	98.7	-1.0	P	
554	05/04/21	97.6	13.0	SF-13	100.1	14.6	97.5	-1.6	P	

555	05/04/21	98.0	13.3	SF-13	100.1	14.6	97.9	-1.3	P	
556	05/04/21	97.3	16.2	SF-13	100.1	14.6	97.2	1.6	P	
557	05/04/21	97.1	15.3	SF-13	100.1	14.6	97.0	0.7	P	
558	05/04/21	98.2	14.7	SF-13	100.1	14.6	98.1	0.1	P	
559	05/04/21	97.6	14.9	SF-13	100.1	14.6	97.5	0.3	P	
560	05/04/21	97.8	13.9	SF-13	100.1	14.6	97.7	-0.7	P	
561	05/04/21	98.1	13.3	SF-13	100.1	14.6	98.0	-1.3	P	
562	05/04/21	97.3	14.2	SF-13	100.1	14.6	97.2	-0.4	P	
563	05/04/21	98.2	15.1	SF-13	100.1	14.6	98.1	0.5	P	
564	05/04/21	97.8	16.2	SF-13	100.1	14.6	97.7	1.6	P	
565	05/04/21	96.9	16.0	SF-13	100.1	14.6	96.8	1.4	P	
566	05/04/21	96.0	15.5	SF-13	100.1	14.6	95.9	0.9	P	
567	05/05/21	96.5	13.8	SF-13	100.1	14.6	96.4	-0.8	P	
568	05/05/21	97.1	14.1	SF-13	100.1	14.6	97.0	-0.5	P	
569	05/05/21	95.9	14.9	SF-13	100.1	14.6	95.8	0.3	P	
570	05/05/21	95.5	15.5	SF-13	100.1	14.6	95.4	0.9	P	
571	05/05/21	95.0	16.3	SF-13	100.1	14.6	94.9	1.7	P	
572	05/05/21	95.6	14.9	SF-13	100.1	14.6	95.5	0.3	P	
573	05/05/21	95.8	15.3	SF-13	100.1	14.6	95.7	0.7	P	
574	05/05/21	95.5	12.9	SF-13	100.1	14.6	95.4	-1.7	P	
575	05/05/21	96.3	12.7	SF-13	100.1	14.6	96.2	-1.9	P	
576	05/05/21	96.2	12.5	SF-13	100.1	14.6	96.1	-2.1	P	
577	05/05/21	94.5	13.1	SF-13	100.1	14.6	94.4	-1.5	F	Low Compaction
577R	05/06/21	96.0	15.0	SF-13	100.1	14.6	95.9	0.4	P	Retest for 577
578	05/05/21	97.4	13.8	SF-13	100.1	14.6	97.3	-0.8	P	
579	05/05/21	97.8	14.2	SF-13	100.1	14.6	97.7	-0.4	P	
580	05/05/21	95.9	13.9	SF-13	100.1	14.6	95.8	-0.7	P	
581	05/05/21	97.2	13.3	SF-13	100.1	14.6	97.1	-1.3	P	
582	05/05/21	97.0	13.7	SF-13	100.1	14.6	96.9	-0.9	P	
583	05/05/21	97.6	12.9	SF-13	100.1	14.6	97.5	-1.7	P	
584	05/05/21	97.9	12.6	SF-13	100.1	14.6	97.8	-2.0	P	
585	05/05/21	97.1	12.3	SF-13	100.1	14.6	97.0	-2.3	P	
586	05/05/21	96.3	12.1	SF-13	100.1	14.6	96.2	-2.5	P	
587	05/05/21	96.7	12.0	SF-13	100.1	14.6	96.6	-2.6	P	
588	05/05/21	97.6	13.2	SF-13	100.1	14.6	97.5	-1.4	P	
589	05/05/21	96.5	14.2	SF-13	100.1	14.6	96.4	-0.4	P	
590	05/05/21	95.9	14.7	SF-13	100.1	14.6	95.8	0.1	P	
591	05/05/21	97.1	13.7	SF-13	100.1	14.6	97.0	-0.9	P	
592	05/05/21	97.0	12.9	SF-13	100.1	14.6	96.9	-1.7	P	
593	05/05/21	97.6	12.4	SF-13	100.1	14.6	97.5	-2.2	P	
594	05/05/21	96.3	13.2	SF-13	100.1	14.6	96.2	-1.4	P	
595	05/05/21	95.8	14.7	SF-13	100.1	14.6	95.7	0.1	P	
596	05/05/21	98.0	14.1	SF-13	100.1	14.6	97.9	-0.5	P	
597	05/05/21	98.1	13.3	SF-13	100.1	14.6	98.0	-1.3	P	
598	05/05/21	98.1	16.0	SF-13	100.1	14.6	98.0	1.4	P	
599	05/05/21	97.8	16.2	SF-13	100.1	14.6	97.7	1.6	P	
600	05/05/21	97.3	15.7	SF-13	100.1	14.6	97.2	1.1	P	
601	05/05/21	98.3	15.5	SF-13	100.1	14.6	98.2	0.9	P	
602	05/05/21	95.6	15.0	SF-13	100.1	14.6	95.5	0.4	P	
603	05/05/21	95.8	16.2	SF-13	100.1	14.6	95.7	1.6	P	
604	05/06/21	96.5	16.2	SF-13	100.1	14.6	96.4	1.6	P	
605	05/06/21	97.5	16.7	SF-13	100.1	14.6	97.4	2.1	P	

606	05/06/21	97.2	14.9	SF-13	100.1	14.6	97.1	0.3	P	
607	05/06/21	97.5	14.0	SF-13	100.1	14.6	97.4	-0.6	P	
608	05/06/21	96.3	13.7	SF-13	100.1	14.6	96.2	-0.9	P	
609	05/06/21	95.6	13.9	SF-13	100.1	14.6	95.5	-0.7	P	
610	05/06/21	95.2	14.3	SF-13	100.1	14.6	95.1	-0.3	P	
611	05/06/21	95.8	14.8	SF-13	100.1	14.6	95.7	0.2	P	
612	05/06/21	96.0	14.1	SF-13	100.1	14.6	95.9	-0.5	P	
613	05/06/21	96.1	12.9	SF-13	100.1	14.6	96.0	-1.7	P	
614	05/06/21	96.5	12.6	SF-13	100.1	14.6	96.4	-2.0	P	
615	05/06/21	96.2	12.1	SF-13	100.1	14.6	96.1	-2.5	P	
616	05/06/21	95.3	13.3	SF-13	100.1	14.6	95.2	-1.3	P	
617	05/06/21	95.8	13.8	SF-13	100.1	14.6	95.7	-0.8	P	
618	05/06/21	98.0	13.1	SF-13	100.1	14.6	97.9	-1.5	P	
619	05/06/21	98.2	14.2	SF-13	100.1	14.6	98.1	-0.4	P	
620	05/06/21	98.1	15.3	SF-13	100.1	14.6	98.0	0.7	P	
621	05/06/21	97.5	15.0	SF-13	100.1	14.6	97.4	0.4	P	
622	05/06/21	96.5	16.3	SF-13	100.1	14.6	96.4	1.7	P	
623	05/06/21	95.3	15.9	SF-13	100.1	14.6	95.2	1.3	P	
624	05/06/21	96.5	14.7	SF-13	100.1	14.6	96.4	0.1	P	
625	05/06/21	95.4	13.9	SF-13	100.1	14.6	95.3	-0.7	P	
626	05/06/21	95.8	14.2	SF-13	100.1	14.6	95.7	-0.4	P	
627	05/06/21	95.9	15.2	SF-13	100.1	14.6	95.8	0.6	P	
628	05/06/21	96.3	16.3	SF-13	100.1	14.6	96.2	1.7	P	
629	05/06/21	96.4	16.1	SF-13	100.1	14.6	96.3	1.5	P	
630	05/06/21	96.8	15.9	SF-13	100.1	14.6	96.7	1.3	P	
631	05/06/21	95.5	14.7	SF-13	100.1	14.6	95.4	0.1	P	
632	05/06/21	95.6	15.1	SF-13	100.1	14.6	95.5	0.5	P	
633	05/06/21	95.3	15.9	SF-13	100.1	14.6	95.2	1.3	P	
634	05/06/21	95.4	16.3	SF-13	100.1	14.6	95.3	1.7	P	
635	05/06/21	96.3	16.0	SF-13	100.1	14.6	96.2	1.4	P	
636	05/06/21	96.2	14.8	SF-13	100.1	14.6	96.1	0.2	P	
637	05/06/21	96.5	14.3	SF-13	100.1	14.6	96.4	-0.3	P	
638	05/06/21	97.0	14.7	SF-13	100.1	14.6	96.9	0.1	P	
639	05/06/21	96.5	15.0	SF-13	100.1	14.6	96.4	0.4	P	
640	05/06/21	96.4	15.8	SF-13	100.1	14.6	96.3	1.2	P	
641	05/06/21	95.2	15.2	SF-13	100.1	14.6	95.1	0.6	P	
642	05/06/21	95.6	16.1	SF-13	100.1	14.6	95.5	1.5	P	
643	05/06/21	96.0	16.3	SF-13	100.1	14.6	95.9	1.7	P	
644	05/06/21	96.3	15.8	SF-13	100.1	14.6	96.2	1.2	P	
645	05/06/21	95.9	14.7	SF-13	100.1	14.6	95.8	0.1	P	
646	05/06/21	97.0	14.9	SF-13	100.1	14.6	96.9	0.3	P	
647	05/06/21	95.4	13.2	SF-13	100.1	14.6	95.3	-1.4	P	
648	05/06/21	97.3	13.1	SF-13	100.1	14.6	97.2	-1.5	P	
649	05/06/21	95.6	13.9	SF-13	100.1	14.6	95.5	-0.7	P	
650	05/07/21	95.6	12.9	SF-13	100.1	14.6	95.5	-1.7	P	
651	05/07/21	96.3	12.6	SF-13	100.1	14.6	96.2	-2.0	P	
652	05/07/21	96.2	14.1	SF-13	100.1	14.6	96.1	-0.5	P	
653	05/07/21	95.4	13.6	SF-13	100.1	14.6	95.3	-1.0	P	
654	05/07/21	96.3	12.7	SF-13	100.1	14.6	96.2	-1.9	P	
655	05/07/21	96.7	13.6	SF-13	100.1	14.6	96.6	-1.0	P	
656	05/07/21	96.0	13.3	SF-13	100.1	14.6	95.9	-1.3	P	
657	05/07/21	96.8	15.3	SF-13	100.1	14.6	96.7	0.7	P	

658	05/07/21	97.0	15.8	SF-13	100.1	14.6	96.9	1.2	P	
659	05/07/21	96.9	15.5	SF-13	100.1	14.6	96.8	0.9	P	
660	05/07/21	96.5	13.9	SF-13	100.1	14.6	96.4	-0.7	P	
661	05/07/21	96.8	16.3	SF-13	100.1	14.6	96.7	1.7	P	
662	05/07/21	96.4	16.0	SF-13	100.1	14.6	96.3	1.4	P	
663	05/07/21	96.3	14.8	SF-13	100.1	14.6	96.2	0.2	P	
664	05/07/21	96.9	13.3	SF-13	100.1	14.6	96.8	-1.3	P	
665	05/07/21	97.0	13.9	SF-13	100.1	14.6	96.9	-0.7	P	
666	05/07/21	97.5	14.2	SF-13	100.1	14.6	97.4	-0.4	P	
667	05/07/21	97.2	15.1	SF-13	100.1	14.6	97.1	0.5	P	
668	05/07/21	96.5	15.9	SF-13	100.1	14.6	96.4	1.3	P	
669	05/07/21	95.9	15.1	SF-13	100.1	14.6	95.8	0.5	P	
670	05/07/21	95.6	14.9	SF-13	100.1	14.6	95.5	0.3	P	
671	05/07/21	96.4	12.8	SF-13	100.1	14.6	96.3	-1.8	P	
672	05/07/21	97.1	12.6	SF-13	100.1	14.6	97.0	-2.0	P	
673	05/07/21	97.6	14.3	SF-13	100.1	14.6	97.5	-0.3	P	
674	05/07/21	96.5	14.9	SF-13	100.1	14.6	96.4	0.3	P	
675	05/07/21	96.0	14.1	SF-13	100.1	14.6	95.9	-0.5	P	
676	05/07/21	95.8	15.2	SF-13	100.1	14.6	95.7	0.6	P	
677	05/07/21	98.6	15.9	SF-13	100.1	14.6	98.5	1.3	P	
678	05/07/21	94.6	18.0	SF-13	100.1	14.6	94.5	3.4	F	High Moisture
678R	05/07/21	95.6	16.0	SF-13	100.1	14.6	95.5	1.4	P	Retest for 678
679	05/10/21	95.9	16.1	SF-13	100.1	14.6	95.8	1.5	P	
680	05/10/21	95.6	12.8	SF-13	100.1	14.6	95.5	-1.8	P	
681	05/10/21	95.7	12.6	SF-13	100.1	14.6	95.6	-2.0	P	
682	05/10/21	95.2	12.9	SF-13	100.1	14.6	95.1	-1.7	P	
683	05/10/21	95.2	13.3	SF-13	100.1	14.6	95.1	-1.3	P	
684	05/10/21	96.4	13.8	SF-13	100.1	14.6	96.3	-0.8	P	
685	05/10/21	96.9	13.9	SF-13	100.1	14.6	96.8	-0.7	P	
686	05/10/21	96.0	14.5	SF-13	100.1	14.6	95.9	-0.1	P	
687	05/10/21	95.9	14.9	SF-13	100.1	14.6	95.8	0.3	P	
688	05/10/21	96.2	14.0	SF-13	100.1	14.6	96.1	-0.6	P	
689	05/10/21	96.3	13.3	SF-13	100.1	14.6	96.2	-1.3	P	
690	05/10/21	95.6	14.7	SF-13	100.1	14.6	95.5	0.1	P	
691	05/10/21	95.1	14.1	SF-13	100.1	14.6	95.0	-0.5	P	
692	05/10/21	95.5	14.9	SF-13	100.1	14.6	95.4	0.3	P	
693	05/10/21	96.2	15.8	SF-13	100.1	14.6	96.1	1.2	P	
694	05/10/21	96.3	16.3	SF-13	100.1	14.6	96.2	1.7	P	
695	05/10/21	96.8	15.3	SF-13	100.1	14.6	96.7	0.7	P	
696	05/10/21	96.2	14.6	SF-13	100.1	14.6	96.1	0.0	P	
697	05/10/21	95.2	13.9	SF-13	100.1	14.6	95.1	-0.7	P	
698	05/10/21	95.5	13.2	SF-13	100.1	14.6	95.4	-1.4	P	
699	05/10/21	95.4	14.6	SF-13	100.1	14.6	95.3	0.0	P	
700	05/10/21	96.6	14.7	SF-13	100.1	14.6	96.5	0.1	P	
701	05/10/21	96.9	13.8	SF-13	100.1	14.6	96.8	-0.8	P	
702	05/10/21	96.5	12.8	SF-13	100.1	14.6	96.4	-1.8	P	
703	05/10/21	96.5	12.5	SF-13	100.1	14.6	96.4	-2.1	P	
704	05/10/21	97.2	13.8	SF-13	100.1	14.6	97.1	-0.8	P	
705	05/10/21	97.6	13.1	SF-13	100.1	14.6	97.5	-1.5	P	
706	05/10/21	96.7	14.2	SF-13	100.1	14.6	96.6	-0.4	P	
707	05/10/21	96.5	14.9	SF-13	100.1	14.6	96.4	0.3	P	
708	05/10/21	96.9	13.7	SF-13	100.1	14.6	96.8	-0.9	P	

709	05/10/21	96.3	12.8	SF-13	100.1	14.6	96.2	-1.8	P	
710	05/10/21	96.5	12.5	SF-13	100.1	14.6	96.4	-2.1	P	
711	05/11/21	96.6	13.5	SF-14	100.9	15.0	95.7	-1.5	P	
712	05/11/21	96.8	16.2	SF-14	100.9	15.0	95.9	1.2	P	
713	05/11/21	96.3	15.3	SF-14	100.9	15.0	95.4	0.3	P	
714	05/11/21	98.8	14.9	SF-14	100.9	15.0	97.9	-0.1	P	
715	05/11/21	99.5	13.8	SF-14	100.9	15.0	98.6	-1.2	P	
716	05/11/21	97.0	13.1	SF-14	100.9	15.0	96.1	-1.9	P	
717	05/11/21	98.5	12.9	SF-14	100.9	15.0	97.6	-2.1	P	
718	05/11/21	99.0	13.8	SF-14	100.9	15.0	98.1	-1.2	P	
719	05/11/21	97.8	13.1	SF-14	100.9	15.0	96.9	-1.9	P	
720	05/11/21	98.6	14.2	SF-14	100.9	15.0	97.7	-0.8	P	
721	05/11/21	99.0	14.4	SF-14	100.9	15.0	98.1	-0.6	P	
722	05/11/21	99.1	13.8	SF-14	100.9	15.0	98.2	-1.2	P	
723	05/11/21	99.8	12.9	SF-14	100.9	15.0	98.9	-2.1	P	
724	05/11/21	98.5	12.7	SF-14	100.9	15.0	97.6	-2.3	P	
725	05/11/21	96.5	13.3	SF-14	100.9	15.0	95.6	-1.7	P	
726	05/11/21	96.4	14.3	SF-14	100.9	15.0	95.5	-0.7	P	
727	05/11/21	98.5	14.1	SF-14	100.9	15.0	97.6	-0.9	P	
728	05/11/21	96.5	15.6	SF-14	100.9	15.0	95.6	0.6	P	
729	05/11/21	97.0	14.9	SF-14	100.9	15.0	96.1	-0.1	P	
730	05/11/21	97.2	15.8	SF-14	100.9	15.0	96.3	0.8	P	
731	05/11/21	98.5	16.1	SF-14	100.9	15.0	97.6	1.1	P	
732	05/11/21	98.1	15.9	SF-14	100.9	15.0	97.2	0.9	P	
733	05/11/21	96.5	14.3	SF-14	100.9	15.0	95.6	-0.7	P	
734	05/11/21	97.5	12.9	SF-14	100.9	15.0	96.6	-2.1	P	
735	05/11/21	97.6	12.6	SF-14	100.9	15.0	96.7	-2.4	P	
736	05/11/21	98.0	13.3	SF-14	100.9	15.0	97.1	-1.7	P	
737	05/11/21	98.0	14.3	SF-14	100.9	15.0	97.1	-0.7	P	
738	05/11/21	98.1	15.1	SF-14	100.9	15.0	97.2	0.1	P	
739	05/11/21	97.0	13.9	SF-14	100.9	15.0	96.1	-1.1	P	
740	05/11/21	96.8	14.2	SF-14	100.9	15.0	95.9	-0.8	P	
741	05/11/21	96.8	15.1	SF-14	100.9	15.0	95.9	0.1	P	
742	05/11/21	97.0	16.3	SF-14	100.9	15.0	96.1	1.3	P	
743	05/11/21	97.1	16.1	SF-14	100.9	15.0	96.2	1.1	P	
744	05/11/21	97.6	14.7	SF-14	100.9	15.0	96.7	-0.3	P	
745	05/12/21	98.0	13.9	SF-14	100.9	15.0	97.1	-1.1	P	
746	05/12/21	98.0	14.2	SF-14	100.9	15.0	97.1	-0.8	P	
747	05/12/21	97.8	13.9	SF-14	100.9	15.0	96.9	-1.1	P	
748	05/12/21	98.6	12.9	SF-14	100.9	15.0	97.7	-2.1	P	
749	05/12/21	96.9	12.7	SF-14	100.9	15.0	96.0	-2.3	P	
750	05/12/21	96.8	13.3	SF-14	100.9	15.0	95.9	-1.7	P	
751	05/12/21	97.6	13.9	SF-14	100.9	15.0	96.7	-1.1	P	
752	05/12/21	98.0	14.3	SF-14	100.9	15.0	97.1	-0.7	P	
753	05/12/21	96.8	14.8	SF-14	100.9	15.0	95.9	-0.2	P	
754	05/12/21	95.9	14.1	SF-14	100.9	15.0	95.0	-0.9	P	
755	05/12/21	96.0	13.9	SF-14	100.9	15.0	95.1	-1.1	P	
756	05/12/21	97.4	13.3	SF-14	100.9	15.0	96.5	-1.7	P	
757	05/12/21	99.4	12.8	SF-14	100.9	15.0	98.5	-2.2	P	
758	05/12/21	97.0	12.5	SF-14	100.9	15.0	96.1	-2.5	P	
759	05/12/21	96.1	13.3	SF-14	100.9	15.0	95.2	-1.7	P	
760	05/12/21	96.4	14.1	SF-14	100.9	15.0	95.5	-0.9	P	

761	05/12/21	97.7	14.9	SF-14	100.9	15.0	96.8	-0.1	P	
762	05/12/21	99.7	13.8	SF-14	100.9	15.0	98.8	-1.2	P	
763	05/12/21	96.6	13.3	SF-14	100.9	15.0	95.7	-1.7	P	
764	05/12/21	96.0	14.8	SF-14	100.9	15.0	95.1	-0.2	P	
765	05/12/21	98.1	13.0	SF-14	100.9	15.0	97.2	-2.0	P	
766	05/12/21	97.5	14.2	SF-14	100.9	15.0	96.6	-0.8	P	
767	05/12/21	96.5	14.6	SF-14	100.9	15.0	95.6	-0.4	P	
768	05/12/21	96.4	13.7	SF-14	100.9	15.0	95.5	-1.3	P	
769	05/12/21	97.8	13.2	SF-14	100.9	15.0	96.9	-1.8	P	
770	05/12/21	97.7	14.1	SF-14	100.9	15.0	96.8	-0.9	P	
771	05/12/21	98.4	15.3	SF-14	100.9	15.0	97.5	0.3	P	
772	05/12/21	99.2	16.3	SF-14	100.9	15.0	98.3	1.3	P	
773	05/12/21	99.8	16.1	SF-14	100.9	15.0	98.9	1.1	P	
774	05/12/21	98.8	16.0	SF-14	100.9	15.0	97.9	1.0	P	
775	05/12/21	98.4	15.4	SF-14	100.9	15.0	97.5	0.4	P	
776	05/12/21	99.3	15.8	SF-14	100.9	15.0	98.4	0.8	P	
777	05/12/21	98.5	12.8	SF-14	100.9	15.0	97.6	-2.2	P	
778	05/12/21	98.1	12.6	SF-14	100.9	15.0	97.2	-2.4	P	
779	05/12/21	96.9	13.1	SF-14	100.9	15.0	96.0	-1.9	P	
780	05/12/21	98.0	13.3	SF-14	100.9	15.0	97.1	-1.7	P	
781	05/12/21	97.6	14.2	SF-14	100.9	15.0	96.7	-0.8	P	
782	05/13/21	98.0	14.3	SF-14	100.9	15.0	97.1	-0.7	P	
783	05/13/21	97.5	15.2	SF-14	100.9	15.0	96.6	0.2	P	
784	05/13/21	98.2	16.2	SF-14	100.9	15.0	97.3	1.2	P	
785	05/13/21	96.9	14.9	SF-14	100.9	15.0	96.0	-0.1	P	
786	05/13/21	96.8	13.8	SF-14	100.9	15.0	95.9	-1.2	P	
787	05/13/21	96.7	13.7	SF-14	100.9	15.0	95.8	-1.3	P	
788	05/13/21	96.2	14.1	SF-14	100.9	15.0	95.3	-0.9	P	
789	05/13/21	96.9	13.4	SF-14	100.9	15.0	96.0	-1.6	P	
790	05/13/21	97.1	13.1	SF-14	100.9	15.0	96.2	-1.9	P	
791	05/13/21	96.9	13.9	SF-14	100.9	15.0	96.0	-1.1	P	
792	05/13/21	97.8	13.6	SF-14	100.9	15.0	96.9	-1.4	P	
793	05/13/21	98.1	13.4	SF-14	100.9	15.0	97.2	-1.6	P	
794	05/13/21	98.2	13.5	SF-14	100.9	15.0	97.3	-1.5	P	
795	05/13/21	97.6	13.9	SF-14	100.9	15.0	96.7	-1.1	P	
796	05/13/21	96.5	14.3	SF-14	100.9	15.0	95.6	-0.7	P	
797	05/13/21	96.8	14.6	SF-14	100.9	15.0	95.9	-0.4	P	
798	05/13/21	98.1	14.1	SF-14	100.9	15.0	97.2	-0.9	P	
799	05/13/21	98.3	15.2	SF-14	100.9	15.0	97.4	0.2	P	
800	05/13/21	97.8	13.9	SF-14	100.9	15.0	96.9	-1.1	P	
801	05/13/21	97.6	13.1	SF-14	100.9	15.0	96.7	-1.9	P	
802	05/13/21	98.3	14.3	SF-14	100.9	15.0	97.4	-0.7	P	
803	05/13/21	98.6	15.5	SF-14	100.9	15.0	97.7	0.5	P	
804	05/13/21	98.2	15.9	SF-14	100.9	15.0	97.3	0.9	P	
805	05/13/21	97.8	14.2	SF-14	100.9	15.0	96.9	-0.8	P	
806	05/14/21	99.3	16.3	SF-14	100.9	15.0	98.4	1.3	P	
807	05/14/21	97.0	14.6	SF-14	100.9	15.0	96.1	-0.4	P	
808	05/14/21	98.0	14.9	SF-14	100.9	15.0	97.1	-0.1	P	
809	05/14/21	97.0	15.9	SF-14	100.9	15.0	96.1	0.9	P	
810	05/14/21	95.9	15.8	SF-14	100.9	15.0	95.0	0.8	P	
811	05/14/21	96.5	16.1	SF-14	100.9	15.0	95.6	1.1	P	
812	05/14/21	96.5	15.6	SF-14	100.9	15.0	95.6	0.6	P	

813	05/14/21	97.9	16.1	SF-14	100.9	15.0	97.0	1.1	P	
814	05/14/21	96.8	16.5	SF-14	100.9	15.0	95.9	1.5	P	
815	05/14/21	96.7	16.8	SF-14	100.9	15.0	95.8	1.8	P	
816	05/14/21	96.6	15.9	SF-14	100.9	15.0	95.7	0.9	P	
817	05/14/21	97.3	15.8	SF-14	100.9	15.0	96.4	0.8	P	
818	05/14/21	98.1	15.6	SF-14	100.9	15.0	97.2	0.6	P	
819	05/14/21	98.5	14.6	SF-14	100.9	15.0	97.6	-0.4	P	
820	05/14/21	98.2	14.6	SF-14	100.9	15.0	97.3	-0.4	P	
821	05/14/21	97.9	13.8	SF-14	100.9	15.0	97.0	-1.2	P	
822	05/14/21	96.9	13.9	SF-14	100.9	15.0	96.0	-1.1	P	
823	05/14/21	97.2	14.2	SF-14	100.9	15.0	96.3	-0.8	P	
824	05/14/21	97.8	14.8	SF-14	100.9	15.0	96.9	-0.2	P	
825	05/14/21	96.8	14.0	SF-14	100.9	15.0	95.9	-1.0	P	
826	05/14/21	96.9	14.6	SF-14	100.9	15.0	96.0	-0.4	P	
827	05/14/21	98.1	14.8	SF-14	100.9	15.0	97.2	-0.2	P	
828	05/14/21	98.0	15.2	SF-14	100.9	15.0	97.1	0.2	P	
829	05/14/21	98.3	15.6	SF-14	100.9	15.0	97.4	0.6	P	
830	05/14/21	96.8	14.0	SF-14	100.9	15.0	95.9	-1.0	P	
831	05/14/21	96.4	13.0	SF-14	100.9	15.0	95.5	-2.0	P	
832	05/15/21	97.5	11.6	SF-14	100.9	15.0	96.6	-3.4	P	
833	05/15/21	97.8	11.3	SF-14	100.9	15.0	96.9	-3.7	P	
834	05/15/21	98.2	16.4	SF-14	100.9	15.0	97.3	1.4	P	
835	05/15/21	98.6	17.2	SF-14	100.9	15.0	97.7	2.2	P	
836	05/15/21	97.5	16.7	SF-14	100.9	15.0	96.6	1.7	P	
837	05/15/21	96.9	17.8	SF-14	100.9	15.0	96.0	2.8	P	
838	05/15/21	96.2	16.8	SF-14	100.9	15.0	95.3	1.8	P	
839	05/15/21	95.0	18.2	SF-14	100.9	15.0	94.2	3.2	F	High Moisture
839R	05/15/21	96.1	17.5	SF-14	100.9	15.0	95.2	2.5	P	Retest for 839
840	05/15/21	94.9	18.3	SF-14	100.9	15.0	94.1	3.3	F	High Moisture
840R	05/15/21	96.0	17.2	SF-14	100.9	15.0	95.1	2.2	P	Retest for 840
841	05/15/21	96.7	16.0	SF-14	100.9	15.0	95.8	1.0	P	
842	05/15/21	96.9	15.8	SF-14	100.9	15.0	96.0	0.8	P	
843	05/15/21	97.5	15.6	SF-14	100.9	15.0	96.6	0.6	P	
844	05/15/21	97.9	16.7	SF-14	100.9	15.0	97.0	1.7	P	
845	05/15/21	98.4	16.4	SF-14	100.9	15.0	97.5	1.4	P	
846	05/15/21	97.5	16.7	SF-14	100.9	15.0	96.6	1.7	P	
847	05/15/21	96.6	15.2	SF-14	100.9	15.0	95.7	0.2	P	
848	05/15/21	97.8	15.7	SF-14	100.9	15.0	96.9	0.7	P	
849	05/15/21	96.9	16.4	SF-14	100.9	15.0	96.0	1.4	P	
850	05/15/21	96.4	15.0	SF-14	100.9	15.0	95.5	0.0	P	
851	05/15/21	96.1	14.2	SF-14	100.9	15.0	95.2	-0.8	P	
852	05/15/21	96.6	15.4	SF-14	100.9	15.0	95.7	0.4	P	
853	05/15/21	98.0	15.7	SF-14	100.9	15.0	97.1	0.7	P	
854	05/15/21	98.1	16.0	SF-14	100.9	15.0	97.2	1.0	P	
855	05/15/21	97.2	16.3	SF-14	100.9	15.0	96.3	1.3	P	
856	05/15/21	98.1	14.2	SF-14	100.9	15.0	97.2	-0.8	P	
857	05/15/21	97.5	14.7	SF-14	100.9	15.0	96.6	-0.3	P	
858	05/15/21	96.2	15.0	SF-14	100.9	15.0	95.3	0.0	P	
859	05/15/21	98.1	14.7	SF-14	100.9	15.0	97.2	-0.3	P	
860	05/15/21	98.7	14.6	SF-14	100.9	15.0	97.8	-0.4	P	
861	05/15/21	98.4	14.7	SF-14	100.9	15.0	97.5	-0.3	P	
862	05/15/21	98.2	15.0	SF-14	100.9	15.0	97.3	0.0	P	

863	05/15/21	96.5	16.0	SF-14	100.9	15.0	95.6	1.0	P	
864	05/15/21	96.0	17.0	SF-14	100.9	15.0	95.1	2.0	P	
865	05/15/21	97.9	15.0	SF-14	100.9	15.0	97.0	0.0	P	
866	05/15/21	98.4	14.9	SF-14	100.9	15.0	97.5	-0.1	P	
867	05/15/21	97.9	14.6	SF-14	100.9	15.0	97.0	-0.4	P	
868	05/15/21	97.0	15.1	SF-14	100.9	15.0	96.1	0.1	P	
869	05/15/21	96.1	14.1	SF-14	100.9	15.0	95.2	-0.9	P	
870	05/17/21	97.0	14.7	SF-14	100.9	15.0	96.1	-0.3	P	
871	05/17/21	97.2	16.0	SF-14	100.9	15.0	96.3	1.0	P	
872	05/17/21	96.5	15.0	SF-14	100.9	15.0	95.6	0.0	P	
873	05/17/21	96.4	15.4	SF-14	100.9	15.0	95.5	0.4	P	
874	05/17/21	96.8	15.8	SF-14	100.9	15.0	95.9	0.8	P	
875	05/17/21	97.0	16.2	SF-14	100.9	15.0	96.1	1.2	P	
876	05/17/21	96.8	17.2	SF-14	100.9	15.0	95.9	2.2	P	
877	05/17/21	97.1	17.0	SF-14	100.9	15.0	96.2	2.0	P	
878	05/17/21	97.5	16.9	SF-14	100.9	15.0	96.6	1.9	P	
879	05/17/21	98.0	16.8	SF-14	100.9	15.0	97.1	1.8	P	
880	05/17/21	97.6	16.4	SF-14	100.9	15.0	96.7	1.4	P	
881	05/17/21	97.5	17.4	SF-14	100.9	15.0	96.6	2.4	P	
882	05/17/21	97.0	16.5	SF-14	100.9	15.0	96.1	1.5	P	
883	05/17/21	97.1	17.8	SF-14	100.9	15.0	96.2	2.8	P	
884	05/17/21	98.0	17.4	SF-14	100.9	15.0	97.1	2.4	P	
885	05/17/21	96.9	17.2	SF-14	100.9	15.0	96.0	2.2	P	
886	05/17/21	96.8	17.5	SF-14	100.9	15.0	95.9	2.5	P	
887	05/17/21	98.0	16.3	SF-14	100.9	15.0	97.1	1.3	P	
888	05/17/21	98.1	15.6	SF-14	100.9	15.0	97.2	0.6	P	
889	05/17/21	97.5	15.4	SF-14	100.9	15.0	96.6	0.4	P	
890	05/17/21	97.6	15.6	SF-14	100.9	15.0	96.7	0.6	P	
891	05/17/21	97.9	16.2	SF-14	100.9	15.0	97.0	1.2	P	
892	05/17/21	97.7	17.4	SF-14	100.9	15.0	96.8	2.4	P	
893	05/17/21	96.8	17.2	SF-14	100.9	15.0	95.9	2.2	P	
894	05/17/21	96.9	15.2	SF-14	100.9	15.0	96.0	0.2	P	
895	05/17/21	96.4	15.0	SF-14	100.9	15.0	95.5	0.0	P	
896	05/17/21	97.5	14.4	SF-14	100.9	15.0	96.6	-0.6	P	
897	05/17/21	97.8	14.2	SF-14	100.9	15.0	96.9	-0.8	P	
898	05/17/21	97.8	15.2	SF-14	100.9	15.0	96.9	0.2	P	
899	05/17/21	98.0	15.8	SF-14	100.9	15.0	97.1	0.8	P	
900	05/17/21	96.5	15.3	SF-14	100.9	15.0	95.6	0.3	P	
901	05/17/21	96.4	14.1	SF-14	100.9	15.0	95.5	-0.9	P	
902	05/18/21	97.3	14.3	SF-13	100.1	14.6	97.2	-0.3	P	
903	05/18/21	97.7	14.7	SF-13	100.1	14.6	97.6	0.1	P	
904	05/18/21	96.9	14.1	SF-13	100.1	14.6	96.8	-0.5	P	
905	05/18/21	96.8	14.5	SF-13	100.1	14.6	96.7	-0.1	P	
906	05/18/21	98.2	14.9	SF-13	100.1	14.6	98.1	0.3	P	
907	05/18/21	97.9	15.1	SF-13	100.1	14.6	97.8	0.5	P	
908	05/18/21	98.4	15.7	SF-13	100.1	14.6	98.3	1.1	P	
909	05/18/21	96.7	13.9	SF-13	100.1	14.6	96.6	-0.7	P	
910	05/18/21	96.5	13.1	SF-13	100.1	14.6	96.4	-1.5	P	
911	05/18/21	97.4	11.5	SF-13	100.1	14.6	97.3	-3.1	P	
912	05/18/21	97.9	11.4	SF-13	100.1	14.6	97.8	-3.2	P	
913	05/18/21	98.1	16.3	SF-13	100.1	14.6	98.0	1.7	P	
914	05/18/21	98.7	17.3	SF-13	100.1	14.6	98.6	2.7	P	

915	05/18/21	97.4	16.6	SF-13	100.1	14.6	97.3	2.0	P	
916	05/18/21	97.0	17.9	SF-13	100.1	14.6	96.9	3.3	P	
917	05/18/21	96.1	16.7	SF-13	100.1	14.6	96.0	2.1	P	
918	05/18/21	95.1	18.3	SF-13	100.1	14.6	95.0	3.7	P	
919	05/18/21	96.0	17.4	SF-13	100.1	14.6	95.9	2.8	P	
920	05/18/21	95.0	17.3	SF-13	100.1	14.6	94.9	2.7	P	
921	05/18/21	95.9	17.1	SF-13	100.1	14.6	95.8	2.5	P	
922	05/18/21	96.8	16.1	SF-13	100.1	14.6	96.7	1.5	P	
923	05/18/21	96.8	15.7	SF-13	100.1	14.6	96.7	1.1	P	
924	05/18/21	97.6	15.7	SF-13	100.1	14.6	97.5	1.1	P	
925	05/18/21	97.8	16.6	SF-13	100.1	14.6	97.7	2.0	P	
926	05/18/21	98.5	16.5	SF-13	100.1	14.6	98.4	1.9	P	
927	05/18/21	97.4	16.6	SF-13	100.1	14.6	97.3	2.0	P	
928	05/18/21	96.7	15.3	SF-13	100.1	14.6	96.6	0.7	P	
929	05/18/21	97.7	15.6	SF-13	100.1	14.6	97.6	1.0	P	
930	05/18/21	97.0	16.5	SF-13	100.1	14.6	96.9	1.9	P	
931	05/18/21	96.3	14.9	SF-13	100.1	14.6	96.2	0.3	P	
932	05/18/21	96.2	14.3	SF-13	100.1	14.6	96.1	-0.3	P	
933	05/18/21	96.5	15.3	SF-13	100.1	14.6	96.4	0.7	P	
934	05/18/21	98.1	15.8	SF-13	100.1	14.6	98.0	1.2	P	
935	05/18/21	98.0	15.9	SF-13	100.1	14.6	97.9	1.3	P	
936	05/18/21	97.3	16.4	SF-13	100.1	14.6	97.2	1.8	P	
937	05/18/21	98.0	14.1	SF-13	100.1	14.6	97.9	-0.5	P	
938	05/18/21	97.6	14.8	SF-13	100.1	14.6	97.5	0.2	P	
939	05/18/21	96.1	14.9	SF-13	100.1	14.6	96.0	0.3	P	
940	05/18/21	98.2	14.8	SF-13	100.1	14.6	98.1	0.2	P	
941	05/18/21	98.6	14.5	SF-13	100.1	14.6	98.5	-0.1	P	
942	05/18/21	96.1	15.2	SF-13	100.1	14.6	96.0	0.6	P	
943	05/18/21	97.0	14.9	SF-13	100.1	14.6	96.9	0.3	P	
944	05/18/21	97.3	15.8	SF-13	100.1	14.6	97.2	1.2	P	
945	05/18/21	97.8	16.3	SF-13	100.1	14.6	97.7	1.7	P	
946	05/19/21	96.5	13.1	SF-13	100.1	14.6	96.4	-1.5	P	
947	05/19/21	96.2	13.5	SF-13	100.1	14.6	96.1	-1.1	P	
948	05/19/21	97.0	14.1	SF-13	100.1	14.6	96.9	-0.5	P	
949	05/19/21	96.5	14.2	SF-13	100.1	14.6	96.4	-0.4	P	
950	05/19/21	96.8	14.8	SF-13	100.1	14.6	96.7	0.2	P	
951	05/19/21	97.1	14.0	SF-13	100.1	14.6	97.0	-0.6	P	
952	05/19/21	97.5	13.9	SF-13	100.1	14.6	97.4	-0.7	P	
953	05/19/21	97.6	13.3	SF-13	100.1	14.6	97.5	-1.3	P	
954	05/19/21	97.2	12.9	SF-13	100.1	14.6	97.1	-1.7	P	
955	05/19/21	97.1	13.5	SF-13	100.1	14.6	97.0	-1.1	P	
956	05/19/21	96.5	13.4	SF-13	100.1	14.6	96.4	-1.2	P	
957	05/19/21	96.7	14.0	SF-13	100.1	14.6	96.6	-0.6	P	
958	05/19/21	97.0	13.6	SF-13	100.1	14.6	96.9	-1.0	P	
959	05/19/21	96.9	14.5	SF-13	100.1	14.6	96.8	-0.1	P	
960	05/19/21	97.3	15.0	SF-13	100.1	14.6	97.2	0.4	P	
961	05/19/21	97.8	15.6	SF-13	100.1	14.6	97.7	1.0	P	
962	05/19/21	96.5	14.6	SF-13	100.1	14.6	96.4	0.0	P	
963	05/19/21	96.1	14.2	SF-13	100.1	14.6	96.0	-0.4	P	
964	05/19/21	96.0	13.8	SF-13	100.1	14.6	95.9	-0.8	P	
965	05/19/21	95.9	14.2	SF-13	100.1	14.6	95.8	-0.4	P	
966	05/19/21	95.9	13.8	SF-13	100.1	14.6	95.8	-0.8	P	
967	05/19/21	95.6	14.1	SF-13	100.1	14.6	95.5	-0.5	P	
968	05/19/21	97.0	15.0	SF-13	100.1	14.6	96.9	0.4	P	
969	05/19/21	95.6	14.7	SF-13	100.1	14.6	95.5	0.1	P	

970	05/19/21	95.8	14.2	SF-13	100.1	14.6	95.7	-0.4	P	
971	05/19/21	95.7	13.8	SF-13	100.1	14.6	95.6	-0.8	P	
972	05/19/21	97.0	14.0	SF-13	100.1	14.6	96.9	-0.6	P	
973	05/19/21	96.5	15.2	SF-13	100.1	14.6	96.4	0.6	P	
974	05/19/21	97.0	14.6	SF-13	100.1	14.6	96.9	0.0	P	
975	05/19/21	97.2	14.2	SF-13	100.1	14.6	97.1	-0.4	P	
976	05/19/21	97.1	15.5	SF-13	100.1	14.6	97.0	0.9	P	
977	05/19/21	97.6	14.8	SF-13	100.1	14.6	97.5	0.2	P	
978	05/19/21	97.5	13.7	SF-13	100.1	14.6	97.4	-0.9	P	
979	05/19/21	96.8	12.8	SF-13	100.1	14.6	96.7	-1.8	P	
980	05/19/21	96.8	14.6	SF-13	100.1	14.6	96.7	0.0	P	
981	05/19/21	97.5	13.3	SF-13	100.1	14.6	97.4	-1.3	P	
982	05/19/21	97.4	14.0	SF-13	100.1	14.6	97.3	-0.6	P	
983	05/19/21	97.4	14.5	SF-13	100.1	14.6	97.3	-0.1	P	
984	05/19/21	97.2	13.7	SF-13	100.1	14.6	97.1	-0.9	P	
985	05/19/21	96.5	14.6	SF-13	100.1	14.6	96.4	0.0	P	
986	05/20/21	97.0	14.8	SF-13	100.1	14.6	96.9	0.2	P	
987	05/20/21	97.2	14.0	SF-13	100.1	14.6	97.1	-0.6	P	
988	05/20/21	97.5	14.9	SF-13	100.1	14.6	97.4	0.3	P	
989	05/20/21	98.0	14.6	SF-13	100.1	14.6	97.9	0.0	P	
990	05/20/21	97.6	14.5	SF-13	100.1	14.6	97.5	-0.1	P	
991	05/20/21	98.0	14.5	SF-13	100.1	14.6	97.9	-0.1	P	
992	05/20/21	97.0	13.6	SF-13	100.1	14.6	96.9	-1.0	P	
993	05/20/21	96.1	13.9	SF-13	100.1	14.6	96.0	-0.7	P	
994	05/20/21	96.7	14.5	SF-13	100.1	14.6	96.6	-0.1	P	
995	05/20/21	97.5	14.6	SF-13	100.1	14.6	97.4	0.0	P	
996	05/20/21	98.2	15.3	SF-13	100.1	14.6	98.1	0.7	P	
997	05/20/21	98.2	15.7	SF-13	100.1	14.6	98.1	1.1	P	
998	05/20/21	96.5	15.4	SF-13	100.1	14.6	96.4	0.8	P	
999	05/20/21	96.0	15.4	SF-13	100.1	14.6	95.9	0.8	P	
1000	05/20/21	95.4	16.2	SF-13	100.1	14.6	95.3	1.6	P	
1001	05/20/21	96.7	16.4	SF-13	100.1	14.6	96.6	1.8	P	
1002	05/20/21	96.7	15.2	SF-13	100.1	14.6	96.6	0.6	P	
1003	05/20/21	98.0	15.0	SF-13	100.1	14.6	97.9	0.4	P	
1004	05/20/21	97.4	16.0	SF-13	100.1	14.6	97.3	1.4	P	
1005	05/20/21	98.5	16.2	SF-13	100.1	14.6	98.4	1.6	P	
1006	05/20/21	98.5	14.6	SF-13	100.1	14.6	98.4	0.0	P	
1007	05/20/21	98.2	14.5	SF-13	100.1	14.6	98.1	-0.1	P	
1008	05/20/21	97.6	14.8	SF-13	100.1	14.6	97.5	0.2	P	
1009	05/20/21	98.1	14.6	SF-13	100.1	14.6	98.0	0.0	P	
1010	05/20/21	96.4	15.2	SF-13	100.1	14.6	96.3	0.6	P	
1011	05/20/21	96.2	14.9	SF-13	100.1	14.6	96.1	0.3	P	
1012	05/20/21	97.6	15.2	SF-13	100.1	14.6	97.5	0.6	P	
1013	05/20/21	98.9	15.6	SF-13	100.1	14.6	98.8	1.0	P	
1014	05/20/21	99.2	15.0	SF-13	100.1	14.6	99.1	0.4	P	
1015	05/20/21	97.2	15.0	SF-13	100.1	14.6	97.1	0.4	P	
1016	05/20/21	97.6	14.6	SF-13	100.1	14.6	97.5	0.0	P	
1017	05/20/21	98.4	14.0	SF-13	100.1	14.6	98.3	-0.6	P	
1018	05/20/21	98.8	14.2	SF-13	100.1	14.6	98.7	-0.4	P	
1019	05/20/21	98.6	14.6	SF-13	100.1	14.6	98.5	0.0	P	
1020	05/20/21	97.5	14.2	SF-13	100.1	14.6	97.4	-0.4	P	
1021	05/20/21	96.6	13.0	SF-13	100.1	14.6	96.5	-1.6	P	
1022	05/20/21	95.8	13.6	SF-13	100.1	14.6	95.7	-1.0	P	
1023	05/20/21	96.2	13.4	SF-13	100.1	14.6	96.1	-1.2	P	
1024	05/20/21	97.0	13.2	SF-13	100.1	14.6	96.9	-1.4	P	
1025	05/20/21	96.5	14.0	SF-13	100.1	14.6	96.4	-0.6	P	
1026	05/20/21	95.6	14.0	SF-13	100.1	14.6	95.5	-0.6	P	

1027	05/20/21	97.3	13.6	SF-13	100.1	14.6	97.2	-1.0	P	
1028	05/20/21	97.4	13.8	SF-13	100.1	14.6	97.3	-0.8	P	
1029	05/20/21	97.5	13.7	SF-13	100.1	14.6	97.4	-0.9	P	
1030	05/20/21	97.6	14.0	SF-13	100.1	14.6	97.5	-0.6	P	
1031	05/20/21	97.5	14.1	SF-13	100.1	14.6	97.4	-0.5	P	
1032	05/20/21	97.4	14.5	SF-13	100.1	14.6	97.3	-0.1	P	
1033	05/20/21	97.0	14.5	SF-13	100.1	14.6	96.9	-0.1	P	
1034	05/21/21	97.5	13.1	SF-13	100.1	14.6	97.4	-1.5	P	
1035	05/21/21	96.2	14.2	SF-13	100.1	14.6	96.1	-0.4	P	
1036	05/21/21	96.5	14.8	SF-13	100.1	14.6	96.4	0.2	P	
1037	05/21/21	95.9	15.1	SF-13	100.1	14.6	95.8	0.5	P	
1038	05/21/21	95.9	14.2	SF-13	100.1	14.6	95.8	-0.4	P	
1039	05/21/21	95.4	14.3	SF-13	100.1	14.6	95.3	-0.3	P	
1040	05/21/21	95.8	14.2	SF-13	100.1	14.6	95.7	-0.4	P	
1041	05/21/21	96.3	13.6	SF-13	100.1	14.6	96.2	-1.0	P	
1042	05/21/21	95.8	13.5	SF-13	100.1	14.6	95.7	-1.1	P	
1043	05/21/21	95.7	13.4	SF-13	100.1	14.6	95.6	-1.2	P	
1044	05/21/21	96.5	14.2	SF-13	100.1	14.6	96.4	-0.4	P	
1045	05/21/21	95.5	13.6	SF-13	100.1	14.6	95.4	-1.0	P	
1046	05/21/21	95.7	12.9	SF-13	100.1	14.6	95.6	-1.7	P	
1047	05/21/21	96.8	12.5	SF-13	100.1	14.6	96.7	-2.1	P	
1048	05/21/21	96.4	13.9	SF-13	100.1	14.6	96.3	-0.7	P	
1049	05/21/21	97.0	14.2	SF-13	100.1	14.6	96.9	-0.4	P	
1050	05/21/21	96.5	14.6	SF-13	100.1	14.6	96.4	0.0	P	
1051	05/21/21	94.8	12.1	SF-13	100.1	14.6	94.7	-2.5	F	Low Moisture
1051R	05/21/21	95.7	13.6	SF-13	100.1	14.6	95.6	-1.0	P	Retest for 1051
1052	05/21/21	94.6	12.0	SF-13	100.1	14.6	94.5	-2.6	F	Low Moisture
1052R	05/21/21	95.4	13.5	SF-13	100.1	14.6	95.3	-1.1	P	Retest for 1052
1053	05/21/21	95.8	13.9	SF-13	100.1	14.6	95.7	-0.7	P	
1054	05/21/21	96.0	13.2	SF-13	100.1	14.6	95.9	-1.4	P	
1055	05/21/21	96.5	12.7	SF-13	100.1	14.6	96.4	-1.9	P	
1056	05/21/21	96.4	13.5	SF-13	100.1	14.6	96.3	-1.1	P	
1057	05/21/21	96.2	13.8	SF-13	100.1	14.6	96.1	-0.8	P	
1058	05/21/21	97.2	14.0	SF-13	100.1	14.6	97.1	-0.6	P	
1059	05/21/21	97.3	15.0	SF-13	100.1	14.6	97.2	0.4	P	
1060	05/21/21	96.5	15.6	SF-13	100.1	14.6	96.4	1.0	P	
1061	05/21/21	95.5	15.4	SF-13	100.1	14.6	95.4	0.8	P	
1062	05/21/21	97.8	14.5	SF-13	100.1	14.6	97.7	-0.1	P	
1063	05/21/21	97.7	14.6	SF-13	100.1	14.6	97.6	0.0	P	
1064	05/21/21	97.2	14.6	SF-13	100.1	14.6	97.1	0.0	P	
1065	05/21/21	96.6	13.0	SF-13	100.1	14.6	96.5	-1.6	P	
1066	05/21/21	96.4	13.6	SF-13	100.1	14.6	96.3	-1.0	P	
1067	05/21/21	96.7	13.9	SF-13	100.1	14.6	96.6	-0.7	P	
1068	05/21/21	95.9	14.0	SF-13	100.1	14.6	95.8	-0.6	P	
1069	05/21/21	95.5	13.7	SF-13	100.1	14.6	95.4	-0.9	P	
1070	05/21/21	96.6	14.0	SF-13	100.1	14.6	96.5	-0.6	P	
1071	05/21/21	96.5	13.6	SF-13	100.1	14.6	96.4	-1.0	P	
1072	05/21/21	97.4	14.6	SF-13	100.1	14.6	97.3	0.0	P	
1073	05/21/21	97.5	13.9	SF-13	100.1	14.6	97.4	-0.7	P	
1074	05/21/21	96.9	13.1	SF-13	100.1	14.6	96.8	-1.5	P	
1075	05/21/21	97.8	14.7	SF-13	100.1	14.6	97.7	0.1	P	
1076	05/22/21	96.5	14.6	SF-13	100.1	14.6	96.4	0.0	P	
1077	05/22/21	94.8	12.6	SF-13	100.1	14.6	94.7	-2.0	F	Low Moisture
1077R	05/22/21	95.6	13.5	SF-13	100.1	14.6	95.5	-1.1	P	Retest for 1077
1078	05/22/21	95.6	13.9	SF-13	100.1	14.6	95.5	-0.7	P	
1079	05/22/21	95.7	14.6	SF-13	100.1	14.6	95.6	0.0	P	
1080	05/22/21	95.8	14.2	SF-13	100.1	14.6	95.7	-0.4	P	

1081	05/22/21	95.6	14.1	SF-13	100.1	14.6	95.5	-0.5	P	
1082	05/22/21	96.5	15.3	SF-13	100.1	14.6	96.4	0.7	P	
1083	05/22/21	96.8	15.1	SF-13	100.1	14.6	96.7	0.5	P	
1084	05/22/21	95.4	14.6	SF-13	100.1	14.6	95.3	0.0	P	
1085	05/22/21	95.9	13.9	SF-13	100.1	14.6	95.8	-0.7	P	
1086	05/22/21	95.6	13.5	SF-13	100.1	14.6	95.5	-1.1	P	
1087	05/22/21	97.0	13.6	SF-13	100.1	14.6	96.9	-1.0	P	
1088	05/22/21	97.1	13.2	SF-13	100.1	14.6	97.0	-1.4	P	
1089	05/22/21	96.5	13.4	SF-13	100.1	14.6	96.4	-1.2	P	
1090	05/22/21	96.2	12.9	SF-13	100.1	14.6	96.1	-1.7	P	
1091	05/22/21	96.8	12.9	SF-13	100.1	14.6	96.7	-1.7	P	
1092	05/22/21	96.7	13.4	SF-13	100.1	14.6	96.6	-1.2	P	
1093	05/22/21	96.8	13.8	SF-13	100.1	14.6	96.7	-0.8	P	
1094	05/22/21	96.2	13.4	SF-13	100.1	14.6	96.1	-1.2	P	
1095	05/22/21	95.8	13.4	SF-13	100.1	14.6	95.7	-1.2	P	
1096	05/22/21	95.6	13.6	SF-13	100.1	14.6	95.5	-1.0	P	
1097	05/22/21	96.5	13.7	SF-13	100.1	14.6	96.4	-0.9	P	
1098	05/22/21	96.8	14.1	SF-13	100.1	14.6	96.7	-0.5	P	
1099	05/22/21	96.4	13.8	SF-13	100.1	14.6	96.3	-0.8	P	
1100	05/22/21	96.1	14.1	SF-13	100.1	14.6	96.0	-0.5	P	
1101	05/22/21	95.6	14.6	SF-13	100.1	14.6	95.5	0.0	P	
1102	05/22/21	95.8	15.0	SF-13	100.1	14.6	95.7	0.4	P	
1103	05/22/21	95.3	13.8	SF-13	100.1	14.6	95.2	-0.8	P	
1104	05/22/21	96.3	14.0	SF-13	100.1	14.6	96.2	-0.6	P	
1105	05/22/21	96.4	14.6	SF-13	100.1	14.6	96.3	0.0	P	
1106	05/22/21	96.5	14.2	SF-13	100.1	14.6	96.4	-0.4	P	
1107	05/22/21	96.0	14.7	SF-13	100.1	14.6	95.9	0.1	P	
1108	05/22/21	96.1	14.5	SF-13	100.1	14.6	96.0	-0.1	P	
1109	05/22/21	95.8	14.2	SF-13	100.1	14.6	95.7	-0.4	P	
1110	05/22/21	95.7	14.6	SF-13	100.1	14.6	95.6	0.0	P	
1111	05/22/21	96.9	14.7	SF-13	100.1	14.6	96.8	0.1	P	
1112	05/22/21	97.0	14.2	SF-13	100.1	14.6	96.9	-0.4	P	
1113	05/22/21	97.1	14.8	SF-13	100.1	14.6	97.0	0.2	P	
1114	05/22/21	96.8	14.5	SF-13	100.1	14.6	96.7	-0.1	P	
1115	05/22/21	96.4	14.2	SF-13	100.1	14.6	96.3	-0.4	P	
1116	05/22/21	94.3	14.2	SF-13	100.1	14.6	94.2	-0.4	P	
1117	05/22/21	96.1	14.9	SF-13	100.1	14.6	96.0	0.3	P	
1118	05/22/21	95.8	14.1	SF-13	100.1	14.6	95.7	-0.5	P	
1119	05/22/21	95.6	13.5	SF-13	100.1	14.6	95.5	-1.1	P	
1120	05/22/21	95.9	13.9	SF-13	100.1	14.6	95.8	-0.7	P	
1121	05/24/21	96.8	15.8	SF-9	100.8	15.7	96.0	0.1	P	
1122	05/24/21	96.8	15.1	SF-9	100.8	15.7	96.0	-0.6	P	
1123	05/24/21	97.3	15.2	SF-9	100.8	15.7	96.5	-0.5	P	
1124	05/24/21	97.4	14.7	SF-9	100.8	15.7	96.6	-1.0	P	
1125	05/24/21	97.4	14.2	SF-9	100.8	15.7	96.6	-1.5	P	
1126	05/24/21	97.4	14.3	SF-9	100.8	15.7	96.6	-1.4	P	
1127	05/24/21	97.6	14.8	SF-9	100.8	15.7	96.8	-0.9	P	
1128	05/24/21	97.3	16.5	SF-9	100.8	15.7	96.5	0.8	P	
1129	05/24/21	96.7	15.2	SF-9	100.8	15.7	95.9	-0.5	P	
1130	05/24/21	96.8	15.6	SF-9	100.8	15.7	96.0	-0.1	P	
1131	05/24/21	96.3	15.9	SF-9	100.8	15.7	95.5	0.2	P	
1132	05/24/21	96.8	14.6	SF-9	100.8	15.7	96.0	-1.1	P	
1133	05/24/21	96.6	14.9	SF-9	100.8	15.7	95.8	-0.8	P	
1134	05/24/21	96.8	16.2	SF-9	100.8	15.7	96.0	0.5	P	
1135	05/24/21	97.4	16.9	SF-9	100.8	15.7	96.6	1.2	P	
1136	05/24/21	97.2	16.5	SF-9	100.8	15.7	96.4	0.8	P	
1137	05/24/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	

1138	05/24/21	97.4	15.2	SF-9	100.8	15.7	96.6	-0.5	P	
1139	05/24/21	97.6	14.8	SF-9	100.8	15.7	96.8	-0.9	P	
1140	05/24/21	97.2	14.6	SF-9	100.8	15.7	96.4	-1.1	P	
1141	05/24/21	96.2	14.9	SF-9	100.8	15.7	95.4	-0.8	P	
1142	05/24/21	96.4	15.6	SF-9	100.8	15.7	95.6	-0.1	P	
1143	05/24/21	97.7	15.2	SF-9	100.8	15.7	96.9	-0.5	P	
1144	05/24/21	98.4	14.6	SF-9	100.8	15.7	97.6	-1.1	P	
1145	05/24/21	98.2	14.7	SF-9	100.8	15.7	97.4	-1.0	P	
1146	05/24/21	97.5	14.6	SF-9	100.8	15.7	96.7	-1.1	P	
1147	05/24/21	97.4	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1148	05/24/21	97.0	15.2	SF-9	100.8	15.7	96.2	-0.5	P	
1149	05/24/21	97.5	14.9	SF-9	100.8	15.7	96.7	-0.8	P	
1150	05/24/21	96.3	16.4	SF-9	100.8	15.7	95.5	0.7	P	
1151	05/24/21	97.6	16.2	SF-9	100.8	15.7	96.8	0.5	P	
1152	05/24/21	97.4	14.9	SF-9	100.8	15.7	96.6	-0.8	P	
1153	05/24/21	97.6	15.2	SF-9	100.8	15.7	96.8	-0.5	P	
1154	05/24/21	97.8	15.6	SF-9	100.8	15.7	97.0	-0.1	P	
1155	05/24/21	97.6	14.8	SF-9	100.8	15.7	96.8	-0.9	P	
1156	05/24/21	97.4	15.0	SF-9	100.8	15.7	96.6	-0.7	P	
1157	05/24/21	97.0	14.9	SF-9	100.8	15.7	96.2	-0.8	P	
1158	05/24/21	96.5	15.4	SF-9	100.8	15.7	95.7	-0.3	P	
1159	05/24/21	97.2	15.4	SF-9	100.8	15.7	96.4	-0.3	P	
1160	05/24/21	97.4	15.9	SF-9	100.8	15.7	96.6	0.2	P	
1161	05/24/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1162	05/24/21	97.8	15.4	SF-9	100.8	15.7	97.0	-0.3	P	
1163	05/24/21	97.1	16.4	SF-9	100.8	15.7	96.3	0.7	P	
1164	05/24/21	96.5	16.4	SF-9	100.8	15.7	95.7	0.7	P	
1165	05/24/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1166	05/25/21	97.6	16.5	SF-9	100.8	15.7	96.8	0.8	P	
1167	05/25/21	97.2	15.6	SF-9	100.8	15.7	96.4	-0.1	P	
1168	05/25/21	96.5	14.6	SF-9	100.8	15.7	95.7	-1.1	P	
1169	05/25/21	96.9	14.2	SF-9	100.8	15.7	96.1	-1.5	P	
1170	05/25/21	97.1	14.7	SF-9	100.8	15.7	96.3	-1.0	P	
1171	05/25/21	98.0	14.9	SF-9	100.8	15.7	97.2	-0.8	P	
1172	05/25/21	98.1	15.2	SF-9	100.8	15.7	97.3	-0.5	P	
1173	05/25/21	97.9	15.4	SF-9	100.8	15.7	97.1	-0.3	P	
1174	05/25/21	98.7	14.2	SF-9	100.8	15.7	97.9	-1.5	P	
1175	05/25/21	98.6	15.9	SF-9	100.8	15.7	97.8	0.2	P	
1176	05/25/21	98.2	16.2	SF-9	100.8	15.7	97.4	0.5	P	
1177	05/25/21	97.2	16.4	SF-9	100.8	15.7	96.4	0.7	P	
1178	05/25/21	96.5	16.4	SF-9	100.8	15.7	95.7	0.7	P	
1179	05/25/21	97.0	15.9	SF-9	100.8	15.7	96.2	0.2	P	
1180	05/25/21	97.2	15.7	SF-9	100.8	15.7	96.4	0.0	P	
1181	05/25/21	97.6	15.8	SF-9	100.8	15.7	96.8	0.1	P	
1182	05/25/21	96.9	16.4	SF-9	100.8	15.7	96.1	0.7	P	
1183	05/25/21	96.5	17.0	SF-9	100.8	15.7	95.7	1.3	P	
1184	05/25/21	97.5	17.2	SF-9	100.8	15.7	96.7	1.5	P	
1185	05/25/21	97.9	17.0	SF-9	100.8	15.7	97.1	1.3	P	
1186	05/25/21	98.0	16.2	SF-9	100.8	15.7	97.2	0.5	P	
1187	05/25/21	98.1	16.4	SF-9	100.8	15.7	97.3	0.7	P	
1188	05/25/21	97.2	17.1	SF-9	100.8	15.7	96.4	1.4	P	
1189	05/25/21	97.6	16.2	SF-9	100.8	15.7	96.8	0.5	P	
1190	05/25/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1191	05/25/21	97.6	16.8	SF-9	100.8	15.7	96.8	1.1	P	
1192	05/25/21	98.0	16.6	SF-9	100.8	15.7	97.2	0.9	P	
1193	05/25/21	96.9	16.6	SF-9	100.8	15.7	96.1	0.9	P	
1194	05/25/21	96.5	16.0	SF-9	100.8	15.7	95.7	0.3	P	

1195	05/25/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1196	05/25/21	98.5	15.9	SF-9	100.8	15.7	97.7	0.2	P	
1197	05/25/21	98.7	16.6	SF-9	100.8	15.7	97.9	0.9	P	
1198	05/25/21	98.1	16.4	SF-9	100.8	15.7	97.3	0.7	P	
1199	05/25/21	98.4	14.9	SF-9	100.8	15.7	97.6	-0.8	P	
1200	05/25/21	96.8	14.9	SF-9	100.8	15.7	96.0	-0.8	P	
1201	05/25/21	97.9	14.7	SF-9	100.8	15.7	97.1	-1.0	P	
1202	05/25/21	98.2	15.5	SF-9	100.8	15.7	97.4	-0.2	P	
1203	05/25/21	98.5	15.4	SF-9	100.8	15.7	97.7	-0.3	P	
1204	05/25/21	98.6	15.4	SF-9	100.8	15.7	97.8	-0.3	P	
1205	05/25/21	98.1	16.2	SF-9	100.8	15.7	97.3	0.5	P	
1206	05/25/21	96.9	16.4	SF-9	100.8	15.7	96.1	0.7	P	
1207	05/25/21	96.5	16.8	SF-9	100.8	15.7	95.7	1.1	P	
1208	05/25/21	98.3	16.4	SF-9	100.8	15.7	97.5	0.7	P	
1209	05/26/21	97.5	15.3	SF-9	100.8	15.7	96.7	-0.4	P	
1210	05/26/21	96.7	15.6	SF-9	100.8	15.7	95.9	-0.1	P	
1211	05/26/21	96.8	16.7	SF-9	100.8	15.7	96.0	1.0	P	
1212	05/26/21	96.0	16.7	SF-9	100.8	15.7	95.2	1.0	P	
1213	05/26/21	96.3	17.9	SF-9	100.8	15.7	95.5	2.2	P	
1214	05/26/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
1215	05/26/21	97.5	17.2	SF-9	100.8	15.7	96.7	1.5	P	
1216	05/26/21	97.6	17.6	SF-9	100.8	15.7	96.8	1.9	P	
1217	05/26/21	98.2	16.4	SF-9	100.8	15.7	97.4	0.7	P	
1218	05/26/21	98.1	15.6	SF-9	100.8	15.7	97.3	-0.1	P	
1219	05/26/21	97.6	14.5	SF-9	100.8	15.7	96.8	-1.2	P	
1220	05/26/21	98.0	15.2	SF-9	100.8	15.7	97.2	-0.5	P	
1221	05/26/21	97.6	15.7	SF-9	100.8	15.7	96.8	0.0	P	
1222	05/26/21	98.4	15.0	SF-9	100.8	15.7	97.6	-0.7	P	
1223	05/26/21	97.4	14.8	SF-9	100.8	15.7	96.6	-0.9	P	
1224	05/26/21	98.5	15.5	SF-9	100.8	15.7	97.7	-0.2	P	
1225	05/26/21	98.5	14.9	SF-9	100.8	15.7	97.7	-0.8	P	
1226	05/26/21	98.8	16.0	SF-9	100.8	15.7	98.0	0.3	P	
1227	05/26/21	98.2	15.4	SF-9	100.8	15.7	97.4	-0.3	P	
1228	05/26/21	98.1	14.8	SF-9	100.8	15.7	97.3	-0.9	P	
1229	05/26/21	98.6	14.5	SF-9	100.8	15.7	97.8	-1.2	P	
1230	05/26/21	98.0	14.0	SF-9	100.8	15.7	97.2	-1.7	P	
1231	05/26/21	97.7	14.3	SF-9	100.8	15.7	96.9	-1.4	P	
1232	05/26/21	96.4	15.2	SF-9	100.8	15.7	95.6	-0.5	P	
1233	05/26/21	97.5	14.7	SF-9	100.8	15.7	96.7	-1.0	P	
1234	05/26/21	97.0	15.0	SF-9	100.8	15.7	96.2	-0.7	P	
1235	05/26/21	97.9	15.4	SF-9	100.8	15.7	97.1	-0.3	P	
1236	05/26/21	97.4	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1237	05/26/21	96.9	16.0	SF-9	100.8	15.7	96.1	0.3	P	
1238	05/26/21	96.3	16.2	SF-9	100.8	15.7	95.5	0.5	P	
1239	05/26/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1240	05/26/21	97.8	16.5	SF-9	100.8	15.7	97.0	0.8	P	
1241	05/26/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	
1242	05/27/21	96.6	13.3	SF-9	100.8	15.7	95.8	-2.4	P	
1243	05/27/21	97.2	16.3	SF-9	100.8	15.7	96.4	0.6	P	
1244	05/27/21	98.2	16.9	SF-9	100.8	15.7	97.4	1.2	P	
1245	05/27/21	96.2	16.8	SF-9	100.8	15.7	95.4	1.1	P	
1246	05/27/21	96.4	15.7	SF-9	100.8	15.7	95.6	0.0	P	
1247	05/27/21	95.9	15.5	SF-9	100.8	15.7	95.1	-0.2	P	
1248	05/27/21	96.3	14.9	SF-9	100.8	15.7	95.5	-0.8	P	
1249	05/27/21	96.2	14.7	SF-9	100.8	15.7	95.4	-1.0	P	
1250	05/27/21	97.4	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1251	05/27/21	97.9	15.4	SF-9	100.8	15.7	97.1	-0.3	P	

1252	05/27/21	97.2	16.0	SF-9	100.8	15.7	96.4	0.3	P	
1253	05/27/21	98.5	16.3	SF-9	100.8	15.7	97.7	0.6	P	
1254	05/27/21	99.0	17.1	SF-9	100.8	15.7	98.2	1.4	P	
1255	05/27/21	99.4	17.2	SF-9	100.8	15.7	98.6	1.5	P	
1256	05/27/21	98.3	16.8	SF-9	100.8	15.7	97.5	1.1	P	
1257	05/27/21	97.9	15.6	SF-9	100.8	15.7	97.1	-0.1	P	
1258	05/27/21	96.7	15.1	SF-9	100.8	15.7	95.9	-0.6	P	
1259	05/27/21	96.5	14.8	SF-9	100.8	15.7	95.7	-0.9	P	
1260	05/27/21	97.1	14.4	SF-9	100.8	15.7	96.3	-1.3	P	
1261	05/27/21	97.4	15.3	SF-9	100.8	15.7	96.6	-0.4	P	
1262	05/27/21	97.5	15.8	SF-9	100.8	15.7	96.7	0.1	P	
1263	05/27/21	96.5	15.0	SF-9	100.8	15.7	95.7	-0.7	P	
1264	05/27/21	97.0	14.6	SF-9	100.8	15.7	96.2	-1.1	P	
1265	05/27/21	97.1	16.1	SF-9	100.8	15.7	96.3	0.4	P	
1266	05/27/21	97.2	15.7	SF-9	100.8	15.7	96.4	0.0	P	
1267	05/27/21	97.5	15.1	SF-9	100.8	15.7	96.7	-0.6	P	
1268	05/27/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1269	05/27/21	97.5	15.6	SF-9	100.8	15.7	96.7	-0.1	P	
1270	05/27/21	97.8	14.7	SF-9	100.8	15.7	97.0	-1.0	P	
1271	05/27/21	96.8	14.4	SF-9	100.8	15.7	96.0	-1.3	P	
1272	05/27/21	96.9	14.9	SF-9	100.8	15.7	96.1	-0.8	P	
1273	05/27/21	97.1	15.3	SF-9	100.8	15.7	96.3	-0.4	P	
1274	05/27/21	97.4	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1275	05/27/21	97.5	14.4	SF-9	100.8	15.7	96.7	-1.3	P	
1276	05/27/21	96.8	14.1	SF-9	100.8	15.7	96.0	-1.6	P	
1277	05/27/21	96.9	15.6	SF-9	100.8	15.7	96.1	-0.1	P	
1278	05/27/21	97.1	15.4	SF-9	100.8	15.7	96.3	-0.3	P	
1279	05/27/21	97.1	15.9	SF-9	100.8	15.7	96.3	0.2	P	
1280	05/28/21	98.2	15.6	SF-9	100.8	15.7	97.4	-0.1	P	
1281	05/28/21	98.5	15.9	SF-9	100.8	15.7	97.7	0.2	P	
1282	05/28/21	98.3	13.8	SF-9	100.8	15.7	97.6	-1.9	P	
1283	05/28/21	97.6	14.7	SF-9	100.8	15.7	96.8	-1.0	P	
1284	05/28/21	98.7	14.1	SF-9	100.8	15.7	97.9	-1.6	P	
1285	05/28/21	97.4	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1286	05/28/21	96.7	16.0	SF-9	100.8	15.7	95.9	0.3	P	
1287	05/28/21	96.7	16.5	SF-9	100.8	15.7	95.9	0.8	P	
1288	05/28/21	97.1	14.6	SF-9	100.8	15.7	96.3	-1.1	P	
1289	05/28/21	96.1	14.5	SF-9	100.8	15.7	95.3	-1.2	P	
1290	05/28/21	96.5	14.9	SF-9	100.8	15.7	95.7	-0.8	P	
1291	05/28/21	96.4	15.0	SF-9	100.8	15.7	95.6	-0.7	P	
1292	05/28/21	96.5	15.2	SF-9	100.8	15.7	95.7	-0.5	P	
1293	05/28/21	96.6	14.6	SF-9	100.8	15.7	95.8	-1.1	P	
1294	05/28/21	97.8	14.7	SF-9	100.8	15.7	97.0	-1.0	P	
1295	05/28/21	98.3	14.5	SF-9	100.8	15.7	97.5	-1.2	P	
1296	05/28/21	98.0	15.1	SF-9	100.8	15.7	97.2	-0.6	P	
1297	05/28/21	95.8	14.9	SF-9	100.8	15.7	95.0	-0.8	P	
1298	05/28/21	95.9	15.3	SF-9	100.8	15.7	95.1	-0.4	P	
1299	05/28/21	96.5	15.2	SF-9	100.8	15.7	95.7	-0.5	P	
1300	05/28/21	98.2	15.1	SF-9	100.8	15.7	97.4	-0.6	P	
1301	05/28/21	97.5	14.8	SF-9	100.8	15.7	96.7	-0.9	P	
1302	05/28/21	97.4	14.9	SF-9	100.8	15.7	96.6	-0.8	P	
1303	05/28/21	97.9	15.6	SF-9	100.8	15.7	97.1	-0.1	P	
1304	05/28/21	97.7	16.3	SF-9	100.8	15.7	96.9	0.6	P	
1305	05/28/21	95.9	15.7	SF-9	100.8	15.7	95.1	0.0	P	
1306	05/28/21	97.6	16.1	SF-9	100.8	15.7	96.8	0.4	P	
1307	05/28/21	97.5	15.9	SF-9	100.8	15.7	96.7	0.2	P	
1308	05/28/21	97.8	15.5	SF-9	100.8	15.7	97.0	-0.2	P	

1309	05/28/21	97.4	15.2	SF-9	100.8	15.7	96.6	-0.5	P	
1310	05/28/21	96.8	15.9	SF-9	100.8	15.7	96.0	0.2	P	
1311	05/28/21	97.7	16.5	SF-9	100.8	15.7	96.9	0.8	P	
1312	05/28/21	98.1	15.8	SF-9	100.8	15.7	97.3	0.1	P	
1313	05/28/21	96.7	15.7	SF-9	100.8	15.7	95.9	0.0	P	
1314	05/28/21	97.6	15.2	SF-9	100.8	15.7	96.8	-0.5	P	
1315	05/28/21	98.4	16.0	SF-9	100.8	15.7	97.6	0.3	P	
1316	05/28/21	96.6	16.4	SF-9	100.8	15.7	95.8	0.7	P	
1317	05/28/21	97.6	17.0	SF-9	100.8	15.7	96.8	1.3	P	
1318	06/01/21	97.8	16.1	SF-9	100.8	15.7	97.0	0.4	P	
1319	06/01/21	97.5	15.7	SF-9	100.8	15.7	96.7	0.0	P	
1320	06/01/21	98.4	15.0	SF-9	100.8	15.7	97.6	-0.7	P	
1321	06/01/21	98.3	14.7	SF-9	100.8	15.7	97.5	-1.0	P	
1322	06/01/21	97.1	15.6	SF-9	100.8	15.7	96.3	-0.1	P	
1323	06/01/21	96.1	15.9	SF-9	100.8	15.7	95.3	0.2	P	
1324	06/01/21	96.8	14.9	SF-9	100.8	15.7	96.0	-0.8	P	
1325	06/01/21	96.9	14.9	SF-9	100.8	15.7	96.1	-0.8	P	
1326	06/01/21	96.7	16.2	SF-9	100.8	15.7	95.9	0.5	P	
1327	06/01/21	96.4	14.6	SF-9	100.8	15.7	95.6	-1.1	P	
1328	06/01/21	97.6	15.2	SF-9	100.8	15.7	96.8	-0.5	P	
1329	06/01/21	98.5	15.7	SF-9	100.8	15.7	97.7	0.0	P	
1330	06/01/21	98.6	15.5	SF-9	100.8	15.7	97.8	-0.2	P	
1331	06/01/21	98.4	15.0	SF-9	100.8	15.7	97.6	-0.7	P	
1332	06/01/21	98.2	15.6	SF-9	100.8	15.7	97.4	-0.1	P	
1333	06/01/21	98.3	15.4	SF-9	100.8	15.7	97.5	-0.3	P	
1334	06/01/21	98.0	15.7	SF-9	100.8	15.7	97.2	0.0	P	
1335	06/01/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1336	06/01/21	98.1	16.5	SF-9	100.8	15.7	97.3	0.8	P	
1337	06/01/21	98.4	16.4	SF-9	100.8	15.7	97.6	0.7	P	
1338	06/01/21	98.5	16.8	SF-9	100.8	15.7	97.7	1.1	P	
1339	06/01/21	98.6	16.7	SF-9	100.8	15.7	97.8	1.0	P	
1340	06/01/21	96.9	16.8	SF-9	100.8	15.7	96.1	1.1	P	
1341	06/01/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1342	06/01/21	97.3	16.4	SF-9	100.8	15.7	96.5	0.7	P	
1343	06/01/21	96.9	17.1	SF-9	100.8	15.7	96.1	1.4	P	
1344	06/01/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1345	06/01/21	96.4	16.4	SF-9	100.8	15.7	95.6	0.7	P	
1346	06/01/21	97.0	15.4	SF-9	100.8	15.7	96.2	-0.3	P	
1347	06/01/21	96.9	15.2	SF-9	100.8	15.7	96.1	-0.5	P	
1348	06/01/21	97.2	14.8	SF-9	100.8	15.7	96.4	-0.9	P	
1349	06/01/21	97.1	15.3	SF-9	100.8	15.7	96.3	-0.4	P	
1350	06/02/21	96.9	14.1	SF-9	100.8	15.7	96.1	-1.6	P	
1351	06/02/21	97.9	14.7	SF-9	100.8	15.7	97.1	-1.0	P	
1352	06/02/21	98.2	15.2	SF-9	100.8	15.7	97.4	-0.5	P	
1353	06/02/21	96.9	15.4	SF-9	100.8	15.7	96.1	-0.3	P	
1354	06/02/21	97.7	14.9	SF-9	100.8	15.7	96.9	-0.8	P	
1355	06/02/21	98.6	15.3	SF-9	100.8	15.7	97.8	-0.4	P	
1356	06/02/21	96.7	14.6	SF-9	100.8	15.7	95.9	-1.1	P	
1357	06/02/21	97.2	14.7	SF-9	100.8	15.7	96.4	-1.0	P	
1358	06/02/21	97.9	14.9	SF-9	100.8	15.7	97.1	-0.8	P	
1359	06/02/21	97.7	15.6	SF-9	100.8	15.7	96.9	-0.1	P	
1360	06/02/21	98.5	16.1	SF-9	100.8	15.7	97.7	0.4	P	
1361	06/02/21	98.5	16.4	SF-9	100.8	15.7	97.7	0.7	P	
1362	06/02/21	97.2	16.4	SF-9	100.8	15.7	96.4	0.7	P	
1363	06/02/21	96.3	15.4	SF-9	100.8	15.7	95.5	-0.3	P	
1364	06/02/21	96.9	16.5	SF-9	100.8	15.7	96.1	0.8	P	
1365	06/02/21	97.1	14.9	SF-9	100.8	15.7	96.3	-0.8	P	

1366	06/02/21	96.8	16.5	SF-9	100.8	15.7	96.0	0.8	P	
1367	06/02/21	96.6	16.2	SF-9	100.8	15.7	95.8	0.5	P	
1368	06/02/21	97.7	16.0	SF-9	100.8	15.7	96.9	0.3	P	
1369	06/02/21	98.6	15.6	SF-9	100.8	15.7	97.8	-0.1	P	
1370	06/02/21	97.6	15.4	SF-9	100.8	15.7	96.8	-0.3	P	
1371	06/02/21	98.6	15.4	SF-9	100.8	15.7	97.8	-0.3	P	
1372	06/02/21	98.3	15.9	SF-9	100.8	15.7	97.5	0.2	P	
1373	06/02/21	98.5	16.2	SF-9	100.8	15.7	97.7	0.5	P	
1374	06/02/21	98.1	15.9	SF-9	100.8	15.7	97.3	0.2	P	
1375	06/02/21	97.8	15.7	SF-9	100.8	15.7	97.0	0.0	P	
1376	06/02/21	98.2	15.8	SF-9	100.8	15.7	97.4	0.1	P	
1377	06/02/21	98.6	15.8	SF-9	100.8	15.7	97.8	0.1	P	
1378	06/02/21	98.6	16.2	SF-9	100.8	15.7	97.8	0.5	P	
1379	06/02/21	98.8	16.4	SF-9	100.8	15.7	98.0	0.7	P	
1380	06/02/21	97.0	16.0	SF-9	100.8	15.7	96.2	0.3	P	
1381	06/02/21	97.7	15.0	SF-9	100.8	15.7	96.9	-0.7	P	
1382	06/03/21	97.4	16.0	SF-9	100.8	15.7	96.6	0.3	P	
1383	06/03/21	96.3	16.8	SF-9	100.8	15.7	95.5	1.1	P	
1384	06/03/21	97.2	16.7	SF-9	100.8	15.7	96.4	1.0	P	
1385	06/03/21	96.8	16.4	SF-9	100.8	15.7	96.0	0.7	P	
1386	06/03/21	96.9	17.0	SF-9	100.8	15.7	96.1	1.3	P	
1387	06/03/21	97.3	16.0	SF-9	100.8	15.7	96.5	0.3	P	
1388	06/03/21	97.8	15.8	SF-9	100.8	15.7	97.0	0.1	P	
1389	06/03/21	97.7	16.0	SF-9	100.8	15.7	96.9	0.3	P	
1390	06/03/21	97.4	13.1	SF-9	100.8	15.7	96.6	-2.6	P	
1391	06/03/21	97.4	13.8	SF-9	100.8	15.7	96.6	-1.9	P	
1392	06/03/21	96.6	15.6	SF-9	100.8	15.7	95.8	-0.1	P	
1393	06/03/21	96.9	15.9	SF-9	100.8	15.7	96.1	0.2	P	
1394	06/03/21	97.3	13.9	SF-9	100.8	15.7	96.5	-1.8	P	
1395	06/03/21	97.0	14.6	SF-9	100.8	15.7	96.2	-1.1	P	
1396	06/03/21	97.5	15.2	SF-9	100.8	15.7	96.7	-0.5	P	
1397	06/03/21	98.1	15.9	SF-9	100.8	15.7	97.3	0.2	P	
1398	06/03/21	96.6	14.7	SF-9	100.8	15.7	95.8	-1.0	P	
1399	06/03/21	96.3	14.4	SF-9	100.8	15.7	95.5	-1.3	P	
1400	06/03/21	96.3	14.1	SF-9	100.8	15.7	95.5	-1.6	P	
1401	06/03/21	96.0	14.3	SF-9	100.8	15.7	95.2	-1.4	P	
1402	06/03/21	96.1	14.0	SF-9	100.8	15.7	95.3	-1.7	P	
1403	06/03/21	96.4	14.4	SF-9	100.8	15.7	95.6	-1.3	P	
1404	06/03/21	97.1	15.1	SF-9	100.8	15.7	96.3	-0.6	P	
1405	06/03/21	96.6	14.9	SF-9	100.8	15.7	95.8	-0.8	P	
1406	06/03/21	96.1	14.5	SF-9	100.8	15.7	95.3	-1.2	P	
1407	06/03/21	96.8	15.4	SF-9	100.8	15.7	96.0	-0.3	P	
1408	06/03/21	97.2	14.2	SF-9	100.8	15.7	96.4	-1.5	P	
1409	06/03/21	96.8	15.5	SF-9	100.8	15.7	96.0	-0.2	P	
1410	06/03/21	97.1	14.7	SF-9	100.8	15.7	96.3	-1.0	P	
1411	06/03/21	97.4	14.4	SF-9	100.8	15.7	96.6	-1.3	P	
1412	06/03/21	97.6	15.8	SF-9	100.8	15.7	96.8	0.1	P	
1413	06/03/21	97.1	14.9	SF-9	100.8	15.7	96.3	-0.8	P	
1414	06/03/21	96.9	15.4	SF-9	100.8	15.7	96.1	-0.3	P	
1415	06/03/21	97.1	15.6	SF-9	100.8	15.7	96.3	-0.1	P	
1416	06/03/21	96.9	14.7	SF-9	100.8	15.7	96.1	-1.0	P	
1417	06/04/21	97.7	15.6	SF-9	100.8	15.7	96.9	-0.1	P	
1418	06/04/21	97.7	14.3	SF-9	100.8	15.7	96.9	-1.4	P	
1419	06/04/21	97.5	14.6	SF-9	100.8	15.7	96.7	-1.1	P	
1420	06/04/21	97.4	14.6	SF-9	100.8	15.7	96.6	-1.1	P	
1421	06/04/21	96.8	14.9	SF-9	100.8	15.7	96.0	-0.8	P	
1422	06/04/21	97.1	14.9	SF-9	100.8	15.7	96.3	-0.8	P	

1423	06/04/21	97.4	15.7	SF-9	100.8	15.7	96.6	0.0	P	
1424	06/04/21	97.8	15.2	SF-9	100.8	15.7	97.0	-0.5	P	
1425	06/04/21	98.1	14.7	SF-9	100.8	15.7	97.3	-1.0	P	
1426	06/04/21	97.5	15.6	SF-9	100.8	15.7	96.7	-0.1	P	
1427	06/04/21	97.8	16.2	SF-9	100.8	15.7	97.0	0.5	P	
1428	06/04/21	97.5	15.4	SF-9	100.8	15.7	96.7	-0.3	P	
1429	06/04/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1430	06/04/21	96.9	16.3	SF-9	100.8	15.7	96.1	0.6	P	
1431	06/04/21	96.5	16.4	SF-9	100.8	15.7	95.7	0.7	P	
1432	06/04/21	96.7	16.7	SF-9	100.8	15.7	95.9	1.0	P	
1433	06/04/21	96.8	16.7	SF-9	100.8	15.7	96.0	1.0	P	
1434	06/04/21	97.2	15.0	SF-9	100.8	15.7	96.4	-0.7	P	
1435	06/04/21	96.9	15.4	SF-9	100.8	15.7	96.1	-0.3	P	
1436	06/04/21	97.8	15.9	SF-9	100.8	15.7	97.0	0.2	P	
1437	06/04/21	98.1	15.9	SF-9	100.8	15.7	97.3	0.2	P	
1438	06/04/21	98.2	16.2	SF-9	100.8	15.7	97.4	0.5	P	
1439	06/04/21	98.1	16.7	SF-9	100.8	15.7	97.3	1.0	P	
1440	06/04/21	98.6	16.8	SF-9	100.8	15.7	97.8	1.1	P	
1441	06/04/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1442	06/04/21	98.0	17.4	SF-9	100.8	15.7	97.2	1.7	P	
1443	06/04/21	97.9	16.5	SF-9	100.8	15.7	97.1	0.8	P	
1444	06/04/21	97.5	15.9	SF-9	100.8	15.7	96.7	0.2	P	
1445	06/04/21	96.5	15.8	SF-9	100.8	15.7	95.7	0.1	P	
1446	06/04/21	96.8	16.2	SF-9	100.8	15.7	96.0	0.5	P	
1447	06/04/21	96.7	16.0	SF-9	100.8	15.7	95.9	0.3	P	
1448	06/04/21	96.7	16.8	SF-9	100.8	15.7	95.9	1.1	P	
1449	06/04/21	96.8	15.4	SF-9	100.8	15.7	96.0	-0.3	P	
1450	06/04/21	97.0	15.9	SF-9	100.8	15.7	96.2	0.2	P	
1451	06/04/21	96.9	15.4	SF-9	100.8	15.7	96.1	-0.3	P	
1452	06/04/21	98.0	15.4	SF-9	100.8	15.7	97.2	-0.3	P	
1453	06/05/21	96.5	15.9	SF-9	100.8	15.7	95.7	0.2	P	
1454	06/05/21	96.9	15.1	SF-9	100.8	15.7	96.1	-0.6	P	
1455	06/05/21	96.9	16.0	SF-9	100.8	15.7	96.1	0.3	P	
1456	06/05/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1457	06/05/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1458	06/05/21	97.5	16.8	SF-9	100.8	15.7	96.7	1.1	P	
1459	06/05/21	97.8	15.5	SF-9	100.8	15.7	97.0	-0.2	P	
1460	06/05/21	98.0	14.7	SF-9	100.8	15.7	97.2	-1.0	P	
1461	06/05/21	98.2	14.4	SF-9	100.8	15.7	97.4	-1.3	P	
1462	06/05/21	97.5	15.8	SF-9	100.8	15.7	96.7	0.1	P	
1463	06/05/21	98.2	14.9	SF-9	100.8	15.7	97.4	-0.8	P	
1464	06/05/21	98.1	15.4	SF-9	100.8	15.7	97.3	-0.3	P	
1465	06/05/21	98.3	15.9	SF-9	100.8	15.7	97.5	0.2	P	
1466	06/05/21	98.4	15.4	SF-9	100.8	15.7	97.6	-0.3	P	
1467	06/05/21	97.6	15.4	SF-9	100.8	15.7	96.8	-0.3	P	
1468	06/05/21	96.9	14.3	SF-9	100.8	15.7	96.1	-1.4	P	
1469	06/05/21	96.7	14.6	SF-9	100.8	15.7	95.9	-1.1	P	
1470	06/05/21	98.0	14.6	SF-9	100.8	15.7	97.2	-1.1	P	
1471	06/05/21	98.5	14.9	SF-9	100.8	15.7	97.7	-0.8	P	
1472	06/05/21	98.9	14.9	SF-9	100.8	15.7	98.1	-0.8	P	
1473	06/05/21	98.5	15.7	SF-9	100.8	15.7	97.7	0.0	P	
1474	06/05/21	96.9	15.2	SF-9	100.8	15.7	96.1	-0.5	P	
1475	06/05/21	96.9	14.7	SF-9	100.8	15.7	96.1	-1.0	P	
1476	06/05/21	98.4	15.6	SF-9	100.8	15.7	97.6	-0.1	P	
1477	06/05/21	98.4	16.2	SF-9	100.8	15.7	97.6	0.5	P	
1478	06/05/21	98.7	15.4	SF-9	100.8	15.7	97.9	-0.3	P	
1479	06/05/21	97.8	15.9	SF-9	100.8	15.7	97.0	0.2	P	

1480	06/07/21	96.5	16.3	SF-9	100.8	15.7	95.7	0.6	P	
1481	06/07/21	96.8	15.4	SF-9	100.8	15.7	96.0	-0.3	P	
1482	06/07/21	96.7	15.9	SF-9	100.8	15.7	95.9	0.2	P	
1483	06/07/21	96.8	15.4	SF-9	100.8	15.7	96.0	-0.3	P	
1484	06/07/21	96.8	15.4	SF-9	100.8	15.7	96.0	-0.3	P	
1485	06/07/21	96.9	14.3	SF-9	100.8	15.7	96.1	-1.4	P	
1486	06/07/21	97.0	14.6	SF-9	100.8	15.7	96.2	-1.1	P	
1487	06/07/21	97.5	15.0	SF-9	100.8	15.7	96.7	-0.7	P	
1488	06/07/21	97.6	14.9	SF-9	100.8	15.7	96.8	-0.8	P	
1489	06/07/21	97.4	14.9	SF-9	100.8	15.7	96.6	-0.8	P	
1490	06/07/21	96.8	15.7	SF-9	100.8	15.7	96.0	0.0	P	
1491	06/07/21	98.0	15.2	SF-9	100.8	15.7	97.2	-0.5	P	
1492	06/07/21	98.1	15.4	SF-9	100.8	15.7	97.3	-0.3	P	
1493	06/07/21	97.9	16.0	SF-9	100.8	15.7	97.1	0.3	P	
1494	06/07/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1495	06/07/21	97.3	16.4	SF-9	100.8	15.7	96.5	0.7	P	
1496	06/07/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1497	06/07/21	97.3	15.6	SF-9	100.8	15.7	96.6	-0.1	P	
1498	06/07/21	96.9	15.6	SF-9	100.8	15.7	96.1	-0.1	P	
1499	06/07/21	96.8	16.4	SF-9	100.8	15.7	96.0	0.7	P	
1500	06/07/21	97.1	16.7	SF-9	100.8	15.7	96.3	1.0	P	
1501	06/07/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
1502	06/07/21	97.5	16.2	SF-9	100.8	15.7	96.7	0.5	P	
1503	06/07/21	97.6	16.0	SF-9	100.8	15.7	96.8	0.3	P	
1504	06/07/21	97.8	16.4	SF-9	100.8	15.7	97.0	0.7	P	
1505	06/07/21	97.6	16.7	SF-9	100.8	15.7	96.8	1.0	P	
1506	06/07/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1507	06/07/21	97.8	16.4	SF-9	100.8	15.7	97.0	0.7	P	
1508	06/07/21	97.6	16.8	SF-9	100.8	15.7	96.8	1.1	P	
1509	06/07/21	98.0	16.8	SF-9	100.8	15.7	97.2	1.1	P	
1510	06/07/21	98.2	16.7	SF-9	100.8	15.7	97.4	1.0	P	
1511	06/07/21	98.4	16.0	SF-9	100.8	15.7	97.6	0.3	P	
1512	06/08/21	97.1	15.5	SF-9	100.8	15.7	96.3	-0.2	P	
1513	06/08/21	97.1	15.4	SF-9	100.8	15.7	96.3	-0.3	P	
1514	06/08/21	97.3	14.9	SF-9	100.8	15.7	96.5	-0.8	P	
1515	06/08/21	97.3	15.5	SF-9	100.8	15.7	96.5	-0.2	P	
1516	06/08/21	97.0	14.2	SF-9	100.8	15.7	96.2	-1.5	P	
1517	06/08/21	98.1	14.9	SF-9	100.8	15.7	97.3	-0.8	P	
1518	06/08/21	98.3	15.3	SF-9	100.8	15.7	97.5	-0.4	P	
1519	06/08/21	97.1	15.6	SF-9	100.8	15.7	96.3	-0.1	P	
1520	06/08/21	97.8	15.0	SF-9	100.8	15.7	97.0	-0.7	P	
1521	06/08/21	98.8	15.5	SF-9	100.8	15.7	98.0	-0.2	P	
1522	06/08/21	96.8	14.7	SF-9	100.8	15.7	96.0	-1.0	P	
1523	06/08/21	97.4	14.9	SF-9	100.8	15.7	96.6	-0.8	P	
1524	06/08/21	98.0	15.0	SF-9	100.8	15.7	97.2	-0.7	P	
1525	06/08/21	97.9	15.8	SF-9	100.8	15.7	97.1	0.1	P	
1526	06/08/21	98.6	16.2	SF-9	100.8	15.7	97.8	0.5	P	
1527	06/08/21	98.7	16.6	SF-9	100.8	15.7	97.9	0.9	P	
1528	06/08/21	97.3	16.5	SF-9	100.8	15.7	96.5	0.8	P	
1529	06/08/21	96.5	15.6	SF-9	100.8	15.7	95.7	-0.1	P	
1530	06/08/21	97.0	16.6	SF-9	100.8	15.7	96.2	0.9	P	
1531	06/08/21	97.3	15.1	SF-9	100.8	15.7	96.5	-0.6	P	
1532	06/08/21	96.9	16.6	SF-9	100.8	15.7	96.1	0.9	P	
1533	06/08/21	96.8	16.4	SF-9	100.8	15.7	96.0	0.7	P	
1534	06/08/21	97.8	16.1	SF-9	100.8	15.7	97.0	0.4	P	
1535	06/08/21	98.8	15.8	SF-9	100.8	15.7	98.0	0.1	P	
1536	06/08/21	97.7	15.5	SF-9	100.8	15.7	96.9	-0.2	P	

1537	06/08/21	98.8	15.6	SF-9	100.8	15.7	98.0	-0.1	P	
1538	06/08/21	98.4	16.0	SF-9	100.8	15.7	97.6	0.3	P	
1539	06/09/21	98.7	16.4	SF-9	100.8	15.7	97.9	0.7	P	
1540	06/09/21	98.2	16.0	SF-9	100.8	15.7	97.4	0.3	P	
1541	06/09/21	98.5	15.7	SF-9	100.8	15.7	97.7	0.0	P	
1542	06/09/21	98.6	15.9	SF-9	100.8	15.7	97.8	0.2	P	
1543	06/09/21	98.4	16.2	SF-9	100.8	15.7	97.6	0.5	P	
1544	06/09/21	97.9	15.4	SF-9	100.8	15.7	97.1	-0.3	P	
1545	06/09/21	98.5	15.7	SF-9	100.8	15.7	97.7	0.0	P	
1546	06/09/21	98.5	16.0	SF-9	100.8	15.7	97.7	0.3	P	
1547	06/09/21	98.3	16.4	SF-9	100.8	15.7	97.5	0.7	P	
1548	06/09/21	98.4	16.4	SF-9	100.8	15.7	97.6	0.7	P	
1549	06/09/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1550	06/09/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	
1551	06/09/21	97.1	16.4	SF-9	100.8	15.7	96.3	0.7	P	
1552	06/09/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1553	06/09/21	96.4	16.2	SF-9	100.8	15.7	95.6	0.5	P	
1554	06/09/21	96.4	16.0	SF-9	100.8	15.7	95.6	0.3	P	
1555	06/09/21	97.0	15.8	SF-9	100.8	15.7	96.2	0.1	P	
1556	06/09/21	97.5	15.6	SF-9	100.8	15.7	96.7	-0.1	P	
1557	06/09/21	97.4	16.2	SF-9	100.8	15.7	96.6	0.5	P	
1558	06/09/21	97.6	17.0	SF-9	100.8	15.7	96.8	1.3	P	
1559	06/09/21	97.6	16.2	SF-9	100.8	15.7	96.8	0.5	P	
1560	06/09/21	98.0	16.8	SF-9	100.8	15.7	97.2	1.1	P	
1561	06/09/21	98.2	16.4	SF-9	100.8	15.7	97.4	0.7	P	
1562	06/09/21	96.5	15.4	SF-9	100.8	15.7	95.7	-0.3	P	
1563	06/09/21	95.6	13.9	SF-9	100.8	15.7	94.8	-1.8	P	Low Moisture
1563R	06/09/21	96.4	15.6	SF-9	100.8	15.7	95.6	-0.1	P	Retest for 1563
1564	06/09/21	95.5	13.5	SF-9	100.8	15.7	94.7	-2.2	P	Low Moisture
1564R	06/09/21	97.4	15.4	SF-9	100.8	15.7	96.6	-0.3	P	Retest for 1064
1565	06/09/21	97.1	15.6	SF-9	100.8	15.7	96.3	-0.1	P	
1566	06/09/21	97.4	15.2	SF-9	100.8	15.7	96.6	-0.5	P	
1567	06/09/21	97.5	16.0	SF-9	100.8	15.7	96.7	0.3	P	
1568	06/10/21	97.0	16.7	SF-9	100.8	15.7	96.2	1.0	P	
1569	06/10/21	97.0	16.6	SF-9	100.8	15.7	96.2	0.9	P	
1570	06/10/21	98.7	15.7	SF-9	100.8	15.7	97.9	0.0	P	
1571	06/10/21	98.9	15.9	SF-9	100.8	15.7	98.1	0.2	P	
1572	06/10/21	97.9	15.7	SF-9	100.8	15.7	97.1	0.0	P	
1573	06/10/21	98.3	15.9	SF-9	100.8	15.7	97.5	0.2	P	
1574	06/10/21	98.5	16.1	SF-9	100.8	15.7	97.7	0.4	P	
1575	06/10/21	98.9	16.6	SF-9	100.8	15.7	98.1	0.9	P	
1576	06/10/21	98.4	15.6	SF-9	100.8	15.7	97.6	-0.1	P	
1577	06/10/21	98.6	15.8	SF-9	100.8	15.7	97.8	0.1	P	
1578	06/10/21	98.8	16.1	SF-9	100.8	15.7	98.0	0.4	P	
1579	06/10/21	97.8	15.3	SF-9	100.8	15.7	97.0	-0.4	P	
1580	06/10/21	98.0	15.5	SF-9	100.8	15.7	97.2	-0.2	P	
1581	06/10/21	98.7	15.9	SF-9	100.8	15.7	97.9	0.2	P	
1582	06/10/21	98.2	16.3	SF-9	100.8	15.7	97.4	0.6	P	
1583	06/10/21	98.4	16.5	SF-9	100.8	15.7	97.6	0.8	P	
1584	06/10/21	98.6	16.6	SF-9	100.8	15.7	97.8	0.9	P	
1585	06/10/21	97.5	16.3	SF-9	100.8	15.7	96.7	0.6	P	
1586	06/10/21	97.7	16.5	SF-9	100.8	15.7	96.9	0.8	P	
1587	06/10/21	97.3	16.6	SF-9	100.8	15.7	96.5	0.9	P	
1588	06/10/21	96.3	16.1	SF-9	100.8	15.7	95.5	0.4	P	
1589	06/10/21	96.5	16.3	SF-9	100.8	15.7	95.7	0.6	P	
1590	06/10/21	96.6	16.2	SF-9	100.8	15.7	95.8	0.5	P	
1591	06/10/21	97.4	15.5	SF-9	100.8	15.7	96.6	-0.2	P	

1592	06/10/21	97.6	15.7	SF-9	100.8	15.7	96.8	0.0	P	
1593	06/10/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	
1594	06/11/21	97.5	16.1	SF-9	100.8	15.7	96.7	0.4	P	
1595	06/11/21	97.7	16.3	SF-9	100.8	15.7	96.9	0.6	P	
1596	06/11/21	97.6	16.5	SF-9	100.8	15.7	96.8	0.8	P	
1597	06/11/21	97.5	16.8	SF-9	100.8	15.7	96.7	1.1	P	
1598	06/11/21	97.8	16.5	SF-9	100.8	15.7	97.0	0.8	P	
1599	06/11/21	98.1	16.3	SF-9	100.8	15.7	97.3	0.6	P	
1600	06/11/21	98.6	15.9	SF-9	100.8	15.7	97.8	0.2	P	
1601	06/11/21	98.4	17.5	SF-9	100.8	15.7	97.6	1.8	P	
1602	06/11/21	98.6	17.4	SF-9	100.8	15.7	97.8	1.7	P	
1603	06/11/21	98.4	16.5	SF-9	100.8	15.7	97.6	0.8	P	
1604	06/11/21	97.5	17.4	SF-9	100.8	15.7	96.7	1.7	P	
1605	06/11/21	96.9	17.5	SF-9	100.8	15.7	96.1	1.8	P	
1606	06/11/21	96.7	17.0	SF-9	100.8	15.7	95.9	1.3	P	
1607	06/11/21	96.7	16.0	SF-9	100.8	15.7	95.9	0.3	P	
1608	06/11/21	98.5	17.5	SF-9	100.8	15.7	97.7	1.8	P	
1609	06/11/21	98.4	16.9	SF-9	100.8	15.7	97.6	1.2	P	
1610	06/11/21	98.2	16.8	SF-9	100.8	15.7	97.4	1.1	P	
1611	06/11/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1612	06/11/21	97.6	17.5	SF-9	100.8	15.7	96.8	1.8	P	
1613	06/11/21	96.9	17.5	SF-9	100.8	15.7	96.1	1.8	P	
1614	06/12/21	97.0	14.4	SF-9	100.8	15.7	96.2	-1.3	P	
1615	06/12/21	96.9	14.8	SF-9	100.8	15.7	96.1	-0.9	P	
1616	06/12/21	97.8	14.4	SF-9	100.8	15.7	97.0	-1.3	P	
1617	06/12/21	98.6	15.0	SF-9	100.8	15.7	97.8	-0.7	P	
1618	06/12/21	99.1	15.1	SF-9	100.8	15.7	98.3	-0.6	P	
1619	06/12/21	98.3	15.5	SF-9	100.8	15.7	97.5	-0.2	P	
1620	06/12/21	97.0	15.3	SF-9	100.8	15.7	96.2	-0.4	P	
1621	06/12/21	97.1	14.9	SF-9	100.8	15.7	96.3	-0.8	P	
1622	06/12/21	98.2	15.4	SF-9	100.8	15.7	97.4	-0.3	P	
1623	06/12/21	98.5	16.3	SF-9	100.8	15.7	97.7	0.6	P	
1624	06/12/21	98.9	15.6	SF-9	100.8	15.7	98.1	-0.1	P	
1625	06/12/21	97.6	15.7	SF-9	100.8	15.7	96.8	0.0	P	
1626	06/12/21	96.6	16.4	SF-9	100.8	15.7	95.8	0.7	P	
1627	06/12/21	97.0	15.6	SF-9	100.8	15.7	96.2	-0.1	P	
1628	06/12/21	96.5	15.7	SF-9	100.8	15.7	95.7	0.0	P	
1629	06/12/21	96.9	15.5	SF-9	100.8	15.7	96.1	-0.2	P	
1630	06/12/21	97.0	15.6	SF-9	100.8	15.7	96.2	-0.1	P	
1631	06/12/21	96.7	14.1	SF-9	100.8	15.7	95.9	-1.6	P	
1632	06/12/21	97.1	14.7	SF-9	100.8	15.7	96.3	-1.0	P	
1633	06/12/21	97.7	15.2	SF-9	100.8	15.7	96.9	-0.5	P	
1634	06/12/21	97.4	14.7	SF-9	100.8	15.7	96.6	-1.0	P	
1635	06/12/21	97.5	15.0	SF-9	100.8	15.7	96.7	-0.7	P	
1636	06/12/21	97.0	15.9	SF-9	100.8	15.7	96.2	0.2	P	
1637	06/12/21	97.8	15.0	SF-9	100.8	15.7	97.0	-0.7	P	
1638	06/12/21	98.2	15.5	SF-9	100.8	15.7	97.4	-0.2	P	
1639	06/12/21	98.1	16.2	SF-9	100.8	15.7	97.3	0.5	P	
1640	06/14/21	97.3	16.2	SF-9	100.8	15.7	96.5	0.5	P	
1641	06/14/21	97.4	16.5	SF-9	100.8	15.7	96.6	0.8	P	
1642	06/14/21	97.8	16.1	SF-9	100.8	15.7	97.0	0.4	P	
1643	06/14/21	97.1	15.4	SF-9	100.8	15.7	96.4	-0.3	P	
1644	06/14/21	97.0	15.7	SF-9	100.8	15.7	96.2	0.0	P	
1645	06/14/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
1646	06/14/21	96.9	15.8	SF-9	100.8	15.7	96.1	0.1	P	
1647	06/14/21	98.0	16.9	SF-9	100.8	15.7	97.2	1.2	P	
1648	06/14/21	97.6	17.2	SF-9	100.8	15.7	96.8	1.5	P	

1649	06/14/21	96.9	17.2	SF-9	100.8	15.7	96.1	1.5	P	
1650	06/14/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1651	06/14/21	97.8	16.5	SF-9	100.8	15.7	97.0	0.8	P	
1652	06/14/21	98.0	16.5	SF-9	100.8	15.7	97.2	0.8	P	
1653	06/14/21	96.9	16.5	SF-9	100.8	15.7	96.1	0.8	P	
1654	06/14/21	97.0	16.9	SF-9	100.8	15.7	96.2	1.2	P	
1655	06/14/21	97.1	16.0	SF-9	100.8	15.7	96.3	0.3	P	
1656	06/14/21	98.0	16.4	SF-9	100.8	15.7	97.2	0.7	P	
1657	06/14/21	97.2	15.9	SF-9	100.8	15.7	96.4	0.2	P	
1658	06/14/21	97.8	16.9	SF-9	100.8	15.7	97.0	1.2	P	
1659	06/14/21	98.6	16.4	SF-9	100.8	15.7	97.8	0.7	P	
1660	06/14/21	97.5	16.7	SF-9	100.8	15.7	96.7	1.0	P	
1661	06/16/21	96.9	17.5	SF-9	100.8	15.7	96.1	1.8	P	
1662	06/16/21	96.8	17.5	SF-9	100.8	15.7	96.0	1.8	P	
1663	06/16/21	96.7	17.4	SF-9	100.8	15.7	95.9	1.7	P	
1664	06/16/21	96.5	16.9	SF-9	100.8	15.7	95.7	1.2	P	
1665	06/16/21	96.8	17.5	SF-9	100.8	15.7	96.0	1.8	P	
1666	06/16/21	96.1	17.3	SF-9	100.8	15.7	95.3	1.6	P	
1667	06/16/21	97.0	17.0	SF-9	100.8	15.7	96.2	1.3	P	
1668	06/16/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1669	06/16/21	97.3	16.8	SF-9	100.8	15.7	96.5	1.1	P	
1670	06/16/21	96.6	17.4	SF-9	100.8	15.7	95.8	1.7	P	
1671	06/16/21	96.5	17.6	SF-9	100.8	15.7	95.7	1.9	P	
1672	06/16/21	98.0	17.4	SF-9	100.8	15.7	97.2	1.7	P	
1673	06/16/21	97.5	17.4	SF-9	100.8	15.7	96.7	1.7	P	
1674	06/16/21	97.2	17.1	SF-9	100.8	15.7	96.4	1.4	P	
1675	06/16/21	97.1	16.2	SF-9	100.8	15.7	96.3	0.5	P	
1676	06/16/21	96.9	16.1	SF-9	100.8	15.7	96.1	0.4	P	
1677	06/16/21	96.5	16.9	SF-9	100.8	15.7	95.7	1.2	P	
1678	06/16/21	96.8	17.0	SF-9	100.8	15.7	96.0	1.3	P	
1679	06/18/21	97.5	17.5	SF-9	100.8	15.7	96.7	1.8	P	
1680	06/18/21	96.9	15.9	SF-9	100.8	15.7	96.1	0.2	P	
1681	06/18/21	97.6	16.9	SF-9	100.8	15.7	96.8	1.2	P	
1682	06/18/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1683	06/18/21	97.0	16.7	SF-9	100.8	15.7	96.2	1.0	P	
1684	06/18/21	97.1	17.5	SF-9	100.8	15.7	96.3	1.8	P	
1685	06/18/21	97.6	17.5	SF-9	100.8	15.7	96.8	1.8	P	
1686	06/18/21	98.0	17.4	SF-9	100.8	15.7	97.2	1.7	P	
1687	06/18/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1688	06/18/21	98.2	16.4	SF-9	100.8	15.7	97.4	0.7	P	
1689	06/18/21	97.4	17.3	SF-9	100.8	15.7	96.6	1.6	P	
1690	06/18/21	96.9	17.0	SF-9	100.8	15.7	96.1	1.3	P	
1691	06/18/21	96.8	16.4	SF-9	100.8	15.7	96.0	0.7	P	
1692	06/18/21	96.7	17.4	SF-9	100.8	15.7	95.9	1.7	P	
1693	06/18/21	96.5	17.6	SF-9	100.8	15.7	95.7	1.9	P	
1694	06/18/21	96.8	17.4	SF-9	100.8	15.7	96.0	1.7	P	
1695	06/18/21	96.4	17.6	SF-9	100.8	15.7	95.6	1.9	P	
1696	06/18/21	96.9	16.4	SF-9	100.8	15.7	96.1	0.7	P	
1697	06/18/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1698	06/18/21	96.8	16.9	SF-9	100.8	15.7	96.0	1.2	P	
1699	06/19/21	97.5	16.5	SF-9	100.8	15.7	96.7	0.8	P	
1700	06/19/21	97.2	16.9	SF-9	100.8	15.7	96.4	1.2	P	
1701	06/19/21	97.6	17.4	SF-9	100.8	15.7	96.8	1.7	P	
1702	06/19/21	97.5	17.1	SF-9	100.8	15.7	96.7	1.4	P	
1703	06/19/21	98.0	17.6	SF-9	100.8	15.7	97.2	1.9	P	
1704	06/19/21	97.4	17.5	SF-9	100.8	15.7	96.6	1.8	P	
1705	06/19/21	97.1	16.9	SF-9	100.8	15.7	96.3	1.2	P	

1706	06/19/21	97.4	16.9	SF-9	100.8	15.7	96.6	1.2	P	
1707	06/19/21	96.9	17.2	SF-9	100.8	15.7	96.1	1.5	P	
1708	06/19/21	96.8	17.5	SF-9	100.8	15.7	96.0	1.8	P	
1709	06/19/21	96.9	17.0	SF-9	100.8	15.7	96.1	1.3	P	
1710	06/19/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1711	06/19/21	97.4	17.2	SF-9	100.8	15.7	96.6	1.5	P	
1712	06/19/21	96.9	17.6	SF-9	100.8	15.7	96.1	1.9	P	
1713	06/19/21	97.4	17.4	SF-9	100.8	15.7	96.6	1.7	P	
1714	06/19/21	97.3	16.9	SF-9	100.8	15.7	96.5	1.2	P	
1715	06/19/21	97.8	16.7	SF-9	100.8	15.7	97.0	1.0	P	
1716	06/19/21	98.0	16.3	SF-9	100.8	15.7	97.2	0.6	P	
1717	06/19/21	97.9	16.4	SF-9	100.8	15.7	97.1	0.7	P	
1718	06/19/21	97.8	16.7	SF-9	100.8	15.7	97.0	1.0	P	
1719	06/19/21	96.5	16.5	SF-9	100.8	15.7	95.7	0.8	P	
1720	06/21/21	96.8	16.5	SF-9	100.8	15.7	96.0	0.8	P	
1721	06/21/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1722	06/21/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1723	06/21/21	96.9	16.8	SF-9	100.8	15.7	96.1	1.1	P	
1724	06/21/21	97.1	15.9	SF-9	100.8	15.7	96.3	0.2	P	
1725	06/21/21	97.6	17.0	SF-9	100.8	15.7	96.8	1.3	P	
1726	06/21/21	97.0	16.9	SF-9	100.8	15.7	96.2	1.2	P	
1727	06/21/21	96.8	16.7	SF-9	100.8	15.7	96.0	1.0	P	
1728	06/21/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1729	06/21/21	97.3	17.0	SF-9	100.8	15.7	96.5	1.3	P	
1730	06/21/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1731	06/21/21	96.9	15.9	SF-9	100.8	15.7	96.1	0.2	P	
1732	06/21/21	96.9	15.8	SF-9	100.8	15.7	96.1	0.1	P	
1733	06/21/21	96.8	15.9	SF-9	100.8	15.7	96.0	0.2	P	
1734	06/21/21	97.0	16.2	SF-9	100.8	15.7	96.2	0.5	P	
1735	06/21/21	97.3	16.3	SF-9	100.8	15.7	96.5	0.6	P	
1736	06/21/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1737	06/22/21	97.4	16.7	SF-9	100.8	15.7	96.6	1.0	P	
1738	06/22/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1739	06/22/21	97.6	17.5	SF-9	100.8	15.7	96.8	1.8	P	
1740	06/22/21	97.7	17.0	SF-9	100.8	15.7	96.9	1.3	P	
1741	06/22/21	97.4	17.4	SF-9	100.8	15.7	96.6	1.7	P	
1742	06/22/21	96.9	17.2	SF-9	100.8	15.7	96.1	1.5	P	
1743	06/22/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1744	06/22/21	96.4	16.4	SF-9	100.8	15.7	95.6	0.7	P	
1745	06/22/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1746	06/22/21	97.2	16.9	SF-9	100.8	15.7	96.4	1.2	P	
1747	06/22/21	96.8	16.9	SF-9	100.8	15.7	96.0	1.2	P	
1748	06/22/21	97.0	17.0	SF-9	100.8	15.7	96.2	1.3	P	
1749	06/22/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1750	06/22/21	97.3	16.7	SF-9	100.8	15.7	96.5	1.0	P	
1751	06/22/21	97.5	17.4	SF-9	100.8	15.7	96.7	1.7	P	
1752	06/25/21	97.8	17.4	SF-9	100.8	15.7	97.0	1.7	P	
1753	06/25/21	98.0	17.6	SF-9	100.8	15.7	97.2	1.9	P	
1754	06/25/21	97.6	17.4	SF-9	100.8	15.7	96.8	1.7	P	
1755	06/25/21	97.9	17.2	SF-9	100.8	15.7	97.1	1.5	P	
1756	06/25/21	98.5	16.9	SF-9	100.8	15.7	97.7	1.2	P	
1757	06/25/21	98.0	17.2	SF-9	100.8	15.7	97.2	1.5	P	
1758	06/25/21	96.9	17.0	SF-9	100.8	15.7	96.1	1.3	P	
1759	06/25/21	97.6	17.2	SF-9	100.8	15.7	96.8	1.5	P	
1760	06/26/21	98.0	17.2	SF-9	100.8	15.7	97.2	1.5	P	
1761	06/26/21	98.0	17.0	SF-9	100.8	15.7	97.2	1.3	P	
1762	06/26/21	97.9	16.9	SF-9	100.8	15.7	97.1	1.2	P	

1763	06/26/21	97.8	16.7	SF-9	100.8	15.7	97.0	1.0	P	
1764	06/26/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1765	06/26/21	96.8	17.0	SF-9	100.8	15.7	96.0	1.3	P	
1766	06/26/21	97.0	16.5	SF-9	100.8	15.7	96.2	0.8	P	
1767	06/26/21	97.2	16.7	SF-9	100.8	15.7	96.4	1.0	P	
1768	06/27/21	97.2	16.4	SF-9	100.8	15.7	96.4	0.7	P	
1769	06/27/21	96.5	16.2	SF-9	100.8	15.7	95.7	0.5	P	
1770	06/27/21	96.1	16.8	SF-9	100.8	15.7	95.3	1.1	P	
1771	06/27/21	96.4	16.3	SF-9	100.8	15.7	95.6	0.6	P	
1772	06/27/21	97.0	17.0	SF-9	100.8	15.7	96.2	1.3	P	
1773	06/27/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1774	06/27/21	97.2	16.1	SF-9	100.8	15.7	96.4	0.4	P	
1775	06/27/21	97.6	16.7	SF-9	100.8	15.7	96.8	1.0	P	
1776	06/27/21	97.8	17.1	SF-9	100.8	15.7	97.0	1.4	P	
1777	06/27/21	96.9	17.2	SF-9	100.8	15.7	96.1	1.5	P	
1778	06/27/21	96.4	16.9	SF-9	100.8	15.7	95.6	1.2	P	
1779	06/27/21	96.4	16.2	SF-9	100.8	15.7	95.6	0.5	P	
1780	06/27/21	96.7	16.6	SF-9	100.8	15.7	95.9	0.9	P	
1781	06/27/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1782	06/27/21	97.5	16.9	SF-9	100.8	15.7	96.7	1.2	P	
1783	06/27/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1784	06/27/21	97.8	16.9	SF-9	100.8	15.7	97.0	1.2	P	
1785	06/27/21	96.9	17.1	SF-9	100.8	15.7	96.1	1.4	P	
1786	06/27/21	97.0	17.2	SF-9	100.8	15.7	96.2	1.5	P	
1787	06/27/21	97.2	16.7	SF-9	100.8	15.7	96.4	1.0	P	
1788	06/27/21	97.5	16.5	SF-9	100.8	15.7	96.7	0.8	P	
1789	06/27/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1790	06/27/21	98.0	16.8	SF-9	100.8	15.7	97.2	1.1	P	
1791	06/27/21	97.9	16.9	SF-9	100.8	15.7	97.1	1.2	P	
1792	06/27/21	98.1	17.0	SF-9	100.8	15.7	97.3	1.3	P	
1793	06/27/21	98.0	16.4	SF-9	100.8	15.7	97.2	0.7	P	
1794	06/27/21	97.5	17.0	SF-9	100.8	15.7	96.7	1.3	P	
1795	06/28/21	97.8	17.0	SF-9	100.8	15.7	97.0	1.3	P	
1796	06/28/21	97.9	17.0	SF-9	100.8	15.7	97.1	1.3	P	
1797	06/28/21	97.6	16.2	SF-9	100.8	15.7	96.8	0.5	P	
1798	06/28/21	98.0	16.4	SF-9	100.8	15.7	97.2	0.7	P	
1799	06/28/21	98.6	16.7	SF-9	100.8	15.7	97.8	1.0	P	
1800	06/28/21	98.2	16.2	SF-9	100.8	15.7	97.4	0.5	P	
1801	06/28/21	98.1	16.1	SF-9	100.8	15.7	97.3	0.4	P	
1802	06/28/21	98.2	15.9	SF-9	100.8	15.7	97.4	0.2	P	
1803	06/28/21	97.9	15.8	SF-9	100.8	15.7	97.1	0.1	P	
1804	06/28/21	97.6	16.2	SF-9	100.8	15.7	96.8	0.5	P	
1805	06/28/21	98.0	16.4	SF-9	100.8	15.7	97.2	0.7	P	
1806	06/28/21	98.6	16.4	SF-9	100.8	15.7	97.8	0.7	P	
1807	06/28/21	97.3	16.8	SF-9	100.8	15.7	96.5	1.1	P	
1808	06/28/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
1809	06/28/21	97.6	16.9	SF-9	100.8	15.7	96.8	1.2	P	
1810	06/28/21	97.8	16.2	SF-9	100.8	15.7	97.0	0.5	P	
1811	06/28/21	98.0	17.0	SF-9	100.8	15.7	97.2	1.3	P	
1812	06/28/21	98.1	17.1	SF-9	100.8	15.7	97.3	1.4	P	
1813	06/28/21	97.2	16.2	SF-9	100.8	15.7	96.4	0.5	P	
1814	06/28/21	97.5	16.0	SF-9	100.8	15.7	96.7	0.3	P	
1815	06/28/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1816	06/28/21	98.1	16.2	SF-9	100.8	15.7	97.3	0.5	P	
1817	06/28/21	98.6	17.0	SF-9	100.8	15.7	97.8	1.3	P	
1818	06/28/21	98.0	16.5	SF-9	100.8	15.7	97.2	0.8	P	
1819	06/28/21	97.9	16.4	SF-9	100.8	15.7	97.1	0.7	P	

1820	06/28/21	97.6	16.3	SF-9	100.8	15.7	96.8	0.6	P	
1821	06/29/21	98.2	15.2	SF-9	100.8	15.7	97.4	-0.5	P	
1822	06/29/21	98.3	15.6	SF-9	100.8	15.7	97.5	-0.1	P	
1823	06/29/21	98.1	15.9	SF-9	100.8	15.7	97.3	0.2	P	
1824	06/29/21	97.9	16.3	SF-9	100.8	15.7	97.1	0.6	P	
1825	06/29/21	97.8	16.4	SF-9	100.8	15.7	97.0	0.7	P	
1826	06/29/21	98.1	15.4	SF-9	100.8	15.7	97.3	-0.3	P	
1827	06/29/21	98.2	15.6	SF-9	100.8	15.7	97.4	-0.1	P	
1828	06/29/21	97.9	16.2	SF-9	100.8	15.7	97.1	0.5	P	
1829	06/29/21	97.6	16.8	SF-9	100.8	15.7	96.8	1.1	P	
1830	06/29/21	98.1	16.4	SF-9	100.8	15.7	97.3	0.7	P	
1831	06/29/21	98.6	16.4	SF-9	100.8	15.7	97.8	0.7	P	
1832	06/29/21	98.4	15.5	SF-9	100.8	15.7	97.6	-0.2	P	
1833	06/29/21	97.9	15.4	SF-9	100.8	15.7	97.1	-0.3	P	
1834	06/29/21	97.6	15.9	SF-9	100.8	15.7	96.8	0.2	P	
1835	06/29/21	97.4	15.7	SF-9	100.8	15.7	96.6	0.0	P	
1836	06/29/21	97.8	15.6	SF-9	100.8	15.7	97.0	-0.1	P	
1837	06/29/21	98.2	15.4	SF-9	100.8	15.7	97.4	-0.3	P	
1838	06/29/21	98.4	16.1	SF-9	100.8	15.7	97.6	0.4	P	
1839	06/29/21	98.7	16.2	SF-9	100.8	15.7	97.9	0.5	P	
1840	06/29/21	98.4	16.4	SF-9	100.8	15.7	97.6	0.7	P	
1841	06/29/21	98.5	16.2	SF-9	100.8	15.7	97.7	0.5	P	
1842	06/29/21	98.0	16.0	SF-9	100.8	15.7	97.2	0.3	P	
1843	06/30/21	97.9	17.6	SF-9	100.8	15.7	97.1	1.9	P	
1844	06/30/21	97.5	17.5	SF-9	100.8	15.7	96.7	1.8	P	
1845	06/30/21	97.5	17.4	SF-9	100.8	15.7	96.7	1.7	P	
1846	06/30/21	97.6	17.9	SF-9	100.8	15.7	96.8	2.2	P	
1847	06/30/21	98.0	17.4	SF-9	100.8	15.7	97.2	1.7	P	
1848	06/30/21	98.2	17.4	SF-9	100.8	15.7	97.4	1.7	P	
1849	06/30/21	97.5	17.2	SF-9	100.8	15.7	96.7	1.5	P	
1850	06/30/21	97.6	17.6	SF-9	100.8	15.7	96.8	1.9	P	
1851	06/30/21	97.4	17.4	SF-9	100.8	15.7	96.6	1.7	P	
1852	06/30/21	98.0	17.8	SF-9	100.8	15.7	97.2	2.1	P	
1853	07/02/21	97.5	17.5	SF-9	100.8	15.7	96.7	1.8	P	
1854	07/02/21	97.6	17.4	SF-9	100.8	15.7	96.8	1.7	P	
1855	07/02/21	97.4	17.4	SF-9	100.8	15.7	96.6	1.7	P	
1856	07/02/21	98.3	17.6	SF-9	100.8	15.7	97.5	1.9	P	
1857	07/02/21	98.1	17.5	SF-9	100.8	15.7	97.3	1.8	P	
1858	07/02/21	98.2	17.0	SF-9	100.8	15.7	97.4	1.3	P	
1859	07/02/21	98.0	16.9	SF-9	100.8	15.7	97.2	1.2	P	
1860	07/02/21	97.9	17.7	SF-9	100.8	15.7	97.1	2.0	P	
1861	07/05/21	96.9	16.4	SF-9	100.8	15.7	96.1	0.7	P	
1862	07/05/21	96.8	16.5	SF-9	100.8	15.7	96.0	0.8	P	
1863	07/05/21	97.2	16.9	SF-9	100.8	15.7	96.4	1.2	P	
1864	07/05/21	96.5	17.4	SF-9	100.8	15.7	95.7	1.7	P	
1865	07/05/21	96.8	17.5	SF-9	100.8	15.7	96.0	1.8	P	
1866	07/05/21	97.2	17.9	SF-9	100.8	15.7	96.4	2.2	P	
1867	07/05/21	97.5	17.5	SF-9	100.8	15.7	96.7	1.8	P	
1868	07/05/21	97.6	17.4	SF-9	100.8	15.7	96.8	1.7	P	
1869	07/05/21	97.9	17.4	SF-9	100.8	15.7	97.1	1.7	P	
1870	07/05/21	96.9	17.6	SF-9	100.8	15.7	96.1	1.9	P	
1871	07/05/21	96.4	16.9	SF-9	100.8	15.7	95.6	1.2	P	
1872	07/05/21	98.0	16.8	SF-9	100.8	15.7	97.2	1.1	P	
1873	07/05/21	97.6	16.7	SF-9	100.8	15.7	96.8	1.0	P	
1874	07/05/21	98.2	16.9	SF-9	100.8	15.7	97.4	1.2	P	
1875	07/05/21	98.3	16.5	SF-9	100.8	15.7	97.5	0.8	P	
1876	07/05/21	97.9	16.4	SF-9	100.8	15.7	97.1	0.7	P	

1877	07/05/21	97.8	17.0	SF-9	100.8	15.7	97.0	1.3	P	
1878	07/05/21	98.2	17.2	SF-9	100.8	15.7	97.4	1.5	P	
1879	07/05/21	98.6	16.4	SF-9	100.8	15.7	97.8	0.7	P	
1880	07/05/21	97.4	16.5	SF-9	100.8	15.7	96.6	0.8	P	
1881	07/05/21	97.8	16.8	SF-9	100.8	15.7	97.0	1.1	P	
1882	07/05/21	98.6	17.0	SF-9	100.8	15.7	97.8	1.3	P	
1883	07/06/21	98.4	17.0	SF-9	100.8	15.7	97.6	1.3	P	
1884	07/06/21	98.5	17.5	SF-9	100.8	15.7	97.7	1.8	P	
1885	07/06/21	98.2	17.6	SF-9	100.8	15.7	97.4	1.9	P	
1886	07/06/21	98.3	17.4	SF-9	100.8	15.7	97.5	1.7	P	
1887	07/06/21	98.2	17.2	SF-9	100.8	15.7	97.4	1.5	P	
1888	07/06/21	98.1	17.1	SF-9	100.8	15.7	97.3	1.4	P	
1889	07/06/21	98.6	16.9	SF-9	100.8	15.7	97.8	1.2	P	
1890	07/06/21	97.9	16.8	SF-9	100.8	15.7	97.1	1.1	P	
1891	07/06/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	
1892	07/06/21	97.7	16.9	SF-9	100.8	15.7	96.9	1.2	P	
1893	07/06/21	97.7	16.7	SF-9	100.8	15.7	96.9	1.0	P	
1894	07/06/21	98.5	17.2	SF-9	100.8	15.7	97.7	1.5	P	
1895	07/06/21	98.6	17.2	SF-9	100.8	15.7	97.8	1.5	P	
1896	07/06/21	98.2	17.5	SF-9	100.8	15.7	97.4	1.8	P	
1897	07/06/21	98.1	17.6	SF-9	100.8	15.7	97.3	1.9	P	
1898	07/06/21	98.0	17.5	SF-9	100.8	15.7	97.2	1.8	P	
1899	07/06/21	98.2	17.6	SF-9	100.8	15.7	97.4	1.9	P	
1900	07/06/21	98.7	17.5	SF-9	100.8	15.7	97.9	1.8	P	
1901	07/06/21	97.4	17.2	SF-9	100.8	15.7	96.6	1.5	P	
1902	07/06/21	95.7	18.5	SF-9	100.8	15.7	94.9	2.8	F	High Moisture
1902R	07/06/21	96.2	17.4	SF-9	100.8	15.7	95.4	1.7	P	Retest for 1902
1903	07/09/21	97.2	17.0	SF-9	100.8	15.7	96.4	1.3	P	
1904	07/09/21	97.6	16.5	SF-9	100.8	15.7	96.8	0.8	P	
1905	07/09/21	97.3	16.9	SF-9	100.8	15.7	96.5	1.2	P	
1906	07/09/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
1907	07/09/21	97.5	16.8	SF-9	100.8	15.7	96.7	1.1	P	
1908	07/09/21	97.1	17.0	SF-9	100.8	15.7	96.3	1.3	P	
1909	07/09/21	96.9	17.1	SF-9	100.8	15.7	96.1	1.4	P	
1910	07/09/21	96.8	17.1	SF-9	100.8	15.7	96.0	1.4	P	
1911	07/09/21	97.2	16.9	SF-9	100.8	15.7	96.4	1.2	P	
1912	07/09/21	97.6	16.4	SF-9	100.8	15.7	96.8	0.7	P	
1913	07/09/21	97.5	17.5	SF-9	100.8	15.7	96.7	1.8	P	
1914	07/09/21	97.8	17.4	SF-9	100.8	15.7	97.0	1.7	P	
1915	07/09/21	96.9	17.0	SF-9	100.8	15.7	96.1	1.3	P	
1916	07/09/21	96.8	17.4	SF-9	100.8	15.7	96.0	1.7	P	
1917	07/09/21	97.0	16.5	SF-9	100.8	15.7	96.2	0.8	P	
1918	07/09/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1919	07/09/21	97.4	16.9	SF-9	100.8	15.7	96.6	1.2	P	
1920	07/09/21	97.5	16.8	SF-9	100.8	15.7	96.7	1.1	P	
1921	07/10/21	96.9	16.5	SF-9	100.8	15.7	96.1	0.8	P	
1922	07/10/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1923	07/10/21	97.5	16.7	SF-9	100.8	15.7	96.7	1.0	P	
1924	07/10/21	97.4	16.8	SF-9	100.8	15.7	96.6	1.1	P	
1925	07/10/21	97.6	16.9	SF-9	100.8	15.7	96.8	1.2	P	
1926	07/10/21	97.1	17.0	SF-9	100.8	15.7	96.3	1.3	P	
1927	07/10/21	96.9	16.9	SF-9	100.8	15.7	96.1	1.2	P	
1928	07/10/21	97.0	16.4	SF-9	100.8	15.7	96.2	0.7	P	
1929	07/10/21	97.6	17.2	SF-9	100.8	15.7	96.8	1.5	P	
1930	07/10/21	98.0	17.1	SF-9	100.8	15.7	97.2	1.4	P	
1931	07/10/21	98.2	16.9	SF-9	100.8	15.7	97.4	1.2	P	
1932	07/10/21	97.6	16.1	SF-9	100.8	15.7	96.8	0.4	P	

1933	07/10/21	97.2	16.8	SF-9	100.8	15.7	96.4	1.1	P	
1934	07/10/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
1935	07/10/21	98.0	16.7	SF-9	100.8	15.7	97.2	1.0	P	
1936	07/10/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1937	07/10/21	98.2	16.9	SF-9	100.8	15.7	97.4	1.2	P	
1938	07/12/21	98.2	16.4	SF-9	100.8	15.7	97.4	0.7	P	
1939	07/12/21	98.3	16.5	SF-9	100.8	15.7	97.5	0.8	P	
1940	07/12/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1941	07/12/21	98.0	17.0	SF-9	100.8	15.7	97.2	1.3	P	
1942	07/12/21	98.2	16.5	SF-9	100.8	15.7	97.4	0.8	P	
1943	07/12/21	97.9	16.4	SF-9	100.8	15.7	97.1	0.7	P	
1944	07/12/21	98.2	16.8	SF-9	100.8	15.7	97.4	1.1	P	
1945	07/12/21	97.9	16.7	SF-9	100.8	15.7	97.1	1.0	P	
1946	07/12/21	97.6	16.3	SF-9	100.8	15.7	96.8	0.6	P	
1947	07/12/21	98.2	16.9	SF-9	100.8	15.7	97.4	1.2	P	
1948	07/12/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1949	07/12/21	97.4	17.0	SF-9	100.8	15.7	96.6	1.3	P	
1950	07/12/21	97.5	17.1	SF-9	100.8	15.7	96.7	1.4	P	
1951	07/12/21	97.9	16.2	SF-9	100.8	15.7	97.1	0.5	P	
1952	07/12/21	98.0	16.3	SF-9	100.8	15.7	97.2	0.6	P	
1953	07/12/21	98.3	16.4	SF-9	100.8	15.7	97.5	0.7	P	
1954	07/14/21	98.6	16.0	SF-9	100.8	15.7	97.8	0.3	P	
1955	07/14/21	98.2	16.2	SF-9	100.8	15.7	97.4	0.5	P	
1956	07/14/21	98.5	16.4	SF-9	100.8	15.7	97.7	0.7	P	
1957	07/14/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1958	07/14/21	98.2	16.3	SF-9	100.8	15.7	97.4	0.6	P	
1959	07/14/21	98.0	16.6	SF-9	100.8	15.7	97.2	0.9	P	
1960	07/14/21	97.9	16.6	SF-9	100.8	15.7	97.1	0.9	P	
1961	07/14/21	98.5	17.0	SF-9	100.8	15.7	97.7	1.3	P	
1962	07/14/21	98.2	17.1	SF-9	100.8	15.7	97.4	1.4	P	
1963	07/14/21	98.6	17.2	SF-9	100.8	15.7	97.8	1.5	P	
1964	07/14/21	98.7	17.0	SF-9	100.8	15.7	97.9	1.3	P	
1965	07/14/21	98.4	17.2	SF-9	100.8	15.7	97.6	1.5	P	
1966	07/14/21	97.9	17.6	SF-9	100.8	15.7	97.1	1.9	P	
1967	07/14/21	98.6	16.9	SF-9	100.8	15.7	97.8	1.2	P	
1968	07/15/21	98.3	16.0	SF-9	100.8	15.7	97.5	0.3	P	
1969	07/15/21	98.6	16.4	SF-9	100.8	15.7	97.8	0.7	P	
1970	07/15/21	98.9	16.9	SF-9	100.8	15.7	98.1	1.2	P	
1971	07/15/21	98.8	16.7	SF-9	100.8	15.7	98.0	1.0	P	
1972	07/15/21	98.9	17.0	SF-9	100.8	15.7	98.1	1.3	P	
1973	07/15/21	98.2	16.4	SF-9	100.8	15.7	97.4	0.7	P	
1974	07/15/21	98.4	16.3	SF-9	100.8	15.7	97.6	0.6	P	
1975	07/15/21	97.9	16.6	SF-9	100.8	15.7	97.1	0.9	P	
1976	07/15/21	98.6	16.6	SF-9	100.8	15.7	97.8	0.9	P	
1977	07/15/21	97.5	16.5	SF-9	100.8	15.7	96.7	0.8	P	
1978	07/16/21	97.5	16.2	SF-9	100.8	15.7	96.7	0.5	P	
1979	07/16/21	97.8	16.3	SF-9	100.8	15.7	97.0	0.6	P	
1980	07/16/21	98.0	16.4	SF-9	100.8	15.7	97.2	0.7	P	
1981	07/16/21	98.2	17.0	SF-9	100.8	15.7	97.4	1.3	P	
1982	07/16/21	98.6	16.7	SF-9	100.8	15.7	97.8	1.0	P	
1983	07/16/21	98.1	16.9	SF-9	100.8	15.7	97.3	1.2	P	
1984	07/16/21	98.4	16.3	SF-9	100.8	15.7	97.6	0.6	P	
1985	07/16/21	98.5	16.4	SF-9	100.8	15.7	97.7	0.7	P	
1986	07/16/21	98.6	16.2	SF-9	100.8	15.7	97.8	0.5	P	
1987	07/16/21	98.1	16.0	SF-9	100.8	15.7	97.3	0.3	P	

Brantley Engineering, LLC

SUMMARY OF FIELD DENSITY TESTING RESULTS
DRIVE RING SUMMARY

Cell 14
Fill

PROJECT NUMBER: 2021-002

OWNER/ENGINEER: Omni Waste of Osceola, LLC

PROJECT TITLE: JED Cell 14 Construction

CONTRACTOR: Gulfstream Building Group, Inc.

DATES: FROM 04/08/21 TO 07/16/21 PAGE 1

TEST NUMBER	TEST DATE	IN PLACE DETERMINATION		MATCHING PROTOR			TEST RESULTS			REMARK
		DRY DENSITY (pcf)	MOISTURE CONTENT (%)	CURVE NUMBER	MAX DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMP (%)	DIFFER FROM OPT MOISTURE (%)	PASS/ FAIL	
DR-1	04/08/21	98.4	19.2	SF-7	104.1	15.5	94.5	3.7	F	
DR-1R	04/08/21	101.9	15.8	SF-7	104.1	15.5	97.9	0.3	P	
DR-24	04/09/21	101.4	16.5	SF-7	104.1	15.5	97.4	1.0	P	
DR-48	04/09/21	99.9	16.9	SF-7	104.1	15.5	96.0	1.4	P	
DR-64	04/10/21	100.0	15.8	SF-7	104.1	15.5	96.1	0.3	P	
DR-88	04/10/21	99.8	16.2	SF-7	104.1	15.5	95.9	0.7	P	
DR-106	04/14/21	101.4	17.5	SF-7	104.1	15.5	97.4	2.0	P	
DR-130	04/14/21	99.7	17.8	SF-7	104.1	15.5	95.8	2.3	P	
DR-150	04/15/21	100.9	14.5	SF-7	104.1	15.5	96.9	-1.0	P	
DR-174	04/15/21	101.2	17.6	SF-7	104.1	15.5	97.2	2.1	P	
DR-180	04/17/21	99.1	16.9	SF-8	102.0	14.8	97.2	2.1	P	
DR-204	04/17/21	98.4	16.5	SF-8	102.0	14.8	96.5	1.7	P	
DR-217	04/18/21	100.0	16.2	SF-8	102.0	14.8	98.0	1.4	P	
DR-240	04/18/21	98.0	15.2	SF-8	102.0	14.8	96.1	0.4	P	
DR-253	04/23/21	98.6	17.5	SF-12	102.5	15.2	96.2	2.3	P	
DR-268	04/26/21	101.2	14.6	SF-12	102.5	15.2	98.7	-0.6	P	
DR-292	04/26/21	99.5	16.0	SF-12	102.5	15.2	97.1	0.8	P	
DR-313	04/27/21	101.4	15.0	SF-12	102.5	15.2	98.9	-0.2	P	
DR-337	04/27/21	98.9	15.8	SF-12	102.5	15.2	96.5	0.6	P	
DR-358	04/28/21	99.9	15.5	SF-12	102.5	15.2	97.5	0.3	P	
DR-382	04/28/21	101.4	14.9	SF-12	102.5	15.2	98.9	-0.3	P	
DR-406	04/28/21	99.9	16.3	SF-12	102.5	15.2	97.5	1.1	P	
DR-418	04/29/21	96.9	14.8	SF-13	100.1	14.6	96.8	0.2	P	
DR-442	04/29/21	96.9	14.9	SF-13	100.1	14.6	96.8	0.3	P	
DR-462	05/01/21	97.0	16.0	SF-13	100.1	14.6	96.9	1.4	P	
DR-485	05/01/21	96.3	15.4	SF-13	100.1	14.6	96.2	0.8	P	
DR-502	05/03/21	99.0	14.2	SF-13	100.1	14.6	98.9	-0.4	P	
DR-526	05/03/21	97.1	14.0	SF-13	100.1	14.6	97.0	-0.6	P	
DR-533	05/04/21	98.5	15.6	SF-13	100.1	14.6	98.4	1.0	P	
DR-557	05/04/21	97.4	15.3	SF-13	100.1	14.6	97.3	0.7	P	
DR-567	05/05/21	96.8	14.0	SF-13	100.1	14.6	96.7	-0.6	P	
DR-590	05/05/21	96.2	14.5	SF-13	100.1	14.6	96.1	-0.1	P	
DR-604	05/06/21	96.7	16.0	SF-13	100.1	14.6	96.6	1.4	P	
DR-628	05/06/21	96.5	16.0	SF-13	100.1	14.6	96.4	1.4	P	
DR-650	05/07/21	95.5	13.5	SF-13	100.1	14.6	95.4	-1.1	P	
DR-674	05/07/21	95.9	14.6	SF-13	100.1	14.6	95.8	0.0	P	
DR-679	05/10/21	96.2	16.3	SF-13	100.1	14.6	96.1	1.7	P	
DR-703	05/10/21	96.4	13.0	SF-13	100.1	14.6	96.3	-1.6	P	
DR-711	05/11/21	96.8	13.9	SF-14	100.9	15.0	95.9	-1.1	P	
DR-735	05/11/21	97.5	12.9	SF-14	100.9	15.0	96.6	-2.1	P	
DR-745	05/12/21	98.2	14.0	SF-14	100.9	15.0	97.3	-1.0	P	

DR-769	05/12/21	98.0	13.5	SF-14	100.9	15.0	97.1	-1.5	P	
DR-782	05/13/21	97.8	14.5	SF-14	100.9	15.0	96.9	-0.5	P	
DR-806	05/14/21	99.5	16.4	SF-14	100.9	15.0	98.6	1.4	P	
DR-830	05/14/21	97.0	14.2	SF-14	100.9	15.0	96.1	-0.8	P	
DR-832	05/15/21	97.8	12.5	SF-14	100.9	15.0	96.9	-2.5	P	
DR-854	05/15/21	98.6	15.8	SF-14	100.9	15.0	97.7	0.8	P	
DR-870	05/17/21	96.5	15.0	SF-14	100.9	15.0	95.6	0.0	P	
DR-894	05/17/21	97.4	15.5	SF-14	100.9	15.0	96.5	0.5	P	
DR-902	05/18/21	98.0	14.2	SF-13	100.1	14.6	97.9	-0.4	P	
DR-926	05/18/21	97.5	15.9	SF-13	100.1	14.6	97.4	1.3	P	
DR-946	05/19/21	96.4	13.5	SF-13	100.1	14.6	96.3	-1.1	P	
DR-970	05/19/21	95.2	14.3	SF-13	100.1	14.6	95.1	-0.3	P	
DR-986	05/20/21	96.5	14.7	SF-13	100.1	14.6	96.4	0.1	P	
DR-1010	05/20/21	96.5	15.0	SF-13	100.1	14.6	96.4	0.4	P	
DR-1034	05/21/21	97.1	13.4	SF-13	100.1	14.6	97.0	-1.2	P	
DR-1056	05/21/21	96.8	14.0	SF-13	100.1	14.6	96.7	-0.6	P	
DR-1076	05/22/21	96.1	14.2	SF-13	100.1	14.6	96.0	-0.4	P	
DR-1099	05/22/21	96.1	13.6	SF-13	100.1	14.6	96.0	-1.0	P	
DR-1121	05/24/21	97.0	16.0	SF-9	100.8	15.7	96.2	0.3	P	
DR-1145	05/24/21	97.9	14.3	SF-9	100.8	15.7	97.1	-1.4	P	
DR-1166	05/25/21	97.4	16.4	SF-9	100.8	15.7	96.6	0.7	P	
DR-1190	05/25/21	97.0	16.0	SF-9	100.8	15.7	96.2	0.3	P	
DR-1209	05/26/21	97.4	15.1	SF-9	100.8	15.7	96.6	-0.6	P	
DR-1233	05/26/21	97.4	14.6	SF-9	100.8	15.7	96.6	-1.1	P	
DR-1242	05/27/21	96.1	14.0	SF-9	100.8	15.7	95.3	-1.7	P	
DR-1265	05/27/21	69.7	15.4	SF-9	100.8	15.7	69.1	-0.3	P	
DR-1280	05/28/21	98.0	15.2	SF-9	100.8	15.7	97.2	-0.5	P	
DR-1304	05/28/21	97.0	16.0	SF-9	100.8	15.7	96.2	0.3	P	
DR-1318	06/01/21	97.5	15.9	SF-9	100.8	15.7	96.7	0.2	P	
DR-1342	06/01/21	96.9	16.2	SF-9	100.8	15.7	96.1	0.5	P	
DR-1350	06/02/21	95.9	13.5	SF-9	100.8	15.7	95.1	-2.2	P	
DR-1374	06/02/21	97.5	16.4	SF-9	100.8	15.7	96.7	0.7	P	
DR-1382	06/03/21	96.7	16.5	SF-9	100.8	15.7	95.9	0.8	P	
DR-1406	06/03/21	95.9	14.8	SF-9	100.8	15.7	95.1	-0.9	P	
DR-1417	06/04/21	98.0	16.0	SF-9	100.8	15.7	97.2	0.3	P	
DR-1441	06/04/21	98.5	16.5	SF-9	100.8	15.7	97.7	0.8	P	
DR-1453	06/05/21	96.4	16.0	SF-9	100.8	15.7	95.6	0.3	P	
DR-1477	06/05/21	98.2	15.9	SF-9	100.8	15.7	97.4	0.2	P	
DR-1480	06/07/21	96.0	16.2	SF-9	100.8	15.7	95.2	0.5	P	
DR-1504	06/07/21	98.0	16.0	SF-9	100.8	15.7	97.2	0.3	P	
DR-1512	06/08/21	97.5	15.4	SF-9	100.8	15.7	96.7	-0.3	P	
DR-1536	06/08/21	98.0	15.4	SF-9	100.8	15.7	97.2	-0.3	P	
DR-1539	06/09/21	98.6	16.0	SF-9	100.8	15.7	97.8	0.3	P	
DR-1563	06/09/21	95.0	13.4	SF-9	100.8	15.7	94.2	-2.3	F	
DR-1563R	06/09/21	96.9	15.9	SF-9	100.8	15.7	96.1	0.2	P	
DR-1568	06/10/21	96.5	17.0	SF-9	100.8	15.7	95.7	1.3	P	
DR-1592	06/10/21	98.0	16.0	SF-9	100.8	15.7	97.2	0.3	P	
DR-1594	06/11/21	96.9	16.0	SF-9	100.8	15.7	96.1	0.3	P	
DR-1618	06/12/21	98.5	14.9	SF-9	100.8	15.7	97.7	-0.8	P	
DR-1640	06/14/21	97.6	16.0	SF-9	100.8	15.7	96.8	0.3	P	
DR-1661	06/16/21	97.4	16.5	SF-9	100.8	15.7	96.6	0.8	P	
DR-1679	06/18/21	97.0	17.0	SF-9	100.8	15.7	96.2	1.3	P	
DR-1699	06/19/21	97.8	16.2	SF-9	100.8	15.7	97.0	0.5	P	
DR-1720	06/21/21	97.0	16.8	SF-9	100.8	15.7	96.2	1.1	P	
DR-1737	06/22/21	97.0	16.0	SF-9	100.8	15.7	96.2	0.3	P	
DR-1752	06/25/21	97.4	17.0	SF-9	100.8	15.7	96.6	1.3	P	
DR-1760	06/26/21	97.6	16.5	SF-9	100.8	15.7	96.8	0.8	P	

DR-1768	06/27/21	96.8	16.2	SF-9	100.8	15.7	96.0	0.5	P	
DR-1792	06/27/21	98.0	16.8	SF-9	100.8	15.7	97.2	1.1	P	
DR-1795	06/28/21	97.4	16.8	SF-9	100.8	15.7	96.6	1.1	P	
DR-1819	06/28/21	97.4	15.9	SF-9	100.8	15.7	96.6	0.2	P	
DR-1821	06/29/21	97.9	15.5	SF-9	100.8	15.7	97.1	-0.2	P	
DR-1843	06/30/21	97.5	17.4	SF-9	100.8	15.7	96.7	1.7	P	
DR-1853	07/02/21	96.9	17.3	SF-9	100.8	15.7	96.1	1.6	P	
DR-1861	07/05/21	97.4	16.5	SF-9	100.8	15.7	96.6	0.8	P	
DR-1883	07/06/21	98.0	17.1	SF-9	100.8	15.7	97.2	1.4	P	
DR-1903	07/09/21	96.5	16.5	SF-9	100.8	15.7	95.7	0.8	P	
DR-1921	07/10/21	97.5	16.2	SF-9	100.8	15.7	96.7	0.5	P	
DR-1938	07/12/21	98.0	16.0	SF-9	100.8	15.7	97.2	0.3	P	
DR-1954	07/14/21	98.0	15.9	SF-9	100.8	15.7	97.2	0.2	P	
DR-1968	07/15/21	97.6	15.5	SF-9	100.8	15.7	96.8	-0.2	P	
DR-1978	07/16/21	97.6	16.0	SF-9	100.8	15.7	96.8	0.3	P	
DR-1987	07/16/21	97.9	15.9	SF-9	100.8	15.7	97.1	0.2	P	

Brantley Engineering, LLC

SUMMARY OF FIELD DENSITY TESTING RESULTS
CHECK PLUG

Cell 14
Fill

PROJECT NUMBER: 2021-002

OWNER/ENGINEER: Omni Waste of Osceola, LLC

PROJECT TITLE: JED Cell 14 Construction

CONTRACTOR: Gulfstream Building Group, Inc.

DATES: FROM 04/08/21 TO 07/16/21 PAGE 1

TEST NUMBER	TEST DATE	IN PLACE DETERMINATION		MATCHING PROTOR			TEST RESULTS			
		DRY DENSITY (pcf)	MOISTURE CONTENT (%)	CURVE NUMBER	MAX DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)	PERCENT COMP (%)	DIFFER FROM OPT MOISTURE (%)	PASS/ FAIL	REMARK
CP-1	04/08/21	104.2	15.9	SF-7	104.1	15.5	-	-	-	
CP-2	04/08/21	108.9	12.0	SF-5	109.5	11.8	-	-	-	
CP-3	04/08/21	103.9	15.4	SF-7	104.1	15.5	-	-	-	
CP-4	04/09/21	109.3	12.0	SF-5	109.5	11.8	-	-	-	
CP-5	04/09/21	104.0	15.6	SF-7	104.1	15.5	-	-	-	
CP-6	04/10/21	99.9	14.2	SF-13	100.1	14.6	-	-	-	
CP-7	04/10/21	103.8	15.6	SF-7	104.1	15.5	-	-	-	
CP-8	04/10/21	99.8	14.1	SF-13	100.1	14.6	-	-	-	
CP-9	04/10/21	104.0	15.2	SF-7	104.1	15.5	-	-	-	
CP-10	04/10/21	99.6	14.5	SF-13	100.1	14.6	-	-	-	
CP-11	04/10/21	104.3	15.6	SF-7	104.1	15.5	-	-	-	
CP-12	04/10/21	99.8	14.2	SF-13	100.1	14.6	-	-	-	
CP-13	04/14/21	103.7	15.6	SF-7	104.1	15.5	-	-	-	
CP-14	04/17/21	101.6	15.0	SF-8	102.0	14.8	-	-	-	
CP-15	04/23/21	101.8	15.4	SF-12	102.5	15.2	-	-	-	
CP-16	04/29/21	100.0	14.9	SF-13	100.1	14.6	-	-	-	
CP-17	05/11/21	100.5	15.2	SF-14	100.9	15.0	-	-	-	
CP-18	05/18/21	99.7	14.5	SF-13	100.1	14.6	-	-	-	
CP-19	05/24/21	100.4	15.5	SF-9	100.8	15.7	-	-	-	
CP-20	06/10/21	100.2	15.7	SF-9	100.8	15.7	-	-	-	
CP-21	06/30/21	100.6	15.5	SF-9	100.8	15.7	-	-	-	
CP-22	07/16/21	100.9	16.0	SF-9	100.8	15.7	-	-	-	

Brantley Engineering, LLC

SUMMARY OF FIELD DENSITY TESTING RESULTS

Cell 14
Anchor Trench

PROJECT NUMBER: 2021-002

OWNER/ENGINEER: Omni Waste of Osceola, LLC

PROJECT TITLE: JED Cell 14 Construction

CONTRACTOR: Gulfstream Building Group, Inc.

DATES: FROM 11/16/21 TO 12/06/21 PAGE 1

			IN PLACE DETERMINATION		MATCHING PROTOR			TEST RESULTS			
TEST NUMBER	TEST DATE	LOCATION OF SAMPLE	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	CURVE NUMBER	MAX DRY DENSIT	OPTIMUM MOISTU	PERCENT COMP (%)	DIFFER FROM OPT	PASS / FAIL	REMARK
CP-1	11/16/21	Lift 1	100.0	14.3	SF-13	100.1	14.6			P	
DR-1	11/16/21	Lift 1	97.0	13.5	SF-13	100.1	14.6	96.9	-1.1	P	Confirm #1
1	11/16/21	Lift 1	97.2	14.0	SF-13	100.1	14.6	97.1	-0.6	P	
2	11/16/21	Lift 1	97.0	14.0	SF-13	100.1	14.6	96.9	-0.6	P	
3	11/16/21	Lift 1	97.6	16.0	SF-13	100.1	14.6	97.5	1.4	P	
4	11/16/21	Lift 1	96.5	15.7	SF-13	100.1	14.6	96.4	1.1	P	
5	11/16/21	Lift 1	95.9	14.8	SF-13	100.1	14.6	95.8	0.2	P	
CP-2	11/17/21	Lift 2	99.9	14.0	SF-13	100.1	14.6			P	
DR-2	11/17/21	Lift 2	96.1	15.0	SF-13	100.1	14.6	96.0	0.4	P	Confirm #6
6	11/17/21	Lift 2	95.6	15.6	SF-13	100.1	14.6	95.5	1.0	P	
7	11/17/21	Lift 2	96.3	15.1	SF-13	100.1	14.6	96.2	0.5	P	
8	11/17/21	Lift 2	96.4	13.6	SF-13	100.1	14.6	96.3	-1.0	P	
9	11/17/21	Lift 2	96.8	15.1	SF-13	100.1	14.6	96.7	0.5	P	
10	11/17/21	Lift 2	97.0	14.7	SF-13	100.1	14.6	96.9	0.1	P	
11	11/17/21	Lift 3	97.2	13.6	SF-13	100.1	14.6	97.1	-1.0	P	
12	11/17/21	Lift 3	96.6	14.2	SF-13	100.1	14.6	96.5	-0.4	P	
13	11/17/21	Lift 3	96.5	14.3	SF-13	100.1	14.6	96.4	-0.3	P	
14	11/17/21	Lift 3	96.9	14.3	SF-13	100.1	14.6	96.8	-0.3	P	
15	11/17/21	Lift 3	97.2	14.8	SF-13	100.1	14.6	97.1	0.2	P	
CP-3	12/03/21	Lift 1	100.2	14.3	SF-13	100.1	14.6			P	
DR-3	12/03/21	Lift 1	96.5	14.3	SF-13	100.1	14.6	96.4	-0.3	P	Confirm #16
16	12/03/21	Lift 1	96.8	13.9	SF-13	100.1	14.6	96.7	-0.7	P	
17	12/03/21	Lift 1	97.2	12.4	SF-13	100.1	14.6	97.1	-2.2	P	
18	12/03/21	Lift 1	96.6	12.1	SF-13	100.1	14.6	96.5	-2.5	P	
19	12/03/21	Lift 1	96.5	12.8	SF-13	100.1	14.6	96.4	-1.8	P	
20	12/03/21	Lift 1	97.0	12.9	SF-13	100.1	14.6	96.9	-1.7	P	
21	12/03/21	Lift 1	97.2	14.9	SF-13	100.1	14.6	97.1	0.3	P	
22	12/03/21	Lift 1	97.3	12.8	SF-13	100.1	14.6	97.2	-1.8	P	
23	12/03/21	Lift 1	96.5	14.9	SF-13	100.1	14.6	96.4	0.3	P	
24	12/03/21	Lift 1	96.1	13.9	SF-13	100.1	14.6	96.0	-0.7	P	
25	12/03/21	Lift 1	96.4	13.9	SF-13	100.1	14.6	96.3	-0.7	P	
26	12/03/21	Lift 1	96.2	14.0	SF-13	100.1	14.6	96.1	-0.6	P	
27	12/03/21	Lift 1	96.3	14.6	SF-13	100.1	14.6	96.2	0.0	P	
28	12/03/21	Lift 1	96.0	15.0	SF-13	100.1	14.6	95.9	0.4	P	
29	12/03/21	Lift 1	96.2	15.3	SF-13	100.1	14.6	96.1	0.7	P	
30	12/03/21	Lift 1	97.1	15.0	SF-13	100.1	14.6	97.0	0.4	P	
31	12/03/21	Lift 1	96.8	14.2	SF-13	100.1	14.6	96.7	-0.4	P	
CP-3	12/03/21	Lift 2	100.5	14.9	SF-13	100.1	14.6			P	
DR-3	12/03/21	Lift 2	96.9	15.1	SF-13	100.1	14.6	96.8	0.5	P	Confirm #32
32	12/06/21	Lift 2	97.0	15.0	SF-13	100.1	14.6	96.9	0.4	P	
33	12/06/21	Lift 2	97.2	16.0	SF-13	100.1	14.6	97.1	1.4	P	
34	12/06/21	Lift 2	96.9	16.4	SF-13	100.1	14.6	96.8	1.8	P	
35	12/06/21	Lift 2	96.5	15.5	SF-13	100.1	14.6	96.4	0.9	P	
36	12/06/21	Lift 2	96.3	15.3	SF-13	100.1	14.6	96.2	0.7	P	
37	12/06/21	Lift 2	96.4	13.6	SF-13	100.1	14.6	96.3	-1.0	P	

38	12/06/21	Lift 2	96.2	15.2	SF-13	100.1	14.6	96.1	0.6	P	
39	12/06/21	Lift 2	96.7	15.4	SF-13	100.1	14.6	96.6	0.8	P	
40	12/06/21	Lift 2	97.3	14.8	SF-13	100.1	14.6	97.2	0.2	P	
41	12/06/21	Lift 2	97.2	14.6	SF-13	100.1	14.6	97.1	0.0	P	
42	12/06/21	Lift 2	97.1	16.3	SF-13	100.1	14.6	97.0	1.7	P	
43	12/06/21	Lift 2	96.5	14.3	SF-13	100.1	14.6	96.4	-0.3	P	
44	12/06/21	Lift 2	96.9	16.5	SF-13	100.1	14.6	96.8	1.9	P	
45	12/06/21	Lift 2	97.0	14.9	SF-13	100.1	14.6	96.9	0.3	P	
46	12/06/21	Lift 2	97.5	15.8	SF-13	100.1	14.6	97.4	1.2	P	
47	12/06/21	Lift 2	97.4	15.7	SF-13	100.1	14.6	97.3	1.1	P	
CP-4	12/06/21	Lift 2	100.5	14.9	SF-13	100.1	14.6			P	
DR-4	12/06/21	Lift 2	97.0	15.1	SF-13	100.1	14.6	96.9	0.5	P	Confirm #48
48	12/06/21	Lift 3	97.4	15.7	SF-13	100.1	14.6	97.3	1.1	P	
49	12/06/21	Lift 3	96.5	15.9	SF-13	100.1	14.6	96.4	1.3	P	
50	12/06/21	Lift 3	96.3	17.0	SF-13	100.1	14.6	96.2	2.4	P	
51	12/06/21	Lift 3	96.4	15.1	SF-13	100.1	14.6	96.3	0.5	P	
52	12/06/21	Lift 3	97.0	17.5	SF-13	100.1	14.6	96.9	2.9	P	
53	12/06/21	Lift 3	97.2	12.2	SF-13	100.1	14.6	97.1	-2.4	P	
54	12/06/21	Lift 3	97.6	16.7	SF-13	100.1	14.6	97.5	2.1	P	
55	12/06/21	Lift 3	96.9	16.7	SF-13	100.1	14.6	96.8	2.1	P	
56	12/06/21	Lift 3	96.5	16.7	SF-13	100.1	14.6	96.4	2.1	P	
57	12/06/21	Lift 3	96.3	16.7	SF-13	100.1	14.6	96.2	2.1	P	
58	12/06/21	Lift 3	95.9	16.7	SF-13	100.1	14.6	95.8	2.1	P	
59	12/06/21	Lift 3	95.9	16.7	SF-13	100.1	14.6	95.8	2.1	P	
60	12/06/21	Lift 3	96.3	16.7	SF-13	100.1	14.6	96.2	2.1	P	
61	12/06/21	Lift 3	96.3	16.7	SF-13	100.1	14.6	96.2	2.1	P	
62	12/06/21	Lift 3	96.4	16.7	SF-13	100.1	14.6	96.3	2.1	P	
63	12/06/21	Lift 3	96.8	16.7	SF-13	100.1	14.6	96.7	2.1	P	
CP-5	12/23/21	Lift 1	99.9	14.2	SF-13	100.1	14.6			P	
DR-5	12/23/21	Lift 1	96.6	15.1	SF-13	100.1	14.6	96.5	0.5	P	Confirm #64
64	12/23/21	Lift 1	96.4	14.1	SF-13	100.1	14.6	96.3	-0.5	P	
65	12/23/21	Lift 1	97.2	14.6	SF-13	100.1	14.6	97.1	0.0	P	
66	12/23/21	Lift 1	97.5	15.0	SF-13	100.1	14.6	97.4	0.4	P	
67	12/23/21	Lift 1	96.5	14.8	SF-13	100.1	14.6	96.4	0.2	P	
68	12/23/21	Lift 1	96.0	15.2	SF-13	100.1	14.6	95.9	0.6	P	
69	12/23/21	Lift 2	96.5	15.6	SF-13	100.1	14.6	96.4	1.0	P	
70	12/23/21	Lift 2	96.5	15.1	SF-13	100.1	14.6	96.4	0.5	P	
71	12/23/21	Lift 2	96.9	14.9	SF-13	100.1	14.6	96.8	0.3	P	
72	12/23/21	Lift 2	97.0	14.8	SF-13	100.1	14.6	96.9	0.2	P	
73	12/23/21	Lift 2	96.4	15.2	SF-13	100.1	14.6	96.3	0.6	P	
74	12/23/21	Lift 3	96.2	15.3	SF-13	100.1	14.6	96.1	0.7	P	
75	12/23/21	Lift 3	95.9	15.1	SF-13	100.1	14.6	95.8	0.5	P	
76	12/23/21	Lift 3	95.8	15.1	SF-13	100.1	14.6	95.7	0.5	P	
77	12/23/21	Lift 3	95.7	14.9	SF-13	100.1	14.6	95.6	0.3	P	
78	12/23/21	Lift 3	96.3	14.8	SF-13	100.1	14.6	96.2	0.2	P	

APPENDIX D
Manufacturer's Quality Control Certificates

Section 1
GCL

CETCO
Colloid Environmental Technologies Company LLC

GRI GEI GSI GII GAI GCI
GAI-LAP accredited

Date: 26-Jan-2021 02:52
Purchase Order: 6465-21-0014
ORDER NUMBER: 55053180

WASTE CONNECTIONS (TAMPA)
5135 MADISON AVE

TAMPA,FL,33619

To Whom It May Concern:

Please find the enclosed Manufacturing Quality Assurance/Manufacturing Quality Control (MQA/MQC) test data package for Geosynthetic Clay Liner (GCL) shipments to WASTE CONNECTIONS (TAMPA) .

The enclosed data package includes results for all MQC tests required by ASTM D5889, with the exception of index flux/hydraulic conductivity. This test, which is run according to ASTM D5887, is normally performed once every 250,000 sq./ft. of GCL produced, unless a higher frequency is required by the project specifications. Because of the GCL's low permeability, this test can take several weeks to complete. The index flux/hydraulic conductivity results associated with this lot of material will be provided under separate cover as soon as they are available.

Although the index flux/hydraulic conductivity test results are not yet available, CETCO® accepts responsibility for our GCL should the index flux/hydraulic conductivity test produce unacceptable results. If, upon delivery and prior to installation, individual rolls of GCL are found to be nonconforming to accepted project specifications, CETCO® will replace the nonconforming material at no charge.

Questions regarding this information should be directed to CETCO® Technical Services at eptechservices@cetco.com.

Sincerely,

NICHOLLS, RYAN J
Quality Assurance Coordinator
CETCO® Lovell Plant

CETCO
Colloid Environmental Technologies Company LLC

GEOSYNTHETIC CLAY LINER
MANUFACTURING QUALITY ASSURANCE DATA PACKAGE

PROJECT NAME:
CUSTOMER P.O.: 6465-21-0014
ORDER NUMBER: 55053180
PREPARED FOR: WASTE CONNECTIONS (TAMPA)

CONTENTS:

- Product Certifications
- GCL Order Packing List and MQA Tracking Form
- GCL Manufacturing Quality control test data
- Bentonite clay certification
- Raw Material Test results

PREPARED BY: NICHOLLS, RYAN J
Quality Assurance Coordinator
CETCO®
AMERICAN COLLOID COMPANY
92 HIGHWAY 37
LOVELL, 82431, WY
Telephone: 800-322-1159
Email: Ryan.Nicholls@mineralstech.com

CETCO
Colloid Environmental Technologies Company LLC

PRODUCT CERTIFICATIONS

PROJECT NAME:
CUSTOMER P.O.: 6465-21-0014
ORDER NUMBER: 55053180
PREPARED FOR: WASTE CONNECTIONS (TAMPA)

The GCL Manufactured for the above-referenced order number is certified to meet the values listed in the tables below:

GCL PROPERTY SPECIFICATIONS FOR BENTOMAT® ST

Test Method	Test Method Property	Test Frequency	Certified Value
ASTM D6243	GCL Hydrated Internal Shear Strength	1,000,000 sq ft	500 - psf Min.
ASTM D6496	GCL Peel Strength	40,000 sq ft (4,000 sq m)	3.5 - lbs/in Min.
ASTM D5993	GCL Moisture	40,000 sq ft (4,000 sq m)	35 - % Max
ASTM D5993	Bentonite Mass/Area	40,000 sq ft (4,000 sq m)	.75 - lbs/sq ft Min.
ASTM D5890	Bentonite Free Swell	50 tons	24 - ml Min.
ASTM D5891	Bentonite Fluid Loss	50 tons	18 - ml Max
ASTM D6768	GCL Grab Strength	200,000 sq ft (20,000 sq m)	30 - lbs/in Min.
ASTM D5887	GCL-Hydraulic Conductivity	250,000 sq ft	5x10-9 - cm/s Max
ASTM D5887	GCL-Index Flux	250,000 sq ft	1x10-8 - m3/m2/s Max

All tensile testing is in the machine direction using ASTM D 6768. All peel strength testing is performed using ASTM D 6496. An "*" indicates non-standard testing, frequency, or certified value .

NEEDLE DETECTION AND REMOVAL PROCEDURE

CETCO® hereby affirms that all Bentomat® geosynthetic clay liner material manufactured for this project is continually passed under a magnet for needle removal and then screened with a metal detection device. CETCO® certifies Bentomat® to be essentially free of broken needless and fragments of needles that would negatively affect the performance of the final product.

Sincerely,

NICHOLLS, RYAN J
Quality Assurance Coordinator
CETCO® Lovell Plant

CETCO
Colloid Environmental Technologies Company LLC

GCL PACKING LIST AND MQA TRACKING FORM

Listing of finished and raw materials used to produce certification package number 55053180

GCL								GEOTEXTILE			CLAY
BENTOMAT® ST								01-9514	01-9865		CG 50-BLK
Order	**GCL Lot#**	**GCL Roll#**	**Length**	**Width**	**Weight**	**Sq. ft**	**Roll # Tested**	**Cap1 Roll #**	**Base1 Roll #**		**Clay Lot #**
55053180	LL-03-2021	333	150	15	2750	2250	333	700286519	3020051142		L-013-21-B
55053180	LL-03-2021	334	150	15	2685	2250	333	700286519	3020051142		L-013-21-B
55053180	LL-03-2021	335	150	15	2595	2250	333	700286519	3020051142		L-013-21-B
55053180	LL-03-2021	336	150	15	2595	2250	333	700286519	3020051142		L-013-21-B
55053180	LL-03-2021	337	150	15	2720	2250	333	700286519	3020070265		L-013-21-B
55053180	LL-03-2021	338	150	15	2720	2250	333	700286519	3020070265		L-013-21-B
55053180	LL-03-2021	339	150	15	2665	2250	333	700286519	3020070265		L-013-21-B
55053180	LL-03-2021	340	150	15	2665	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	341	150	15	2620	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	342	150	15	2630	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	343	150	15	2605	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	344	150	15	2640	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	345	150	15	2635	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	346	150	15	2595	2250	333	700286517	3020070265		L-013-21-B
55053180	LL-03-2021	347	150	15	2610	2250	333	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	348	150	15	2620	2250	333	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	349	150	15	2620	2250	333	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	350	150	15	2610	2250	350	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	351	150	15	2630	2250	350	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	352	150	15	2650	2250	350	700286528	3020070265		L-013-21-B
55053180	LL-03-2021	353	150	15	2630	2250	350	700283646	3020070265		L-013-21-B
55053180	LL-03-2021	354	150	15	2645	2250	350	700283646	3020070265		L-013-21-B
55053180	LL-03-2021	355	150	15	2630	2250	350	700283646	3020070265		L-013-21-B
55053180	LL-03-2021	356	150	15	2705	2250	350	700283646	3020070265		L-013-21-B
55053180	LL-03-2021	357	150	15	2685	2250	350	700283646	3020070265		L-013-21-B
55053180	LL-03-2021	358	150	15	2700	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	359	150	15	2765	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	360	150	15	2870	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	361	150	15	2920	2250	350	700283690	3020070265		L-013-21-B

55053180	LL-03-2021	362	150	15	2825	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	363	150	15	2835	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	364	150	15	2845	2250	350	700283690	3020070265		L-013-21-B
55053180	LL-03-2021	365	150	15	2880	2250	350	700281080	3020070265		L-013-21-B
55053180	LL-03-2021	366	150	15	2830	2250	350	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	367	150	15	2800	2250	367	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	368	150	15	2810	2250	367	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	369	150	15	2780	2250	367	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	370	150	15	2820	2250	367	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	371	150	15	2825	2250	367	700281080	3020070282		L-013-21-B
55053180	LL-03-2021	372	150	15	2820	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	373	150	15	2820	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	374	150	15	2790	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	375	150	15	2785	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	376	150	15	2805	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	377	150	15	2855	2250	367	700283631	3020070282		L-013-21-B
55053180	LL-03-2021	378	150	15	2845	2250	367	700285671	3020070282		L-013-21-B
55053180	LL-03-2021	379	150	15	2820	2250	367	700285671	3020070282		L-013-21-B
55053180	LL-03-2021	380	150	15	2760	2250	367	700285671	3020070282		L-013-21-C
55053180	LL-03-2021	381	150	15	2755	2250	367	700285671	3020070282		L-013-21-C
55053180	LL-03-2021	382	150	15	2735	2250	367	700285671	3020070282		L-013-21-C
55053180	LL-03-2021	383	150	15	2750	2250	367	700285671	3020070282		L-013-21-C
55053180	LL-03-2021	384	150	15	2715	2250	384	700285671	3020070282		L-013-21-C
55053180	LL-03-2021	385	150	15	2770	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	386	150	15	2730	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	387	150	15	2720	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	388	150	15	2735	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	389	150	15	2690	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	390	150	15	2680	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	391	150	15	2690	2250	384	700286526	3020070282		L-013-21-C
55053180	LL-03-2021	392	150	15	2735	2250	384	700283653	3020070282		L-013-21-C
55053180	LL-03-2021	393	150	15	2830	2250	384	700283653	3020070282		L-013-21-C
55053180	LL-03-2021	394	150	15	2805	2250	384	700283653	3020070282		L-013-21-C
55053180	LL-03-2021	395	150	15	2780	2250	384	700283653	3020070282		L-013-21-C
55053180	LL-03-2021	396	150	15	2755	2250	384	700283653	3020051161		L-013-21-C
55053180	LL-03-2021	397	150	15	2800	2250	384	700283653	3020051161		L-013-21-C
55053180	LL-03-2021	398	150	15	2760	2250	384	2026504457	3020051161		L-013-21-C
55053180	LL-03-2021	399	150	15	2720	2250	384	2026504457	3020051161		L-013-21-C
55053180	LL-03-2021	400	150	15	2730	2250	384	2026504457	3020051161		L-013-21-C
55053180	LL-03-2021	401	150	15	2725	2250	401	2026504457	3020051161		L-013-21-C

55053180	LL-03-2021	402	150	15	2830	2250	401	2026504457	3020051161		L-013-21-C
55053180	LL-03-2021	403	150	15	2725	2250	401	2026504457	3020051161		L-013-21-C
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55053180	LL-03-2021	406	150	15	2790	2250	401	2026504458	3020051161		L-013-21-C
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55053180	LL-03-2021	408	150	15	2790	2250	401	2026504458	3020051161		L-013-21-C
55053180	LL-03-2021	409	150	15	2855	2250	401	2026504458	3020051161		L-013-21-C
55053180	LL-03-2021	410	150	15	2815	2250	401	2026504458	3020051161		L-013-21-C
55053180	LL-03-2021	411	150	15	2835	2250	401	2026504458	3020051161		L-013-21-C
55053180	LL-03-2021	412	150	15	2785	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	413	150	15	2735	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	414	150	15	2720	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	415	150	15	2775	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	416	150	15	2725	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	417	150	15	2755	2250	401	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	418	150	15	2725	2250	418	2026504459	3020051161		L-013-21-C
55053180	LL-03-2021	419	150	15	2765	2250	418	2026504461	3020051161		L-013-21-C
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55053180	LL-03-2021	421	150	15	2680	2250	418	2026504462	3020051297		L-013-21-C
55053180	LL-03-2021	422	150	15	2700	2250	418	2026504462	3020051297		L-013-21-C
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55053180	LL-03-2021	426	150	15	2735	2250	418	2026504462	3020051297		L-013-21-C
55053180	LL-03-2021	427	150	15	2730	2250	418	2026504462	3020080040		L-013-21-C
55053180	LL-03-2021	428	150	15	2750	2250	418	700286507	3020080040		L-013-21-C
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55053180	LL-03-2021	430	150	15	2785	2250	418	700286507	3020080040		L-013-21-C
55053180	LL-03-2021	431	150	15	2700	2250	418	700286507	3020080040		L-013-21-D
55053180	LL-03-2021	432	150	15	2765	2250	418	700286507	3020080040		L-013-21-D
55053180	LL-03-2021	433	150	15	2770	2250	418	700286507	3020080040		L-013-21-D
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55053180	LL-03-2021	435	150	15	2730	2250	435	700286513	3020080040		L-013-21-D
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55053180	LL-03-2021	437	150	15	2900	2250	435	700286513	3020080040		L-013-21-D
55053180	LL-03-2021	438	150	15	2905	2250	435	700286513	3020080040		L-013-21-D
55053180	LL-03-2021	439	150	15	2870	2250	435	700286513	3020080040		L-013-21-D
55053180	LL-03-2021	440	150	15	2840	2250	435	700286513	3020080040		L-013-21-D
55053180	LL-03-2021	441	150	15	2795	2250	435	700288208	3020080040		L-013-21-D

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55053180	LL-03-2021	444	150	15	2770	2250	435	700288208	3020080040		L-013-21-D
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55053180	LL-03-2021	451	150	15	2755	2250	435	700288245	3020080040		L-013-21-D
55053180	LL-03-2021	452	150	15	2710	2250	452	700288245	3020080040		L-013-21-D
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55053180	LL-03-2021	454	150	15	2690	2250	452	700288235	3020080040		L-013-21-D
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55053180	LL-03-2021	475	150	15	2785	2250	469	700288227	3020051363		L-013-21-D
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55053180	LL-03-2021	477	150	15	2745	2250	469	700288227	3020051363		L-013-21-E
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55053180	LL-03-2021	479	150	15	2740	2250	469	700288227	3020051363		L-013-21-E
55053180	LL-03-2021	480	150	15	2735	2250	469	700288227	3020051363		L-013-21-E
55053180	LL-03-2021	481	150	15	2780	2250	469	700288242	3020051363		L-013-21-E

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55053180	LL-03-2021	484	150	15	2910	2250	469	700288242	3020051363		L-013-21-E
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55053180	LL-03-2021	492	150	15	2680	2250	486	700288215	3020051363		L-013-21-E
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55053180	LL-03-2021	497	150	15	2680	2250	486	700288226	3020051363		L-013-21-E
55053180	LL-03-2021	498	150	15	2665	2250	486	700288226	3020051363		L-013-21-E
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55053180	LL-03-2021	501	150	15	2645	2250	486	700288192	3020051363		L-013-21-E
55053180	LL-03-2021	502	150	15	2760	2250	486	700288192	3020051363		L-013-21-E
55053180	LL-03-2021	503	150	15	2760	2250	503	700288192	3020051363		L-013-21-E
55053180	LL-03-2021	504	150	15	2790	2250	503	700288192	3020051363		L-013-21-E
55053180	LL-03-2021	505	150	15	2730	2250	503	700288192	3020070192		L-013-21-E
55053180	LL-03-2021	506	150	15	2720	2250	503	700288192	3020070192		L-013-21-E
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55053180	LL-03-2021	524	150	15	2770	2250	520	700288295	3020070192		L-013-21-E
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55053180	LL-03-2021	561	150	15	2700	2250	554	700288217	3020051746		L-019-21-A

55053180	LL-03-2021	562	150	15	2680	2250	554	700288217	3020051746		L-019-21-A
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55053180	LL-03-2021	570	150	15	2760	2250	554	700288239	3020051746		L-019-21-A
55053180	LL-03-2021	571	150	15	2755	2250	571	700288239	3020051746		L-019-21-A
55053180	LL-03-2021	572	150	15	2815	2250	571	700288239	3020051746		L-019-21-A
55053180	LL-03-2021	573	150	15	2765	2250	571	700288239	3020051746		L-019-21-A
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55053180	LL-03-2021	579	150	15	2820	2250	571	700288234	3020051746		L-019-21-B
55053180	LL-03-2021	580	150	15	2800	2250	571	700288234	3020051746		L-019-21-B
55053180	LL-03-2021	581	150	15	2820	2250	571	700288233	3020051746		L-019-21-B
55053180	LL-03-2021	582	150	15	2805	2250	571	700288233	3020051746		L-019-21-B
55053180	LL-03-2021	583	150	15	2780	2250	571	700288233	3020051746		L-019-21-B
55053180	LL-03-2021	584	150	15	2780	2250	571	700288233	3020051721		L-019-21-B
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55053180	LL-03-2021	595	150	15	2745	2250	588	700286534	3020051721		L-019-21-B
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55053180	LL-03-2021	601	150	15	2730	2250	588	700281108	3020051721		L-019-21-B

55053180	LL-03-2021	602	150	15	2695	2250	588	700281108	3020051721		L-019-21-B
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55053180	LL-03-2021	604	150	15	2725	2250	588	700281108	3020051721		L-019-21-B
55053180	LL-03-2021	605	150	15	2730	2250	605	700288296	3020052071		L-019-21-C
55053180	LL-03-2021	606	150	15	2785	2250	605	700288296	3020052071		L-019-21-C
55053180	LL-03-2021	607	150	15	2775	2250	605	700288296	3020052071		L-019-21-C
55053180	LL-03-2021	608	150	15	2765	2250	605	700288296	3020052071		L-019-21-C
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55053180	LL-03-2021	615	150	15	2715	2250	605	700288277	3020052071		L-019-21-C
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55053180	LL-03-2021	619	150	15	2645	2250	605	2026558469	3020052071		L-019-21-C
55053180	LL-03-2021	620	150	15	2635	2250	605	2026558469	3020052071		L-019-21-C
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55053180	LL-03-2021	622	150	15	2725	2250	622	2026558469	3020052071		L-019-21-C
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55053180	LL-03-2021	624	150	15	2635	2250	622	2026558469	3020052071		L-019-21-C
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55053180	LL-03-2021	629	150	15	2705	2250	622	2026558505	3020052071		L-019-21-D
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55053180	LL-03-2021	631	150	15	2695	2250	622	2026558505	3020052071		L-019-21-D
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55053180	LL-03-2021	635	150	15	2735	2250	622	2026558499	3020070002		L-019-21-D
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55053180	LL-03-2021	644	150	15	2695	2250	639	2026558461	3020070002		L-019-21-D
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55053180	LL-03-2021	672	150	15	2680	2250	656	700288256	3020063822		L-019-21-D
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55053180	LL-03-2021	707	150	15	2690	2250	707	2026504463	3020063814		L-019-21-E
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55053180	LL-03-2021	716	150	15	2670	2250	707	2026558477	3020063814		L-019-21-E
55053180	LL-03-2021	717	150	15	2665	2250	707	2026558477	3020063814		L-019-21-E
55053180	LL-03-2021	718	150	15	2635	2250	707	2026558477	3020063814		L-019-21-E
55053180	LL-03-2021	719	150	15	2625	2250	707	700288303	3020063814		L-019-21-E
55053180	LL-03-2021	720	150	15	2600	2250	707	700288303	3020063814		L-019-21-E
55053180	LL-03-2021	721	150	15	2595	2250	707	700288303	3020063814		L-019-21-E

55053180	LL-03-2021	722	150	15	2650	2250	707	700288303	3020063814		L-019-21-E
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55053180	LL-03-2021	724	150	15	2595	2250	724	700288303	3020063814		L-019-21-E
55053180	LL-03-2021	725	150	15	2620	2250	724	700285753	3020063814		L-019-21-E
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55053180	LL-03-2021	729	150	15	2615	2250	724	700285753	3020052135		L-019-21-F
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55053180	LL-03-2021	732	150	15	2680	2250	724	700288260	3020052135		L-019-21-F
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55053180	LL-03-2021	736	150	15	2690	2250	724	700288260	3020052135		L-019-21-F
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55053180	LL-03-2021	741	150	15	2670	2250	741	700288273	3020052135		L-019-21-F
55053180	LL-03-2021	742	150	15	2750	2250	741	700288273	3020052135		L-019-21-F
55053180	LL-03-2021	743	150	15	2770	2250	741	700288273	3020052135		L-019-21-F
55053180	LL-03-2021	744	150	15	2700	2250	741	700288273	3020052135		L-019-21-F
55053180	LL-03-2021	745	150	15	2680	2250	741	700285608	3020052135		L-019-21-F
55053180	LL-03-2021	746	150	15	2675	2250	741	700285608	3020052135		L-019-21-F
55053180	LL-03-2021	747	150	15	2695	2250	741	700285608	3020052135		L-019-21-F
55053180	LL-03-2021	748	150	15	2675	2250	741	700285608	3020052135		L-019-21-F
						Total Sq Ft:	936000			Total Number of Rolls Certified: 416	

CETCO
Colloid Environmental Technologies Company LLC

GCL MANUFACTURING QUALITY CONTROL TEST DATA

The following rolls in GCL certification package number 55053180 have been tested in our production facility lab.

Product	Lot# Tested	Roll# Tested	Mass Area	Grab Strength	Peel Strength	GCL MOISTURE		
		ASTM Test Method:	ASTM D5993	ASTM D6768	ASTM D6496	ASTM D5993		
		Required Value:	.75 - lbs/sq ft	30 - lbs/in	3.5 - lbs/in	35 - %		
BENTOMAT® ST	LL-03-2021	333	.81	46.1	5.9	25.5		
BENTOMAT® ST	LL-03-2021	350	.81	46.1	3.7	29.4		
BENTOMAT® ST	LL-03-2021	367	.91	46.1	5.1	27.2		
BENTOMAT® ST	LL-03-2021	384	.89	46.1	6.3	25.9		
BENTOMAT® ST	LL-03-2021	401	.81	46.1	7.1	26.7		
BENTOMAT® ST	LL-03-2021	418	.83	46.4	5	27.1		
BENTOMAT® ST	LL-03-2021	435	.94	46.4	5.9	25		
BENTOMAT® ST	LL-03-2021	452	.81	46.4	5.6	27.3		
BENTOMAT® ST	LL-03-2021	469	.91	46.4	5.6	27		
BENTOMAT® ST	LL-03-2021	486	.87	46.4	5.5	28.3		
BENTOMAT® ST	LL-03-2021	503	.81	53.9	5.2	26.7		
BENTOMAT® ST	LL-03-2021	520	.81	53.9	6.2	26.4		
BENTOMAT® ST	LL-03-2021	537	.86	53.9	6.8	27.4		
BENTOMAT® ST	LL-03-2021	554	.84	53.9	6.7	27.3		
BENTOMAT® ST	LL-03-2021	571	.81	53.9	4.7	28.2		
BENTOMAT® ST	LL-03-2021	588	.86	61.3	4.9	26.9		
BENTOMAT® ST	LL-03-2021	605	.81	42.9	4.1	28.9		
BENTOMAT® ST	LL-03-2021	622	.89	42.9	5.3	27.6		
BENTOMAT® ST	LL-03-2021	639	.86	42.9	4	28.3		
BENTOMAT® ST	LL-03-2021	656	.82	42.9	4.5	30		
BENTOMAT® ST	LL-03-2021	673	.84	42.9	4.1	27.7		
BENTOMAT® ST	LL-03-2021	690	.83	60.8	7.8	27.8		
BENTOMAT® ST	LL-03-2021	707	.83	60.8	4.1	29.9		
BENTOMAT® ST	LL-03-2021	724	.81	60.8	3.9	29.1		
BENTOMAT® ST	LL-03-2021	741	.86	60.8	4.4	27.5		

BENTONITE CLAY CERTIFICATION

The Bentonite Clay used to produce package 55053180 was tested in our production facility lab and yielded the following results.

Clay Lot #	Moist	Swell	Fluid Loss
ASTM Test Method:	ASTM D2216	ASTM D5890	ASTM D5891
Required Value:	12 - %	24 - ml	18 - ml
L-013-21-B	11.39	27	12.6
L-013-21-C	11.24	28	11.8
L-013-21-D	11	29	11.2
L-013-21-E	11.19	28	10.2
L-019-21-A	10.99	29	11.6
L-019-21-B	10.91	24	13.4
L-019-21-C	11.72	30	12.4
L-019-21-D	11.41	29	12.4
L-019-21-E	11.21	27	13.2
L-019-21-F	11.36	28	13

CETCO
Colloid Environmental Technologies Company LLC

GEOTEXTILE TEST RESULTS FROM MATERIAL SUPPLIERS

The GCL in certification package number 55053180 was manufactured with geotextiles which were tested and yielded the following results.

BASE GEOTEXTILE			
Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
01-9865	3020051142	3.27	157.9
01-9865	3020070265	3.31	158
01-9865	3020070282	3.3	149.1
01-9865	3020051161	3.28	157.7
01-9865	3020051297	3.28	147.1
01-9865	3020080040	3.31	165.3
01-9865	3020051595	3.27	141.8
01-9865	3020051363	3.31	154.7
01-9865	3020070192	3.3	141.6
01-9865	3020051597	3.27	142.9
01-9865	3020051401	3.28	147.1
01-9865	3020051746	3.28	151.7
01-9865	3020051721	3.32	156.4
01-9865	3020052071	3.28	149.6
01-9865	3020070002	3.3	141.6
01-9865	3020063822	3.33	149
01-9865	3020063814	3.32	147.7
01-9865	3020052135	3.31	152.2

COVER GEOTEXTILE			
Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
01-9514	700286519	6.52	127
01-9514	700286517	6.52	127
01-9514	700286528	6.93	151
01-9514	700283646	6.22	106

01-9514	700283690	6.23	140
01-9514	700281080	6.42	107
01-9514	700283631	6.81	186
01-9514	700285671	6.27	111
01-9514	700286526	6.93	151
01-9514	700283653	6.54	133
01-9514	2026504457	6.48	137.55
01-9514	2026504458	6.48	137.55
01-9514	2026504459	6.7	148.8
01-9514	2026504461	6.7	148.8
01-9514	2026504462	6.7	148.8
01-9514	700286507	6.46	137
01-9514	700286513	6.78	143
01-9514	700288208	6.06	126
01-9514	700288245	6.22	142
01-9514	700288235	6.89	124
01-9514	700288212	6.39	131
01-9514	700288205	6.18	141
01-9514	700288227	6.42	127
01-9514	700288242	6.49	150
01-9514	700288215	6.64	149
01-9514	700288226	6.42	127
01-9514	700288192	6.85	141
01-9514	700288231	6.85	149
01-9514	700288228	6.34	140
01-9514	700288295	6.56	130
01-9514	700286557	6.26	111
01-9514	700288223	6.02	148
01-9514	700288248	6.92	119
01-9514	700288229	6.34	140
01-9514	700288319	6.49	129
01-9514	700288217	6.38	147
01-9514	700288239	6.35	136
01-9514	700288234	6.89	124
01-9514	700288233	6.85	149
01-9514	700286560	6.79	126

01-9514	700286534	6.11	118
01-9514	700281108	6.93	112
01-9514	700288296	6.47	123
01-9514	700288277	6.29	138
01-9514	2026558469	6.33	158.03
01-9514	2026558505	6.48	153.26
01-9514	2026558499	6.61	143.06
01-9514	2026558461	6.57	157.82
01-9514	2026558456	6	134
01-9514	2026558524	7.33	161.57
01-9514	700288312	6.59	127
01-9514	2026558484	6.27	139.6
01-9514	700288256	6.44	132
01-9514	700288286	6.57	137
01-9514	700288311	6.72	139
01-9514	2026558481	6.49	166.42
01-9514	2026558460	6.57	157.82
01-9514	2026504463	6.7	148.8
01-9514	2026558477	6.49	166.42
01-9514	700288303	6.66	123
01-9514	700285753	6.46	104
01-9514	700288260	6.4	130
01-9514	700288273	6.52	153
01-9514	700285608	6.98	137

Certifications from our suppliers are on file at our production facility.

CETCO
Colloid Environmental Technologies Company LLC

GRI GEI GSI GII GAI GCI
GAI-LAP accredited

Date:
Purchase Order: 6465-21-0014
ORDER NUMBER: 55053180

WASTE CONNECTIONS (TAMPA)
5135 MADISON AVE

TAMPA,FL,33619

To Whom it May Concern:

Please find the enclosed index flux/hydraulic conductivity test results for your recent order.

Questions regarding this information should be directed to CETCO Technical Services at eptechservices@cetco.com.

Sincerely,

NICHOLLS, RYAN J
Quality Assurance Coordinator
CETCO Lovell Plant

CETCO
Colloid Environmental Technologies Company LLC

PRODUCT CERTIFICATIONS

PROJECT NAME:
CUSTOMER P.O.: 6465-21-0014
ORDER NUMBER: 55053180
PREPARED FOR: WASTE CONNECTIONS (TAMPA)

The GCL Manufactured for the above-referenced order number is certified to meet the values listed in the tables below:

GCL PROPERTY SPECIFICATIONS FOR BENTOMAT® ST

Test Method	Test Method Property	Test Frequency	Certified Value
ASTM D5887	GCL-Hydraulic Conductivity	1/250,000 ft2	5x10-9 - cm/s
ASTM D5887	GCL-Index Flux	1/250,000 ft2	1x10-8 - m3/m2/s

Product	Lot# Tested	Roll# Tested	Index Flux	Hydraulic Conductivity				
		ASTM Test Method:	ASTM D5887	ASTM D5887				
		Required Value:	1x10-8 m3/m2/s	5x10-9 cm/s				
BENTOMAT® ST	LL-03-2021	334	7.9x10-9	3.2x10-9				
BENTOMAT® ST	LL-03-2021	445	8.3x10-9	3.5x10-9				
BENTOMAT® ST	LL-03-2021	556	4.1x10-9	1.8x10-9				
BENTOMAT® ST	LL-03-2021	667	6.9x10-9	3.2x10-9				

Section 2
HDPE Geomembrane

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: 00009653

FG-HDMSDS060BBBEG	151 rolls @ 540	1,875,420 ft.²	7513
FG-HDMSDS040BBBEG	5 rolls @ 750	86,250 ft.²	7514

Roll #	Width	Length	Area	Item	Count	Weight	Resin Lot #	MQC
	English ft.	ft.	ft.²			lbs.		
GTD0067930001	23	540	12,420	**FG-HDMSDS060BBBEG**	1	**3872**	**PMH821480**	7513
GTD0067930002	23	540	12,420	**FG-HDMSDS060BBBEG**	2	**3868**	**PMH821480**	7513
GTD0067930003	23	540	12,420	**FG-HDMSDS060BBBEG**	3	**3874**	**PMH821480**	7513
GTD0067930004	23	540	12,420	**FG-HDMSDS060BBBEG**	4	**3872**	**PMH821480**	7513
GTD0067930005	23	540	12,420	**FG-HDMSDS060BBBEG**	5	**3876**	**PMH821480**	7513
GTD0067930006	23	540	12,420	**FG-HDMSDS060BBBEG**	6	**3858**	**PMH821480**	7513
GTD0067930007	23	540	12,420	**FG-HDMSDS060BBBEG**	7	**3851**	**PMH821480**	7513
GTD0067930008	23	540	12,420	**FG-HDMSDS060BBBEG**	8	**3858**	**PMH821480**	7513
GTD0067930009	23	540	12,420	**FG-HDMSDS060BBBEG**	9	**3857**	**PMH821480**	7513
GTD0067930010	23	540	12,420	**FG-HDMSDS060BBBEG**	10	**3852**	**PMH821480**	7513
GTD0067930012	23	540	12,420	**FG-HDMSDS060BBBEG**	11	**3853**	**PMH821480**	7513
GTD0067930013	23	540	12,420	**FG-HDMSDS060BBBEG**	12	**3850**	**PMH821480**	7513
GTD0067930014	23	540	12,420	**FG-HDMSDS060BBBEG**	13	**3850**	**PMH821480**	7513
GTD0067930015	23	540	12,420	**FG-HDMSDS060BBBEG**	14	**3855**	**PMH821480**	7513
GTD0067930016	23	540	12,420	**FG-HDMSDS060BBBEG**	15	**3855**	**PMH821480**	7513
GTD0067930017	23	540	12,420	**FG-HDMSDS060BBBEG**	16	**3849**	**PMH821480**	7513
GTD0067930018	23	540	12,420	**FG-HDMSDS060BBBEG**	17	**3850**	**PMH821480**	7513
GTD0067930019	23	540	12,420	**FG-HDMSDS060BBBEG**	18	**3855**	**PMH821480**	7513
GTD0067930020	23	540	12,420	**FG-HDMSDS060BBBEG**	19	**3846**	**PMH821480**	7513
GTD0067930021	23	540	12,420	**FG-HDMSDS060BBBEG**	20	**3858**	**PMH821480**	7513
GTD0067930022	23	540	12,420	**FG-HDMSDS060BBBEG**	21	**3853**	**PMH821480**	7513
GTD0067930023	23	540	12,420	**FG-HDMSDS060BBBEG**	22	**3845**	**PMH821480**	7513
GTD0067930024	23	540	12,420	**FG-HDMSDS060BBBEG**	23	**3835**	**PMH821480**	7513
GTD0067930025	23	540	12,420	**FG-HDMSDS060BBBEG**	24	**3839**	**PMH821480**	7513
GTD0067930026	23	540	12,420	**FG-HDMSDS060BBBEG**	25	**3839**	**PMH821480**	7513
GTD0067930027	23	540	12,420	**FG-HDMSDS060BBBEG**	26	**3844**	**PMH821480**	7513
GTD0067930028	23	540	12,420	**FG-HDMSDS060BBBEG**	27	**3850**	**PMH821480**	7513
GTD0067930029	23	540	12,420	**FG-HDMSDS060BBBEG**	28	**3840**	**PMH821480**	7513
GTD0067930030	23	540	12,420	**FG-HDMSDS060BBBEG**	29	**3845**	**PMH821480**	7513
GTD0067930031	23	540	12,420	**FG-HDMSDS060BBBEG**	30	**3844**	**PMH821480**	7513
GTD0067930032	23	540	12,420	**FG-HDMSDS060BBBEG**	31	**3845**	**PMH821480**	7513
GTD0067930033	23	540	12,420	**FG-HDMSDS060BBBEG**	32	**3849**	**PMH821480**	7513
GTD0067930034	23	540	12,420	**FG-HDMSDS060BBBEG**	33	**3845**	**PMH821480**	7513
GTD0067930035	23	540	12,420	**FG-HDMSDS060BBBEG**	34	**3845**	**PMH821480**	7513
GTD0067930036	23	540	12,420	**FG-HDMSDS060BBBEG**	35	**3843**	**PMH821480**	7513
GTD0067930037	23	540	12,420	**FG-HDMSDS060BBBEG**	36	**3839**	**PMH821480**	7513
GTD0067930038	23	540	12,420	**FG-HDMSDS060BBBEG**	37	**3843**	**PMH821480**	7513
GTD0067930039	23	540	12,420	**FG-HDMSDS060BBBEG**	38	**3855**	**PMH821480**	7513
GTD0067930040	23	540	12,420	**FG-HDMSDS060BBBEG**	39	**3855**	**PMH821480**	7513
GTD0067930041	23	540	12,420	**FG-HDMSDS060BBBEG**	40	**3858**	**PMH821480**	7513
GTD0067930042	23	540	12,420	**FG-HDMSDS060BBBEG**	41	**3880**	**PMH821480**	7513
GTD0067930043	23	540	12,420	**FG-HDMSDS060BBBEG**	42	**3855**	**PMH821480**	7513
GTD0067930044	23	540	12,420	**FG-HDMSDS060BBBEG**	43	**3855**	**PMH821480**	7513
GTD0067930045	23	540	12,420	**FG-HDMSDS060BBBEG**	44	**3848**	**PMH821480**	7513
GTD0067930046	23	540	12,420	**FG-HDMSDS060BBBEG**	45	**3852**	**PMH821480**	7513
GTD0067930047	23	540	12,420	**FG-HDMSDS060BBBEG**	46	**3850**	**PMH821480**	7513
GTD0067930049	23	540	12,420	**FG-HDMSDS060BBBEG**	47	**3850**	**PMH821480**	7513
GTD0067930050	23	540	12,420	**FG-HDMSDS060BBBEG**	48	**3850**	**PMH821480**	7513
GTD0067930051	23	540	12,420	**FG-HDMSDS060BBBEG**	49	**3880**	**PMH821480**	7513
GTD0067930052	23	540	12,420	**FG-HDMSDS060BBBEG**	50	**3881**	**PMH821480**	7513
GTD0067930053	23	540	12,420	**FG-HDMSDS060BBBEG**	51	**3880**	**PMH821480**	7513
GTD0067930054	23	540	12,420	**FG-HDMSDS060BBBEG**	52	**3876**	**PMH821480**	7513
GTD0067930055	23	540	12,420	**FG-HDMSDS060BBBEG**	53	**3880**	**PMH821480**	7513
GTD0067930056	23	540	12,420	**FG-HDMSDS060BBBEG**	54	**3878**	**PMH821480**	7513
GTD0067930057	23	540	12,420	**FG-HDMSDS060BBBEG**	55	**3880**	**PMH821470**	7513
GTD0067930058	23	540	12,420	**FG-HDMSDS060BBBEG**	56	**3882**	**PMH821470**	7513
GTD0067930059	23	540	12,420	**FG-HDMSDS060BBBEG**	57	**3884**	**PMH821470**	7513
GTD0067930060	23	540	12,420	**FG-HDMSDS060BBBEG**	58	**3882**	**PMH821470**	7513
GTD0067930061	23	540	12,420	**FG-HDMSDS060BBBEG**	59	**3884**	**PMH821470**	7513
GTD0067930062	23	540	12,420	**FG-HDMSDS060BBBEG**	60	**3886**	**PMH821470**	7513
GTD0067930063	23	540	12,420	**FG-HDMSDS060BBBEG**	61	**3858**	**PMH821470**	7513
GTD0067930064	23	540	12,420	**FG-HDMSDS060BBBEG**	62	**3860**	**PMH821470**	7513
GTD0067930065	23	540	12,420	**FG-HDMSDS060BBBEG**	63	**3877**	**PMH821470**	7513
GTD0067930066	23	540	12,420	**FG-HDMSDS060BBBEG**	64	**3880**	**PMH821470**	7513
GTD0067930067	23	540	12,420	**FG-HDMSDS060BBBEG**	65	**3881**	**PMH821470**	7513
GTD0067930069	23	540	12,420	**FG-HDMSDS060BBBEG**	66	**3880**	**PMH821470**	7513
GTD0067930070	23	540	12,420	**FG-HDMSDS060BBBEG**	67	**3876**	**PMH821470**	7513
GTD0067930071	23	540	12,420	**FG-HDMSDS060BBBEG**	68	**3878**	**PMH821470**	7513

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: 00009653

FG-HDMSDS060BBBEG	151 rolls @ 540	1,875,420 ft.²	7513
FG-HDMSDS040BBBEG	5 rolls @ 750	86,250 ft.²	7514

Roll #	Width	Length	Area	Item	Count	Weight	Resin Lot #	MQC
	English ft.	ft.	ft.²			lbs.		
GTD0067930072	23	540	12,420	**FG-HDMSDS060BBBEG**	69	**3874**	**PMH821470**	7513
GTD0067930073	23	540	12,420	**FG-HDMSDS060BBBEG**	70	**3876**	**PMH821470**	7513
GTD0067930074	23	540	12,420	**FG-HDMSDS060BBBEG**	71	**3876**	**PMH821470**	7513
GTD0067930075	23	540	12,420	**FG-HDMSDS060BBBEG**	72	**3875**	**PMH821470**	7513
GTD0067930076	23	540	12,420	**FG-HDMSDS060BBBEG**	73	**3877**	**PMH821470**	7513
GTD0067930077	23	540	12,420	**FG-HDMSDS060BBBEG**	74	**3880**	**PMH821470**	7513
GTD0067930078	23	540	12,420	**FG-HDMSDS060BBBEG**	75	**3856**	**PMH821470**	7513
GTD0067930079	23	540	12,420	**FG-HDMSDS060BBBEG**	76	**3870**	**PMH821470**	7513
GTD0067930080	23	540	12,420	**FG-HDMSDS060BBBEG**	77	**3840**	**PMH821470**	7513
GTD0067930081	23	540	12,420	**FG-HDMSDS060BBBEG**	78	**3855**	**PMH821470**	7513
GTD0067930082	23	540	12,420	**FG-HDMSDS060BBBEG**	79	**3869**	**PMH821470**	7513
GTD0067930083	23	540	12,420	**FG-HDMSDS060BBBEG**	80	**3880**	**PMH821470**	7513
GTD0067930084	23	540	12,420	**FG-HDMSDS060BBBEG**	81	**3870**	**PMH821470**	7513
GTD0067930088	23	540	12,420	**FG-HDMSDS060BBBEG**	82	**3865**	**PMH821470**	7513
GTD0067930089	23	540	12,420	**FG-HDMSDS060BBBEG**	83	**3870**	**PMH821470**	7513
GTD0067930090	23	540	12,420	**FG-HDMSDS060BBBEG**	84	**3875**	**PMH821470**	7513
GTD0067930091	23	540	12,420	**FG-HDMSDS060BBBEG**	85	**3865**	**PMH821470**	7513
GTD0067930092	23	540	12,420	**FG-HDMSDS060BBBEG**	86	**3860**	**PMH821470**	7513
GTD0067930093	23	540	12,420	**FG-HDMSDS060BBBEG**	87	**3859**	**PMH821470**	7513
GTD0067930094	23	540	12,420	**FG-HDMSDS060BBBEG**	88	**3966**	**PMH821470**	7513
GTD0067930095	23	540	12,420	**FG-HDMSDS060BBBEG**	89	**3865**	**PMH821470**	7513
GTD0067930096	23	540	12,420	**FG-HDMSDS060BBBEG**	90	**3865**	**PMH821470**	7513
GTD0067930097	23	540	12,420	**FG-HDMSDS060BBBEG**	91	**3866**	**PMH821470**	7513
GTD0067930098	23	540	12,420	**FG-HDMSDS060BBBEG**	92	**3870**	**PMH821470**	7513
GTD0067930099	23	540	12,420	**FG-HDMSDS060BBBEG**	93	**3884**	**PMH821470**	7513
GTD0067930100	23	540	12,420	**FG-HDMSDS060BBBEG**	94	**3946**	**PMH821470**	7513
GTD0067930101	23	540	12,420	**FG-HDMSDS060BBBEG**	95	**3947**	**PMH821470**	7513
GTD0067930102	23	540	12,420	**FG-HDMSDS060BBBEG**	96	**3950**	**PMH821470**	7513
GTD0067930103	23	540	12,420	**FG-HDMSDS060BBBEG**	97	**3950**	**PMH821470**	7513
GTD0067930104	23	540	12,420	**FG-HDMSDS060BBBEG**	98	**3945**	**PMH821470**	7513
GTD0067930105	23	540	12,420	**FG-HDMSDS060BBBEG**	99	**3950**	**PMH821470**	7513
GTD0067930106	23	540	12,420	**FG-HDMSDS060BBBEG**	100	**3955**	**PMH821470**	7513
GTD0067930107	23	540	12,420	**FG-HDMSDS060BBBEG**	101	**3954**	**PMH821470**	7513
GTD0067930108	23	540	12,420	**FG-HDMSDS060BBBEG**	102	**3952**	**PMH821470**	7513
GTD0067930109	23	540	12,420	**FG-HDMSDS060BBBEG**	103	**3950**	**PMH821470**	7513
GTD0067930110	23	540	12,420	**FG-HDMSDS060BBBEG**	104	**3947**	**PMH821470**	7513
GTD0067930111	23	540	12,420	**FG-HDMSDS060BBBEG**	105	**3951**	**PMH821470**	7513
GTD0067930112	23	540	12,420	**FG-HDMSDS060BBBEG**	106	**3947**	**PMF821560**	7513
GTD0067930113	23	540	12,420	**FG-HDMSDS060BBBEG**	107	**3946**	**PMF821560**	7513
GTD0067930114	23	540	12,420	**FG-HDMSDS060BBBEG**	108	**3940**	**PMF821560**	7513
GTD0067930115	23	540	12,420	**FG-HDMSDS060BBBEG**	109	**3945**	**PMF821560**	7513
GTD0067930116	23	540	12,420	**FG-HDMSDS060BBBEG**	110	**3948**	**PMF821560**	7513
GTD0067930117	23	540	12,420	**FG-HDMSDS060BBBEG**	111	**3947**	**PMF821560**	7513
GTD0067930118	23	540	12,420	**FG-HDMSDS060BBBEG**	112	**3946**	**PMF821560**	7513
GTD0067930119	23	540	12,420	**FG-HDMSDS060BBBEG**	113	**3970**	**PMF821560**	7513
GTD0067930120	23	540	12,420	**FG-HDMSDS060BBBEG**	114	**3968**	**PMF821560**	7513
GTD0067930121	23	540	12,420	**FG-HDMSDS060BBBEG**	115	**3960**	**PMF821560**	7513
GTD0067930122	23	540	12,420	**FG-HDMSDS060BBBEG**	116	**3962**	**PMF821560**	7513
GTD0067930123	23	540	12,420	**FG-HDMSDS060BBBEG**	117	**3964**	**PMF821560**	7513
GTD0067930124	23	540	12,420	**FG-HDMSDS060BBBEG**	118	**3964**	**PMF821560**	7513
GTD0067930125	23	540	12,420	**FG-HDMSDS060BBBEG**	119	**3966**	**PMF821560**	7513
GTD0067930126	23	540	12,420	**FG-HDMSDS060BBBEG**	120	**3963**	**PMF821560**	7513
GTD0067930127	23	540	12,420	**FG-HDMSDS060BBBEG**	121	**3969**	**PMF821560**	7513
GTD0067930128	23	540	12,420	**FG-HDMSDS060BBBEG**	122	**3967**	**PMF821560**	7513
GTD0067930129	23	540	12,420	**FG-HDMSDS060BBBEG**	123	**3965**	**PMF821560**	7513
GTD0067930130	23	540	12,420	**FG-HDMSDS060BBBEG**	124	**3964**	**PMF821560**	7513
GTD0067930131	23	540	12,420	**FG-HDMSDS060BBBEG**	125	**3959**	**PMF821560**	7513
GTD0067930132	23	540	12,420	**FG-HDMSDS060BBBEG**	126	**3962**	**PMF821560**	7513
GTD0067930133	23	540	12,420	**FG-HDMSDS060BBBEG**	127	**3968**	**PMF821560**	7513
GTD0067930134	23	540	12,420	**FG-HDMSDS060BBBEG**	128	**3966**	**PMF821560**	7513
GTD0067930135	23	540	12,420	**FG-HDMSDS060BBBEG**	129	**3945**	**PMF821560**	7513
GTD0067930136	23	540	12,420	**FG-HDMSDS060BBBEG**	130	**3944**	**PMF821560**	7513
GTD0067930137	23	540	12,420	**FG-HDMSDS060BBBEG**	131	**3947**	**PMF821560**	7513

1,627,020
running total

agru america quality control dept

Maria Coffey-Manager
Quality Control Department

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: **00009653** MQC#: **7513**
Liner Type: **60HD microspike**
Item: **FG-HDMSDS060BBBEG**
Current # of Rolls: **151**
Roll Count: **1-151 (all)**
Report Date: 2/8/2021 **ENGLISH**

		(English)			ASTM D5994 (Modified)			ASTM D7466				ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693								ASTM D1004		ASTM D4833	ASTM D5397	
Count	Roll #	Width	Length	Area	Thickness (English) Min.	Max.	Ave.	Asperity (Top) Avg.	Asperity (Bottom) Avg.	Weight	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Yield (MD)		Tensile Str. @Yield (TD)		Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Yield (MD)	Elong. @Yield (TD)	Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	NCTL (500hrs.)	Production Date
		ft.	ft.	ft.²	mils	mils	mils	mils	mils	lbs.		min	g/cc	g/10 min.	%	# in Cat. 1 & 2	ppi	psi	ppi	psi	ppi	psi	ppi	psi	%	%	%	%	lbs.	lbs.	lbs.		
	Minimum Results (ea. Col.)				53	59	57	26	23	3784		163	0.942	0.18	2.2	10	132	2237	139	2295	178	2859	162	2728	15	14	406	447	50	50	123		
1	GTD0067930001	23	540	12,420	58	63	61	31	31	3872	PMH821480	163	0.942	0.20	2.5	10	149	2377	157	2486	181	2883	197	3124	20	16	466	577	65	62	126	PASS	1/22/2021
2	GTD0067930002	23	540	12,420	58	64	61	31	30	3868	PMH821480	163	0.942	0.20	2.4	10	149	2377	157	2486	181	2883	197	3124	20	16	466	577	65	62	126	PASS	1/22/2021
3	GTD0067930003	23	540	12,420	58	63	61	29	30	3874	PMH821480	163	0.942	0.20	2.4	10	149	2377	157	2486	181	2883	197	3124	20	16	466	577	65	62	126	PASS	1/23/2021
4	GTD0067930004	23	540	12,420	58	63	61	30	27	3872	PMH821480	163	0.942	0.20	2.5	10	149	2377	157	2486	181	2883	197	3124	20	16	466	577	65	62	126	PASS	1/23/2021
5	GTD0067930005	23	540	12,420	56	65	60	30	29	3876	PMH821480	163	0.942	0.20	2.5	10	139	2382	147	2516	184	3151	175	2992	27	15	453	540	54	55	126	PASS	1/23/2021
6	GTD0067930006	23	540	12,420	58	63	60	28	24	3858	PMH821480	163	0.942	0.20	2.4	10	139	2382	147	2516	184	3151	175	2992	27	15	453	540	54	55	126	PASS	1/23/2021
7	GTD0067930007	23	540	12,420	57	62	60	29	25	3851	PMH821480	163	0.942	0.20	2.4	10	139	2382	147	2516	184	3151	175	2992	27	15	453	540	54	55	126	PASS	1/23/2021
8	GTD0067930008	23	540	12,420	57	62	60	31	26	3858	PMH821480	163	0.942	0.20	2.4	10	139	2382	147	2516	184	3151	175	2992	27	15	453	540	54	55	126	PASS	1/23/2021
9	GTD0067930009	23	540	12,420	57	62	60	29	26	3857	PMH821480	163	0.942	0.20	2.4	10	139	2382	147	2516	184	3151	175	2992	27	15	453	540	54	55	126	PASS	1/23/2021
10	GTD0067930010	23	540	12,420	58	66	60	30	32	3852	PMH821480	163	0.942	0.20	2.4	10	135	2325	139	2385	178	3072	177	3047	20	17	489	544	59	55	132	PASS	1/23/2021
11	GTD0067930012	23	540	12,420	58	63	61	32	31	3853	PMH821480	163	0.942	0.20	2.4	10	135	2325	139	2385	178	3072	177	3047	20	17	489	544	59	55	132	PASS	1/23/2021
12	GTD0067930013	23	540	12,420	58	63	61	30	30	3850	PMH821480	163	0.942	0.20	2.4	10	135	2325	139	2385	178	3072	177	3047	20	17	489	544	59	55	132	PASS	1/23/2021
13	GTD0067930014	23	540	12,420	58	63	61	31	30	3850	PMH821480	163	0.942	0.20	2.4	10	135	2325	139	2385	178	3072	177	3047	20	17	489	544	59	55	132	PASS	1/23/2021
14	GTD0067930015	23	540	12,420	58	63	61	31	29	3855	PMH821480	163	0.942	0.20	2.4	10	135	2325	139	2385	178	3072	177	3047	20	17	489	544	59	55	132	PASS	1/23/2021
15	GTD0067930016	23	540	12,420	58	63	61	30	31	3855	PMH821480	163	0.942	0.20	2.4	10	142	2364	148	2524	186	3090	163	2785	19	15	466	493	59	55	132	PASS	1/23/2021
16	GTD0067930017	23	540	12,420	58	63	61	31	31	3849	PMH821480	163	0.942	0.20	2.4	10	142	2364	148	2524	186	3090	163	2785	19	15	466	493	59	55	132	PASS	1/24/2021
17	GTD0067930018	23	540	12,420	58	63	62	31	31	3850	PMH821480	163	0.942	0.20	2.5	10	142	2364	148	2524	186	3090	163	2785	19	15	466	493	59	55	132	PASS	1/24/2021
18	GTD0067930019	23	540	12,420	59	63	61	31	31	3855	PMH821480	163	0.942	0.20	2.5	10	142	2364	148	2524	186	3090	163	2785	19	15	466	493	59	55	132	PASS	1/24/2021
19	GTD0067930020	23	540	12,420	58	61	59	29	25	3846	PMH821480	163	0.942	0.20	2.3	10	142	2364	148	2524	186	3090	163	2785	19	15	466	493	59	55	132	PASS	1/24/2021
20	GTD0067930021	23	540	12,420	54	63	59	29	27	3853	PMH821480	163	0.942	0.20	2.3	10	143	2364	153	2664	208	3508	171	2975	19	15	492	509	62	61	124	PASS	1/24/2021
21	GTD0067930022	23	540	12,420	57	62	59	29	25	3853	PMH821480	163	0.942	0.20	2.3	10	143	2406	153	2664	208	3508	171	2975	18	15	492	509	62	61	124	PASS	1/24/2021
22	GTD0067930023	23	540	12,420	55	63	59	28	26	3845	PMH821480	163	0.942	0.20	2.3	10	143	2406	153	2664	208	3508	171	2975	18	15	492	509	62	61	124	PASS	1/24/2021
23	GTD0067930024	23	540	12,420	57	61	59	28	25	3835	PMH821480	163	0.942	0.20	2.3	10	143	2406	153	2664	208	3508	171	2975	18	15	492	509	62	61	124	PASS	1/24/2021
24	GTD0067930025	23	540	12,420	57	61	59	30	26	3839	PMH821480	163	0.942	0.20	2.3	10	143	2406	153	2664	208	3508	171	2975	18	15	492	509	62	61	124	PASS	1/24/2021
25	GTD0067930026	23	540	12,420	58	61	60	31	26	3839	PMH821480	163	0.942	0.20	2.3	10	143	2406	149	2422	180	2972	168	2728	18	15	457	505	62	61	124	PASS	1/24/2021
26	GTD0067930027	23	540	12,420	58	62	60	31	27	3844	PMH821480	163	0.942	0.20	2.3	10	143	2350	149	2422	180	2972	168	2728	21	15	457	505	62	61	124	PASS	1/24/2021
27	GTD0067930028	23	540	12,420	57	61	60	32	27	3850	PMH821480	163	0.942	0.20	2.5	10	143	2350	149	2422	180	2972	168	2728	21	15	457	505	62	61	124	PASS	1/24/2021
28	GTD0067930029	23	540	12,420	58	61	60	32	27	3840	PMH821480	163	0.942	0.20	2.5	10	143	2350	149	2422	180	2972	168	2728	21	15	457	505	62	61	124	PASS	1/24/2021
29	GTD0067930030	23	540	12,420	58	61	60	32	28	3845	PMH821480	163	0.942	0.20	2.6	10	143	2350	149	2422	180	2972	168	2728	21	15	457	505	62	61	124	PASS	1/24/2021
30	GTD0067930031	23	540	12,420	58	61	59	32	29	3844	PMH821480	163	0.942	0.20	2.6	10	143	2350	145	2295	183	2970	209	3325	21	22	545	453	60	58	123	PASS	1/25/2021
31	GTD0067930032	23	540	12,420	58	61	59	32	28	3845	PMH821480	163	0.942	0.20	2.4	10	156	2519	145	2295	183	2970	209	3325	15	22	545	453	60	58	123	PASS	1/25/2021
32	GTD0067930033	23	540	12,420	58	62	60	32	29	3849	PMH821480	163	0.942	0.20	2.4	10	156	2519	145	2295	183	2970	209	3325	15	22	545	453	60	58	123	PASS	1/25/2021
33	GTD0067930034	23	540	12,420	58	62	60	33	28	3845	PMH821480	163	0.942	0.20	2.4	10	156	2519	145	2295	183	2970	209	3325	15	22	545	453	60	58	123	PASS	1/25/2021
34	GTD0067930035	23	540	12,420	57	62	60	29	31	3845	PMH821480	163	0.942	0.20	2.4	10	156	2519	145	2295	183	2970	209	3325	15	22	545	453	60	58	123	PASS	1/25/2021
35	GTD0067930036	23	540	12,420	58	61	60	31	27	3843	PMH821480	163	0.942	0.20	2.3	10	156	2519	149	2538	183	2970	165	2805	15	15	545	503	60	58	123	PASS	1/25/2021
36	GTD0067930037	23	540	12,420	57	63	59	29	26	3839	PMH821480	163	0.942	0.20	2.3	10	134	2254	149	2538	200	3372	165	2805	18	15	471	503	60	58	123	PASS	1/25/2021
37	GTD0067930038	23	540	12,420	58	60	60	30	28	3843	PMH821480	163	0.942	0.20	2.4	10	134	2254	149	2538	200	3372	165	2805	18	15	471	503	60	58	123	PASS	1/25/2021
38	GTD0067930039	23	540	12,420	59	61	60	30	27	3855	PMH821480	163	0.942	0.20	2.4	10	134	2254	149	2538	200	3372	165	2805	18	15	471	503	60	58	123	PASS	1/25/2021
39	GTD0067930040	23	540	12,420	58	61	60	31	28	3855	PMH821480	163	0.942	0.20	2.4	10	134	2254	149	2538	200	3372	165	2805	18	15	471	503	60	58	123	PASS	1/25/2021
40	GTD0067930041	23	540	12,420	59	61	60	29	26	3858	PMH821480	163	0.942	0.20	2.4	10	134	2254	144	2432	200	3372	174	2946	18	16	471	531	59	55	124	PASS	1/25/2021
41	GTD0067930042	23	540	12,420	58	61	60	30	29	3880	PMH821480	163	0.942	0.20	2.4	10	140	2346	144	2432	183	3083	174	2946	21	16	444	531	59	55	124	PASS	1/25/2021
42	GTD0067930043	23	540	12,420	59	61	60	31	29	3855	PMH821480	163	0.942	0.20	2.4	10	140	2346	144	2432	183	3083	174	2946	21	16	444	531	59	55	124	PASS	1/25/2021

agru america quality control dept

Maria Coffey-Manager
Quality Control Department

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: **00009653** MQC#: **7513**
Liner Type: **60HD microspike**
Item: **FG-HDMSDS060BBBEG**
Current # of Rolls: **151**
Roll Count: **1-151 (all)**
Report Date: 2/8/2021 **ENGLISH**

		(English)			ASTM D5994 (Modified)			ASTM D7466				ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693								ASTM D1004		ASTM D4833	ASTM D5397	
Count	Roll #	Width	Length	Area	Thickness (English) Min.	Max.	Ave.	Asperity (Top) Avg.	Asperity (Bottom) Avg.	Weight	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Yield (MD)		Tensile Str. @Yield (TD)		Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Yield (MD)	Elong. @Yield (TD)	Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	NCTL (500hrs.)	Production Date
		ft.	ft.	ft.²	mils	mils	mils	mils	mils	lbs.		min	g/cc	g/10 min.	%	# in Cat. 1 & 2	ppi	psi	ppi	psi	ppi	psi	ppi	psi	%	%	%	%	lbs.	lbs.	lbs.		
	Minimum Results (ea. Col.)				53	59	57	26	23	3784		163	0.942	0.18	2.2	10	132	2237	139	2295	178	2859	162	2728	15	14	406	447	50	50	123		
43	GTD0067930044	23	540	12,420	58	62	60	31	29	3855	PMH821480	163	0.942	0.20	2.5	10	140	2346	144	2432	183	3083	174	2946	21	16	444	531	59	55	124	PASS	1/25/2021
44	GTD0067930045	23	540	12,420	59	62	60	31	29	3848	PMH821480	163	0.942	0.20	2.5	10	140	2346	144	2432	183	3083	174	2946	21	16	444	531	59	55	124	PASS	1/25/2021
45	GTD0067930046	23	540	12,420	58	62	60	30	29	3852	PMH821480	163	0.942	0.20	2.5	10	140	2346	157	2653	183	3083	183	3105	21	16	444	531	59	55	124	PASS	1/26/2021
46	GTD0067930047	23	540	12,420	58	62	60	30	30	3850	PMH821480	163	0.942	0.20	2.5	10	149	2490	157	2653	192	3217	183	3105	19	16	455	531	59	55	124	PASS	1/26/2021
47	GTD0067930049	23	540	12,420	58	63	60	31	29	3850	PMH821480	163	0.942	0.20	2.4	10	149	2490	157	2653	192	3217	183	3105	19	16	455	531	59	55	124	PASS	1/26/2021
48	GTD0067930050	23	540	12,420	57	65	61	29	29	3850	PMH821480	163	0.942	0.20	2.4	10	149	2490	157	2653	192	3217	183	3105	19	16	455	531	59	55	124	PASS	1/26/2021
49	GTD0067930051	23	540	12,420	58	63	61	29	31	3880	PMH821480	163	0.942	0.20	2.3	10	149	2490	157	2653	192	3217	183	3105	19	16	455	531	59	55	124	PASS	1/26/2021
50	GTD0067930052	23	540	12,420	57	64	60	28	29	3881	PMH821480	163	0.942	0.20	2.3	10	147	2478	160	2630	205	3448	179	2944	17	15	449	525	60	57	137	PASS	1/26/2021
51	GTD0067930053	23	540	12,420	57	64	60	27	28	3880	PMH821480	163	0.942	0.20	2.3	10	147	2478	160	2630	205	3448	179	2944	17	15	449	525	60	57	137	PASS	1/26/2021
52	GTD0067930054	23	540	12,420	56	62	60	29	31	3876	PMH821480	163	0.942	0.20	2.3	10	147	2478	160	2630	205	3448	179	2944	17	15	449	525	60	57	137	PASS	1/26/2021
53	GTD0067930055	23	540	12,420	57	65	60	31	32	3880	PMH821480	163	0.942	0.20	2.3	10	147	2478	160	2630	205	3448	179	2944	17	15	449	525	60	57	137	PASS	1/26/2021
54	GTD0067930056	23	540	12,420	54	65	60	32	33	3878	PMH821480	163	0.942	0.20	2.3	10	147	2478	160	2630	205	3448	179	2944	17	15	449	525	60	57	137	PASS	1/26/2021
55	GTD0067930057	23	540	12,420	57	64	61	32	33	3880	PMH821470	190	0.943	0.18	2.4	10	145	2365	148	2346	197	3214	186	2947	19	16	456	544	60	57	137	PASS	1/26/2021
56	GTD0067930058	23	540	12,420	57	64	61	32	33	3882	PMH821470	190	0.943	0.18	2.4	10	145	2365	148	2346	197	3214	186	2947	19	16	456	544	60	57	137	PASS	1/26/2021
57	GTD0067930059	23	540	12,420	58	65	61	32	33	3884	PMH821470	190	0.943	0.18	2.5	10	145	2365	148	2346	197	3214	186	2947	19	16	456	544	60	57	137	PASS	1/26/2021
58	GTD0067930060	23	540	12,420	58	64	61	32	33	3882	PMH821470	190	0.943	0.18	2.5	10	145	2365	148	2346	197	3214	186	2947	19	16	456	544	60	57	137	PASS	1/27/2021
59	GTD0067930061	23	540	12,420	57	65	61	30	31	3884	PMH821470	190	0.943	0.18	2.4	10	145	2365	148	2346	197	3214	186	2947	19	16	456	544	60	57	137	PASS	1/27/2021
60	GTD0067930062	23	540	12,420	57	64	60	29	30	3886	PMH821470	190	0.943	0.18	2.4	10	153	2585	161	2703	207	3503	184	3097	21	15	454	522	60	57	137	PASS	1/27/2021
61	GTD0067930063	23	540	12,420	57	64	60	32	30	3858	PMH821470	190	0.943	0.18	2.5	10	153	2585	161	2703	207	3503	184	3097	21	15	454	522	60	57	137	PASS	1/27/2021
62	GTD0067930064	23	540	12,420	57	64	60	31	31	3860	PMH821470	190	0.943	0.18	2.5	10	153	2585	161	2703	207	3503	184	3097	21	15	454	522	60	57	137	PASS	1/27/2021
63	GTD0067930065	23	540	12,420	58	61	60	30	28	3877	PMH821470	190	0.943	0.18	2.3	10	153	2585	161	2703	207	3503	184	3097	21	15	454	522	60	57	137	PASS	1/27/2021
64	GTD0067930066	23	540	12,420	57	62	60	31	29	3880	PMH821470	190	0.943	0.18	2.3	10	153	2585	161	2703	207	3503	184	3097	21	15	454	522	60	57	137	PASS	1/27/2021
65	GTD0067930067	23	540	12,420	58	62	60	29	29	3881	PMH821470	190	0.943	0.18	2.3	10	141	2371	150	2515	195	3284	198	3308	18	16	466	589	60	57	137	PASS	1/27/2021
66	GTD0067930069	23	540	12,420	56	66	60	35	27	3880	PMH821470	190	0.943	0.18	2.4	10	141	2371	150	2515	195	3284	198	3308	18	16	466	589	60	57	137	PASS	1/27/2021
67	GTD0067930070	23	540	12,420	56	64	60	36	29	3876	PMH821470	190	0.943	0.18	2.4	10	141	2371	150	2515	195	3284	198	3308	18	16	466	589	60	57	137	PASS	1/27/2021
68	GTD0067930071	23	540	12,420	55	63	60	37	29	3878	PMH821470	190	0.943	0.18	2.5	10	141	2371	150	2515	195	3284	198	3308	18	16	466	589	60	57	137	PASS	1/27/2021
69	GTD0067930072	23	540	12,420	55	62	60	38	30	3874	PMH821470	190	0.943	0.18	2.5	10	141	2371	150	2515	195	3284	198	3308	18	16	466	589	60	57	137	PASS	1/27/2021
70	GTD0067930073	23	540	12,420	56	62	60	37	30	3876	PMH821470	190	0.943	0.18	2.4	10	153	2436	161	2605	184	2932	206	3343	20	17	456	578	64	59	134	PASS	1/27/2021
71	GTD0067930074	23	540	12,420	58	63	61	33	29	3876	PMH821470	190	0.943	0.18	2.4	10	153	2436	161	2605	184	2932	206	3343	20	17	456	578	64	59	134	PASS	1/28/2021
72	GTD0067930075	23	540	12,420	57	64	61	35	31	3875	PMH821470	190	0.943	0.18	2.4	10	153	2436	161	2605	184	2932	206	3343	20	17	456	578	64	59	134	PASS	1/28/2021
73	GTD0067930076	23	540	12,420	58	63	61	31	30	3877	PMH821470	190	0.943	0.18	2.4	10	153	2436	161	2605	184	2932	206	3343	20	17	456	578	64	59	134	PASS	1/28/2021
74	GTD0067930077	23	540	12,420	58	63	61	31	31	3880	PMH821470	190	0.943	0.18	2.3	10	153	2436	161	2605	184	2932	206	3343	20	17	456	578	64	59	134	PASS	1/28/2021
75	GTD0067930078	23	540	12,420	59	62	60	29	26	3856	PMH821470	190	0.943	0.18	2.3	10	140	2318	149	2532	202	3345	162	2732	18	15	442	484	64	59	134	PASS	1/28/2021
76	GTD0067930079	23	540	12,420	57	61	59	32	28	3870	PMH821470	190	0.943	0.18	2.3	10	140	2318	149	2532	202	3345	162	2732	18	15	442	484	64	59	134	PASS	1/28/2021
77	GTD0067930080	23	540	12,420	57	61	60	31	28	3840	PMH821470	190	0.943	0.18	2.3	10	140	2318	149	2532	202	3345	162	2732	18	15	442	484	64	59	134	PASS	1/28/2021
78	GTD0067930081	23	540	12,420	57	62	59	29	27	3855	PMH821470	190	0.943	0.18	2.3	10	140	2318	149	2532	202	3345	162	2732	18	15	442	484	64	59	134	PASS	1/28/2021
79	GTD0067930082	23	540	12,420	56	64	60	31	32	3869	PMH821470	190	0.943	0.18	2.3	10	140	2318	149	2532	202	3345	162	2732	18	15	442	484	64	59	134	PASS	1/28/2021
80	GTD0067930083	23	540	12,420	58	63	60	30	33	3880	PMH821470	190	0.943	0.18	2.3	10	145	2364	154	2529	183	2982	188	3089	20	16	454	545	55	57	134	PASS	1/28/2021
81	GTD0067930084	23	540	12,420	55	62	59	30	32	3870	PMH821470	190	0.943	0.18	2.3	10	145	2364	154	2529	183	2982	188	3089	20	16	454	545	55	57	134	PASS	1/28/2021
82	GTD0067930088	23	540	12,420	58	62	60	31	33	3865	PMH821470	190	0.943	0.18	2.4	10	149	2379	149	2421	192	3062	195	3153	18	18	502	517	55	57	134	PASS	1/28/2021
83	GTD0067930089	23	540	12,420	58	62	60	31	33	3870	PMH821470	190	0.943	0.18	2.4	10	149	2379	149	2421	192	3062	195	3153	18	18	502	517	55	57	134	PASS	1/29/2021
84	GTD0067930090	23	540	12,420	58	63	60	31	33	3875	PMH821470	190	0.943	0.18	2.3	10	149	2379	149	2421	192	3062	195	3153	18	18	502	517	55	57	134	PASS	1/29/2021

agru america
quality control dept

Maria Coffey-Manager
Quality Control Department

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: **00009653** MQC#: **7513**
Liner Type: **60HD microspike**
Item: **FG-HDMSDS060BBBEG**
Current # of Rolls: **151**
Roll Count: **1-151 (all)**
Report Date: 2/8/2021 **ENGLISH**

		(English)			ASTM D5994 (Modified)			ASTM D7466				ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693								ASTM D1004		ASTM D4833	ASTM D5397	
Count	Roll #	Width	Length	Area	Thickness (English)			Asperity (Top)	Asperity (Bottom)	Weight	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Yield (MD)		Tensile Str. @Yield (TD)		Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Yield (MD)	Elong. @Yield (TD)	Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	NCTL (500hrs.)	Production Date
		ft.	ft.	ft.²	Min.	Max.	Ave.	Avg.	Avg.	lbs.		min	g/cc	g/10 min.	%	# in Cat. 1 & 2	ppi	psi	ppi	psi	ppi	psi	ppi	psi	%	%	%	%	lbs.	lbs.	lbs.		
Minimum Results (ea. Col.)					53	59	57	26	23	3784		163	0.942	0.18	2.2	10	132	2237	139	2295	178	2859	162	2728	15	14	406	447	50	50	123		
85	GTD0067930091	23	540	12,420	58	63	60	31	33	3865	PMH821470	190	0.943	0.18	2.3	10	149	2379	149	2421	192	3062	195	3153	18	18	502	517	55	57	134	PASS	1/29/2021
86	GTD0067930092	23	540	12,420	58	63	60	32	33	3860	PMH821470	190	0.943	0.18	2.4	10	149	2379	149	2421	192	3062	195	3153	18	18	502	517	55	57	134	PASS	1/29/2021
87	GTD0067930093	23	540	12,420	59	62	61	28	28	3859	PMH821470	190	0.943	0.18	2.4	10	144	2447	155	2578	204	3448	180	2987	19	16	468	517	57	58	131	PASS	1/29/2021
88	GTD0067930094	23	540	12,420	58	62	60	32	29	3966	PMH821470	190	0.943	0.18	2.3	10	144	2447	155	2578	204	3448	180	2987	19	16	468	517	57	58	131	PASS	1/29/2021
89	GTD0067930095	23	540	12,420	58	62	60	29	25	3865	PMH821470	190	0.943	0.18	2.3	10	144	2447	155	2578	204	3448	180	2987	19	16	468	517	57	58	131	PASS	1/29/2021
90	GTD0067930096	23	540	12,420	59	62	60	28	26	3865	PMH821470	190	0.943	0.18	2.3	10	144	2447	155	2578	204	3448	180	2987	19	16	468	517	57	58	131	PASS	1/29/2021
91	GTD0067930097	23	540	12,420	59	61	60	30	29	3866	PMH821470	190	0.943	0.18	2.3	10	144	2447	155	2578	204	3448	180	2987	19	16	468	517	57	58	131	PASS	1/29/2021
92	GTD0067930098	23	540	12,420	59	64	61	31	29	3870	PMH821470	190	0.943	0.18	2.5	10	150	2348	156	2389	182	2859	193	2960	21	16	406	559	57	58	131	PASS	1/29/2021
93	GTD0067930099	23	540	12,420	58	62	60	31	29	3884	PMH821470	190	0.943	0.18	2.5	10	150	2348	156	2389	182	2859	193	2960	21	16	406	559	57	58	131	PASS	1/29/2021
94	GTD0067930100	23	540	12,420	58	61	60	30	29	3946	PMH821470	190	0.943	0.18	2.5	10	150	2348	156	2389	182	2859	193	2960	21	16	406	559	57	58	131	PASS	1/29/2021
95	GTD0067930101	23	540	12,420	59	62	60	31	29	3947	PMH821470	190	0.943	0.18	2.5	10	150	2348	156	2389	182	2859	193	2960	21	16	406	559	57	58	131	PASS	1/29/2021
96	GTD0067930102	23	540	12,420	58	62	60	31	30	3950	PMH821470	190	0.943	0.18	2.4	10	150	2348	156	2389	182	2859	193	2960	21	16	406	559	57	58	131	PASS	1/29/2021
97	GTD0067930103	23	540	12,420	58	62	60	31	30	3950	PMH821470	190	0.943	0.18	2.4	10	157	2498	148	2367	198	3143	202	3227	16	28	565	447	59	60	137	PASS	1/30/2021
98	GTD0067930104	23	540	12,420	58	63	60	31	29	3945	PMH821470	190	0.943	0.18	2.3	10	157	2498	148	2367	198	3143	202	3227	16	28	565	447	59	60	137	PASS	1/30/2021
99	GTD0067930105	23	540	12,420	58	62	60	31	30	3950	PMH821470	190	0.943	0.18	2.3	10	157	2498	148	2367	198	3143	202	3227	16	28	565	447	59	60	137	PASS	1/30/2021
100	GTD0067930106	23	540	12,420	58	65	60	31	29	3955	PMH821470	190	0.943	0.18	2.3	10	157	2498	148	2367	198	3143	202	3227	16	28	565	447	59	60	137	PASS	1/30/2021
101	GTD0067930107	23	540	12,420	57	61	60	31	28	3954	PMH821470	190	0.943	0.18	2.3	10	157	2498	148	2367	198	3143	202	3227	16	28	565	447	59	60	137	PASS	1/30/2021
102	GTD0067930108	23	540	12,420	58	63	61	29	27	3952	PMH821470	190	0.943	0.18	2.2	10	146	2445	153	2537	200	3330	191	3186	18	16	466	556	59	60	137	PASS	1/30/2021
103	GTD0067930109	23	540	12,420	57	61	60	30	25	3950	PMH821470	190	0.943	0.18	2.2	10	146	2445	153	2537	200	3330	191	3186	18	16	466	556	59	60	137	PASS	1/30/2021
104	GTD0067930110	23	540	12,420	60	63	61	28	25	3947	PMH821470	190	0.943	0.18	2.7	10	146	2445	153	2537	200	3330	191	3186	18	16	466	556	59	60	137	PASS	1/30/2021
105	GTD0067930111	23	540	12,420	57	62	60	26	27	3951	PMH821470	190	0.943	0.18	2.7	10	146	2445	153	2537	200	3330	191	3186	18	16	466	556	59	60	137	PASS	1/30/2021
106	GTD0067930112	23	540	12,420	58	62	60	27	26	3947	PMF821560	178	0.942	0.22	2.3	10	146	2445	153	2537	200	3330	191	3186	18	16	466	556	59	60	137	PASS	1/30/2021
107	GTD0067930113	23	540	12,420	58	63	60	26	23	3946	PMF821560	178	0.942	0.22	2.3	10	151	2462	146	2428	194	3165	197	3300	16	19	579	484	61	61	128	PASS	1/30/2021
108	GTD0067930114	23	540	12,420	58	63	60	29	26	3940	PMF821560	178	0.942	0.22	2.4	10	151	2462	146	2428	194	3165	197	3300	16	19	579	484	61	61	128	PASS	1/30/2021
109	GTD0067930115	23	540	12,420	58	63	60	29	27	3945	PMF821560	178	0.942	0.22	2.4	10	151	2462	146	2428	194	3165	197	3300	16	19	579	484	61	61	128	PASS	1/30/2021
110	GTD0067930116	23	540	12,420	58	63	61	29	27	3948	PMF821560	178	0.942	0.22	2.3	10	151	2462	146	2428	194	3165	197	3300	16	19	579	484	61	61	128	PASS	1/30/2021
111	GTD0067930117	23	540	12,420	58	63	61	29	27	3947	PMF821560	178	0.942	0.22	2.3	10	151	2462	146	2428	194	3165	197	3300	16	19	579	484	61	61	128	PASS	1/31/2021
112	GTD0067930118	23	540	12,420	57	61	60	31	29	3946	PMF821560	178	0.942	0.22	2.3	10	152	2508	159	2619	192	3158	207	3399	20	18	465	575	61	61	128	PASS	1/31/2021
113	GTD0067930119	23	540	12,420	58	63	61	29	31	3970	PMF821560	178	0.942	0.22	2.3	10	152	2508	159	2619	192	3158	207	3399	20	18	465	575	61	61	128	PASS	1/31/2021
114	GTD0067930120	23	540	12,420	59	63	61	30	29	3968	PMF821560	178	0.942	0.22	2.3	10	152	2508	159	2619	192	3158	207	3399	20	18	465	575	61	61	128	PASS	1/31/2021
115	GTD0067930121	23	540	12,420	58	63	61	30	29	3960	PMF821560	178	0.942	0.22	2.3	10	152	2508	159	2619	192	3158	207	3399	20	18	465	575	61	61	128	PASS	1/31/2021
116	GTD0067930122	23	540	12,420	57	64	61	31	30	3962	PMF821560	178	0.942	0.22	2.5	10	152	2508	159	2619	192	3158	207	3399	20	18	465	575	61	61	128	PASS	1/31/2021
117	GTD0067930123	23	540	12,420	56	64	60	36	30	3964	PMF821560	178	0.942	0.22	2.4	10	144	2251	152	2463	195	3061	179	2890	20	15	464	544	60	58	128	PASS	1/31/2021
118	GTD0067930124	23	540	12,420	55	65	61	35	30	3964	PMF821560	178	0.942	0.22	2.3	10	144	2251	152	2463	195	3061	179	2890	20	15	464	544	60	58	128	PASS	1/31/2021
119	GTD0067930125	23	540	12,420	56	64	60	38	28	3966	PMF821560	178	0.942	0.22	2.3	10	144	2251	152	2463	195	3061	179	2890	20	15	464	544	60	58	128	PASS	1/31/2021
120	GTD0067930126	23	540	12,420	56	67	63	37	36	3963	PMF821560	178	0.942	0.22	2.3	10	144	2251	152	2463	195	3061	179	2890	20	15	464	544	60	58	128	PASS	1/31/2021
121	GTD0067930127	23	540	12,420	58	64	60	33	28	3969	PMF821560	178	0.942	0.22	2.3	10	144	2251	152	2463	195	3061	179	2890	20	15	464	544	60	58	128	PASS	1/31/2021
122	GTD0067930128	23	540	12,420	59	64	61	33	35	3967	PMF821560	178	0.942	0.22	2.4	10	231	3672	239	5154	281	4471	277	5977	20	19	494	567	60	58	128	PASS	1/31/2021
123	GTD0067930129	23	540	12,420	59	64	61	33	35	3965	PMF821560	178	0.942	0.22	2.4	10	231	3672	239	5154	281	4471	277	5977	20	19	494	567	60	58	128	PASS	1/31/2021
124	GTD0067930130	23	540	12,420	58	64	61	33	35	3964	PMF821560	178	0.942	0.22	2.4	10	231	3672	239	5154	281	4471	277	5977	20	19	494	567	60	58	128	PASS	1/31/2021
125	GTD0067930131	23	540	12,420	59	64	61	33	35	3959	PMF821560	178	0.942	0.22	2.4	10	231	3672	239	5154	281	4471	277	5977	20	19	494	567	60	58	128	PASS	1/31/2021
126	GTD0067930132	23	540	12,420	60	63	61	32	28	3962	PMF821560	178	0.942	0.22	2.3	10	231	3672	239	5154	281	4471	277	5977	20	19	494	567	60	58	128	PASS	2/1/2021

agru america quality control dept

Maria Coffey-Manager
Quality Control Department

Waste Connections of Osceola County. LLC
JED Landfill - Cell 14
1501 Omni Way
St Cloud, FL 34773

SO#: **00009653** MQC#: **7513**
Liner Type: **60HD microspike**
Item: **FG-HDMSDS060BBBEG**
Current # of Rolls: **151**
Roll Count: **1-151 (all)**
Report Date: 2/8/2021 **ENGLISH**

					ASTM D5994 (Modified)			ASTM D7466				ASTM D3895	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693								ASTM D1004		ASTM D4833	ASTM D5397	
Count	Roll #	(English)			Thickness (English)			Asperity (Top)	Asperity (Bottom)	Weight	Lot #	OIT (Standard)	Specific Gravity	Melt Flow Index	Carbon Black Content	Carbon Black Disp.	Tensile Str. @Yield (MD)		Tensile Str. @Yield (TD)		Tensile Str. @Break (MD)		Tensile Str. @Break (TD)		Elong. @Yield (MD)	Elong. @Yield (TD)	Elong. @Break (MD)	Elong. @Break (TD)	Tear Resistance (MD)	Tear Resistance (TD)	Puncture Resistance	NCTL (500hrs.)	Production Date
		Width	Length	Area	Min.	Max.	Ave.	Avg.	Avg.																							
		ft.	ft.	ft.²	mils	mils	mils	mils	mils	lbs.		min	g/cc	g/10 min.	%	# in Cat. 1 & 2	ppi	psi	ppi	psi	ppi	psi	ppi	psi	%	%	%	%	lbs.	lbs.	lbs.		
Minimum Results (ea. Col.)					53	59	57	26	23	3784		163	0.942	0.18	2.2	10	132	2237	139	2295	178	2859	162	2728	15	14	406	447	50	50	123		
127	GTD0067930133	23	540	12,420	56	66	62	32	28	3968	PMF821560	178	0.942	0.22	2.3	10	152	2563	160	2649	201	3386	195	3232	23	17	470	562	58	56	133	PASS	2/1/2021
128	GTD0067930134	23	540	12,420	59	63	61	31	31	3966	PMF821560	178	0.942	0.22	2.3	10	152	2563	160	2649	201	3386	195	3232	23	17	470	562	58	56	133	PASS	2/1/2021
129	GTD0067930135	23	540	12,420	58	65	60	27	25	3945	PMF821560	178	0.942	0.22	2.3	10	152	2563	160	2649	201	3386	195	3232	23	17	470	562	58	56	133	PASS	2/1/2021
130	GTD0067930136	23	540	12,420	54	65	60	30	26	3944	PMF821560	178	0.942	0.22	2.3	10	152	2563	160	2649	201	3386	195	3232	23	17	470	562	58	56	133	PASS	2/1/2021
131	GTD0067930137	23	540	12,420	59	66	62	28	25	3947	PMF821560	178	0.942	0.22	2.3	10	152	2563	160	2649	201	3386	195	3232	23	17	470	562	58	56	133	PASS	2/1/2021
132	GTF0064530036	23	540	12,420	55	60	58	30	32	3798	PMF821510	166	0.942	0.27	2.4	10	132	2237	145	2366	188	3208	192	3139	17	15	451	616	57	53	129	PASS	10/25/2020
133	GTF0064530037	23	540	12,420	53	59	57	29	32	3784	PMF821510	166	0.942	0.27	2.3	10	132	2237	145	2366	188	3208	192	3139	17	15	451	616	57	53	129	PASS	10/25/2020
134	GTF0064530038	23	540	12,420	57	67	61	29	31	3820	PMF821510	166	0.942	0.27	2.3	10	132	2237	145	2366	188	3208	192	3139	17	15	451	616	57	53	129	PASS	10/25/2020
135	GTF0064530039	23	540	12,420	56	63	59	29	31	3912	PMF821510	166	0.942	0.27	2.3	10	141	2319	162	2636	197	3249	198	3227	19	14	452	595	57	57	129	PASS	10/25/2020
136	GTF0064530040	23	540	12,420	56	63	60	29	31	3920	PMF821510	166	0.942	0.27	2.3	10	141	2319	162	2636	197	3249	198	3227	19	14	452	595	57	57	129	PASS	10/25/2020
137	GTC0065910007	23	540	12,420	56	67	61	29	33	3928	PMG820820	187	0.943	0.25	2.5	10	148	2396	144	2416	182	2942	187	3139	18	17	512	563	55	57	123	PASS	12/1/2020
138	GTC0065910008	23	540	12,420	57	66	62	29	32	3932	PMG820820	187	0.943	0.25	2.5	10	148	2396	144	2416	182	2942	187	3139	18	17	512	563	55	57	123	PASS	12/1/2020
139	GTC0065910009	23	540	12,420	57	67	62	29	32	3926	PMG820820	187	0.943	0.25	2.2	10	154	2477	170	2573	196	3157	216	3260	18	18	533	521	50	50	138	PASS	12/1/2020
140	GTC0065910010	23	540	12,420	57	67	62	29	32	3930	PMG820820	187	0.943	0.25	2.2	10	154	2477	170	2573	196	3157	216	3260	18	18	533	521	50	50	138	PASS	12/1/2020
141	GTC0065910011	23	540	12,420	54	68	59	30	32	3926	PMG820820	187	0.943	0.25	2.6	10	154	2477	170	2573	196	3157	216	3260	18	18	533	521	50	50	138	PASS	12/1/2020
142	GTC0065910012	23	540	12,420	54	66	59	29	32	3938	PMG820820	187	0.943	0.25	2.6	10	154	2477	170	2573	196	3157	216	3260	18	18	533	521	50	50	138	PASS	12/1/2020
143	GTC0065910013	23	540	12,420	57	65	60	30	31	3936	PMG820820	187	0.943	0.25	2.6	10	154	2477	170	2573	196	3157	216	3260	18	18	533	521	50	50	138	PASS	12/1/2020
144	GTC0065910014	23	540	12,420	54	71	60	29	31	3940	PMG820820	187	0.943	0.25	2.6	10	148	2437	162	2641	206	3380	205	3343	20	15	471	623	50	50	138	PASS	12/1/2020
145	GTC0065910015	23	540	12,420	54	70	61	30	31	3936	PMG820820	187	0.943	0.25	2.6	10	148	2437	162	2641	206	3380	205	3343	20	15	471	623	50	50	138	PASS	12/1/2020
146	GTC0065910016	23	540	12,420	56	71	61	30	32	3938	PMG820820	187	0.943	0.25	2.6	10	148	2437	162	2641	206	3380	205	3343	20	15	471	623	50	50	138	PASS	12/1/2020
147	GTC0065910017	23	540	12,420	55	69	61	29	31	3934	PMG820820	187	0.943	0.25	2.6	10	148	2437	162	2641	206	3380	205	3343	20	15	471	623	50	50	138	PASS	12/1/2020
148	GTC0065910018	23	540	12,420	57	67	61	31	30	3936	PMG820820	187	0.943	0.25	2.6	10	148	2437	162	2641	206	3380	205	3343	20	15	471	623	50	50	138	PASS	12/1/2020
149	GTC0065910019	23	540	12,420	56	66	60	30	32	3926	PMG820820	187	0.943	0.25	2.6	10	147	2405	160	2545	206	3359	218	3463	20	15	478	654	58	55	131	PASS	12/1/2020
150	GTC0065910021	23	540	12,420	57	69	61	29	30	3922	PMG820820	187	0.943	0.25	2.5	10	147	2405	160	2545	206	3359	218	3463	20	15	478	654	58	55	131	PASS	12/1/2020
151	GTC0065910022	23	540	12,420	55	70	60	30	31	3920	PMG820820	187	0.943	0.25	2.5	10	147	2405	160	2545	206	3359	218	3463	20	15	478	654	58	55	131	PASS	12/2/2020

CoA Date: 10/31/2020

Certificate of Analysis

Shipped To: AGRU AMERICA INC:MULLINS
171 Highway 905
CONWAY SC 29526-6801
USA

Recipient: PALMER
Fax:

Delivery #: 80308396
PO #: 17726
Weight: 176900.000 LB
Ship Date: 10/31/2020
Package: BULK
Mode: Hopper Car
Car #: CEFX053697
Seal No: 216869

Product:
MARLEX K307 POLYETHYLENE in Bulk

Lot Number: PMH821480

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.20	g/10min
HLMI Flow Rate	ASTM D1238	17	g/10min
Density	D1505 or D4883	0.936	g/cm3
Pellet Count	P02.08.03	23	pelet/gram
Production Date		08/24/2020	

HLMI WAIVED BY ED CORNEJO

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**

Erin Xiao
Quality Systems Coordinator

For CoA questions contact Shannon Blacknall at +1-832-813-4807

CoA Date: 10/31/2020

Certificate of Analysis

Shipped To: AGRU AMERICA INC:MULLINS
171 Highway 905
CONWAY SC 29526-6801
USA

Recipient: PALMER
Fax:

Delivery #: 80308375
PO #: 17726
Weight: 187900.000 LB
Ship Date: 10/31/2020
Package: BULK
Mode: Hopper Car
Car #: CPCX815798
Seal No: 216870

Product:
MARLEX K307 POLYETHYLENE in Bulk

Lot Number: PMH821470

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.19	g/10min
HLMI Flow Rate	ASTM D1238	16	g/10min
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	24	pelet/gram
Production Date		08/24/2020	

HLMI WAIVED BY ED CORNEJO

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Erin Xiao
Quality Systems Coordinator

For CoA questions contact Shannon Blacknall at +1-832-813-4807

CoA Date: 11/20/2020

Certificate of Analysis

Shipped To: AGRU AMERICA INC:MULLINS
171 Highway 905
CONWAY SC 29526-6801
USA

Recipient: PALMER
Fax:

Delivery #: 80321782
PO #: 17806
Weight: 175700.000 LB
Ship Date: 11/20/2020
Package: BULK
Mode: Hopper Car
Car #: CPCX816243
Seal No: 215478

Product:
MARLEX K307 POLYETHYLENE in Bulk

Lot Number: PMF821560

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.22	g/10min
HLMI Flow Rate	ASTM D1238	19	g/10min
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	24	pelet/gram
Production Date		06/25/2020	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
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Erin Xiao
Quality Systems Coordinator

For CoA questions contact Shannon Blacknall at +1-832-813-4807

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 918-977-4229 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

September 9, 2019
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2019_090919.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Textured geomembrane samples have been received from Agru, and test specimens were taken from the smooth border of the samples. Test results are reported below. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in April 2019 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- K307 Lot # HJM810770, Agru Roll # GTF0029510004, black sheet, textured, nominal 0.060” thick.
- 7104 Lot # CJE811700, Agru Roll # GTA0031290012, black sheet, textured, nominal 0.050” thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next page. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

NOTICES
Technical Information - By using any Technical Information contained herein, Recipient agrees that said Technical Information is given by CPChem for convenience only, without any warranty or guarantee of any kind, and is accepted and used at your sole risk. Recipients are encouraged to verify independently any such information to their reasonable satisfaction. As used in this paragraph, "Technical Information" includes any technical advice, recommendations, testing, or analysis, including, without limitation, information as it may relate to the selection of a product for a specific use and application.

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # HJM810770, Agru Roll # GTF0029510004, black sheet, textured, nominal 0.060" thick	1303	1130	**86.7%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot #CFJ810540, Agru Roll #G15B434055, black sheet, smooth, nominal 0.040" thick	904	838	**92.6%**	GRI-GM17: % HP-OIT: 60% minimum

Continued on Page 3 - - -

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UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # HJM810770, Agru Roll # GTF0029510004, black sheet, textured, nominal 0.060" thick	1310	1025	**78.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot #CFJ810540, Agru Roll #G15B434055, black sheet, smooth, nominal 0.040" thick	919	650	**70.7%**	GRI-GM17: % HP-OIT: 35% minimum

Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

NOTICES
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agru america
quality control dept.

SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMF821510	MATERIAL:	HDPE	DATE:	11/7/20
LOT CHANGE ON ROLL #:	GTF0064090003			LINER TYPE:	60 HD MICRO
FIRST TEST ON ROLL #:	GTF0064090003			REF #:	6018

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
Thickness= Thickness of sample at notch point (inches)
Width= Width of sample (inches)= .125" constant
MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2557 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2557 x 0.06 x Formula

Load= 402 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)	PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120	PASS	NA
#2	0.0600	#2	0.0120	PASS	NA
#3	0.0600	#3	0.0120	PASS	NA
#4	0.0600	#4	0.0120	PASS	NA
#5	0.0600	#5	0.0120	PASS	NA
#6	0.0600	#6	0.0120	= 305 microns	

Comments:

All 5 specimens have passed **514** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

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SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMF821560	MATERIAL:	HDPE	DATE:	1/30/21
LOT CHANGE ON ROLL #:	GTD0067930112			LINER TYPE:	60 HD MICRO
FIRST TEST ON ROLL #:	GTD0067930113			REF #:	6117

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

- Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
- Thickness= Thickness of sample at notch point (inches)
- Width= Width of sample (inches)= .125" constant
- MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
- CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2428 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2428 x 0.06 x Formula

Load= 381 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)		PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120		0	NA
#2	0.0600	#2	0.0120		0	NA
#3	0.0600	#3	0.0120		0	NA
#4	0.0600	#4	0.0120		0	NA
#5	0.0600	#5	0.0120		0	NA
#6	0.0600	#6	0.0120	=	305	microns

Comments:

All 5 specimens have passed **501** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

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SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMG820820	MATERIAL:	HDPE	DATE:	11/24/20
LOT CHANGE ON ROLL #:	GTC0065650027			LINER TYPE:	60 HD MICRO
FIRST TEST ON ROLL #:	GTC0065650028			REF #:	6046

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

- Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
- Thickness= Thickness of sample at notch point (inches)
- Width= Width of sample (inches)= .125" constant
- MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
- CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2584 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2584 x 0.06 x Formula

Load= 407 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)	PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120	PASS	NA
#2	0.0600	#2	0.0120	PASS	NA
#3	0.0600	#3	0.0120	PASS	NA
#4	0.0600	#4	0.0120	PASS	NA
#5	0.0600	#5	0.0120	PASS	NA
#6	0.0600	#6	0.0120	= 305 microns	

Comments:

All 5 specimens have passed **544** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

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quality control dept.

SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMH821470	MATERIAL:	HDPE	DATE:	1/26/21
LOT CHANGE ON ROLL #:	GTD0067930057			LINER TYPE:	60 HD MICRO
FIRST TEST ON ROLL #:	GTD0067930057			REF #:	6115

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

- Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
- Thickness= Thickness of sample at notch point (inches)
- Width= Width of sample (inches)= .125" constant
- MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
- CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2346 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2346 x 0.06 x Formula

Load= 368 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)		PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120		PASS	NA
#2	0.0600	#2	0.0120		PASS	NA
#3	0.0600	#3	0.0120		PASS	NA
#4	0.0600	#4	0.0120		PASS	NA
#5	0.0600	#5	0.0120		PASS	NA
#6	0.0600	#6	0.0120	=	305	microns

Comments:

All 5 specimens have passed **572** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

agru america
quality control dept.

SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMH821480	MATERIAL:	HDPE	DATE:	1/22/21
LOT CHANGE ON ROLL #:	GTD0067730094			LINER TYPE:	60 HD MICRO
FIRST TEST ON ROLL #:	GTD0067730096			REF #:	6112

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
Thickness= Thickness of sample at notch point (inches)
Width= Width of sample (inches)= .125" constant
MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2486 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2486 x 0.06 x Formula

Load= 391 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)	PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120	PASS	NA
#2	0.0600	#2	0.0120	PASS	NA
#3	0.0600	#3	0.0120	PASS	NA
#4	0.0600	#4	0.0120	PASS	NA
#5	0.0600	#5	0.0120	PASS	NA
#6	0.0600	#6	0.0120	= 305 microns	

Comments:

All 5 specimens have passed **572** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

agru america
quality control dept.

SP NOTCHED CONSTANT TENSILE LOAD
ASTM D5397 APPENDIX X1

LOT #:	PMM821640	MATERIAL:	HDPE	DATE:	2/4/21
LOT CHANGE ON ROLL #:	GTD0068200021			LINER TYPE:	60 HD SMOOTH
FIRST TEST ON ROLL #:	GTD0068200022			REF #:	6126

FORMULA FOR APPLIED LOAD:

$$\text{Load} = \frac{[\text{Str@Yld} \times \%\ \text{test} \times (80\%\ \text{of Nom. Thickness}) \times \text{Width}] - \text{CF}}{\text{MA}}$$

Where:

- Str@yld= Tensile strength @ yield (Transverse Direction) from ASTM D6693 (psi)
- Thickness= Thickness of sample at notch point (inches)
- Width= Width of sample (inches)= .125" constant
- MA=Mechanical Advantage used (1:1, 3:1, 4:1 or 5:1)
- CF= Correction Factor for MA Stations is 77g (weight of arm w/empty holder attached to other end)

Therefore for each sample:

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

* This number may change due to customer specifications. Formula will be changed also.

Strength @ Yield for this roll: 2632 psi % of Yield tested: 30 %

Station used: _____ Mechanical Advantage used: 5 CF= 77 g

Nominal Thickness: 0.0600 inches

Load= (Str@Yld x Nom. Thickness x .03* ------> [(% TEST) x .8 x .125])-77/5

Load= 2632 x 0.06 x Formula

Load= 414 g

Pass @ 500 hours

	Specimen Thickness (in.)		Notch depth (In.)		PASS/FAIL	FAIL @
#1	0.0600	#1	0.0120		PASS	NA
#2	0.0600	#2	0.0120		PASS	NA
#3	0.0600	#3	0.0120		PASS	NA
#4	0.0600	#4	0.0120		PASS	NA
#5	0.0600	#5	0.0120		PASS	NA
#6	0.0600	#6	0.0120	=	305	microns

Comments:

All 5 specimens have passed **500** hours with no breaks.

Tested by: SE

Checked by: MC

Test Conditions (At notching)

Temp: 71°

Humidity: 52%

50°C+/- 1° circulating bath with 90% water:10% Igepal CO-630 solution

Section 3
Drainage Geocomposite

February 24, 2021
Waste Connections
5135 Madison Avenue
Tampa, FL, 33619

Ref. : WCI JED Cell 14, FL
Customer P.O. # 6564-21-0014
Product : TN 270-2-6

We hereby certify that the TN 270-2-6 drainage geocomposite, meets or exceeds the project requirements as stated in the specifications. The properties listed in this section are:

Property	Test Method	Unit	Value	Qualifier
Geonet[3]				
Thickness	ASTM D 5199	mil	200	MAV[6]
Carbon Black	ASTM D 4218	%	2.0 - 3.0	Range
Melt Flow	ASTM D 1238[2]	g/10 min	1.0	Maximum
Density	ASTM D 1505	g/cm^3	0.94	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in	1.0	MAV
Transmissivity[1a]	ASTM D 4716	m^2/sec	6.1×10^{-4}	MAV
Transmissivity[1b]	ASTM D 4716	m^2/sec	1.0×10^{-4}	MAV
Geotextile[3 & 4]				
Fabric Weight	ASTM D 5261	oz/yd^2	6.0	MARV[5]
Grab Strength	ASTM D 4632	lbs	160	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Trap Tear Strength	ASTM D 4533	lbs	65	MARV
CBR Puncture	ASTM D 6241	lbs	435	MARV
Permittivity	ASTM D 4491	sec^{-1}	0.50	MARV
AOS	ASTM D 4751	US Sieve	70	MaxARV
UV Resistance	ASTM D 4355	%/hrs	70/500	MARV

Notes:

1a. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.02 and a confining pressure of 700 psf between 60 mil textured hdpe geomembranes after 24 hours.*
1b. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.02 and a confining pressure of 15,000 psf between 60 mil textured hdpe geomembranes after 100 hours.*
2. *Condition 190/2.16*
3. *Geotextile and Geonet properties are prior to lamination.*
4. *Geotextile data is provided by the supplier.*
5. *MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.*
6. *Minium average value*

Sincerely,
Rajesh Patel
Rajesh Patel
QA Manager

APPROVED 5 QA

Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010001	3.78	3.38		MULX 200254	0.9554	267	2.28	
103151010002				MULX 200254	0.9554			
103151010003				MULX 200254	0.9554			
103151010004				MULX 200254	0.9554			
103151010005				MULX 200254	0.9554			
103151010006				MULX 200254	0.9554			
103151010007				MULX 200254	0.9554			
103151010008				MULX 200254	0.9554			
103151010009				MULX 200254	0.9554			
103151010010				MULX 200254	0.9554			
103151010011				MULX 200254	0.9554			
103151010012				MULX 200254	0.9554			
103151010013				MULX 200254	0.9554			
103151010014				MULX 200254	0.9554			
103151010015	3.51	2.93		MULX 200254	0.9552	263	2.71	
103151010016				MULX 200254	0.9552			
103151010017				MULX 200254	0.9552			
103151010018				MULX 200254	0.9552			
103151010019				MULX 200254	0.9552			
103151010020				MULX 200254	0.9552			
103151010021				MULX 200254	0.9552			
103151010022				MULX 200254	0.9552			
103151010023				MULX 200254	0.9552			
103151010024				MULX 200254	0.9552			

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010025				MULX 200254	0.9552			
103151010026				MULX 200254	0.9552			
103151010027				MULX 200254	0.9552			
103151010028				MULX 200254	0.9552			
103151010029				MULX 200254	0.9552			
103151010030	2.28	3.17		MULX 200254	0.9555	271	2.68	
103151010031				MULX 200254	0.9555			
103151010032				MULX 200254	0.9555			
103151010033				MULX 200254	0.9555			
103151010034				MULX 200254	0.9555			
103151010035				MULX 200254	0.9555			
103151010036				MULX 200254	0.9555			
103151010037				MULX 200254	0.9555			
103151010038				MULX 200254	0.9555			
103151010039				MULX 200254	0.9555			
103151010040				MULX 200254	0.9555			
103151010041				MULX 200254	0.9555			
103151010042				MULX 200254	0.9555			
103151010043				MULX 200254	0.9555			
103151010044				MULX 200254	0.9555			
103151010045	2.09	1.88		MULX 200254	0.9549	258	2.29	
103151010046				MULX 200254	0.9549			
103151010047				MULX 200254	0.9549			
103151010048				MULX 200254	0.9549			

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Product: TN 270-2-6
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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010049				MULX 200254	0.9549			
103151010050				MULX 200254	0.9549			
103151010051				MULX 200254	0.9549			
103151010052				MULX 200254	0.9549			
103151010053				MULX 200254	0.9549			
103151010054				MULX 200254	0.9549			
103151010055				MULX 200254	0.9549			
103151010056				MULX 200254	0.9549			
103151010057				MULX 200254	0.9549			
103151010058				MULX 200254	0.9549			
103151010059				MULX 200254	0.9549			
103151010060	3.34	3.67		MULX 200254	0.9556	264	2.53	
103151010061				MULX 200254	0.9556			
103151010062				MULX 200254	0.9556			
103151010063				MULX 200254	0.9556			
103151010064				MULX 200254	0.9556			
103151010065				MULX 200254	0.9556			
103151010066				MULX 200254	0.9556			
103151010067				MULX 200254	0.9556			
103151010068				MULX 200254	0.9556			
103151010069				MULX 200254	0.9556			
103151010070				MULX 200254	0.9556			
103151010071				MULX 200254	0.9556			
103151010072				MULX 200254	0.9556			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010073				MULX 200254	0.9556			
103151010074				MULX 200254	0.9556			
103151010075	3.90	4.23		MULX 200254	0.9550	270	2.48	
103151010076				MULX 200254	0.9550			
103151010077				MULX 200254	0.9550			
103151010078				MULX 200254	0.9550			
103151010079				MULX 200254	0.9550			
103151010080				MULX 200254	0.9550			
103151010081				MULX 200254	0.9550			
103151010082				MULX 200254	0.9550			
103151010083				MULX 200254	0.9550			
103151010084				MULX 200254	0.9550			
103151010085				MULX 200254	0.9550			
103151010086				MULX 200254	0.9550			
103151010087				MULX 200254	0.9550			
103151010088				MULX 200254	0.9550			
103151010089				MULX 200254	0.9550			
103151010090	2.27	3.79		MULX 200254	0.9553	259	2.45	
103151010091				MULX 200254	0.9553			
103151010092				MULX 200254	0.9553			
103151010093				MULX 200254	0.9553			
103151010094				MULX 200254	0.9553			
103151010095				MULX 200254	0.9553			
103151010096				MULX 200254	0.9553			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010097				MULX 200254	0.9553			
103151010098				MULX 200254	0.9553			
103151010099				MULX 200254	0.9553			
103151010100				MULX 200254	0.9553			
103151010101				MULX 200254	0.9553			
103151010102				MULX 200254	0.9553			
103151010103				MULX 200254	0.9553			
103151010104				MULX 200254	0.9553			
103151010105	3.15	2.58		MULX 200254	0.9551	268	2.23	
103151010106				MULX 200254	0.9551			
103151010107				MULX 200254	0.9551			
103151010108				MULX 200254	0.9551			
103151010109				MULX 200254	0.9551			
103151010110				MULX 200254	0.9551			
103151010111				MULX 200254	0.9551			
103151010112				MULX 200254	0.9551			
103151010113				MULX 200254	0.9551			
103151010114				MULX 200254	0.9551			
103151010115				MULX 200254	0.9551			
103151010116				MULX 200254	0.9551			
103151010117				MULX 200254	0.9551			
103151010118				MULX 200254	0.9551			
103151010119				MULX 200254	0.9551			
103151010120	1.77	3.13		MULX 200254	0.9548	260	2.30	

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010121				MULX 200254	0.9548			
103151010122				MULX 200254	0.9548			
103151010123				MULX 200254	0.9548			
103151010124				MULX 200254	0.9548			
103151010125				MULX 200254	0.9548			
103151010126				MULX 200254	0.9548			
103151010127				MULX 200254	0.9548			
103151010128				MULX 200254	0.9548			
103151010129				MULX 200254	0.9548			
103151010130				MULX 200254	0.9548			
103151010131				MULX 200254	0.9548			
103151010132				MULX 200254	0.9548			
103151010133				MULX 200254	0.9548			
103151010134				MULX 200254	0.9548			
103151010135	3.68	3.84		MULX 200254	0.9557	262	2.50	
103151010136				MULX 200254	0.9557			
103151010137				MULX 200254	0.9557			
103151010138				MULX 200254	0.9557			
103151010139				MULX 200254	0.9557			
103151010140				MULX 200254	0.9557			
103151010141				MULX 200254	0.9557			
103151010142				MULX 200254	0.9557			
103151010143				MULX 200254	0.9557			
103151010144				MULX 200254	0.9557			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010145				EQUX 016004	0.9546			
103151010146				EQUX 016004	0.9546			
103151010147				EQUX 016004	0.9546			
103151010148				EQUX 016004	0.9546			
103151010149				EQUX 016004	0.9546			
103151010150	1.99	2.36		EQUX 016004	0.9548	272	2.43	
103151010151				EQUX 016004	0.9548			
103151010152				EQUX 016004	0.9548			
103151010153				EQUX 016004	0.9548			
103151010154				EQUX 016004	0.9548			
103151010155				EQUX 016004	0.9548			
103151010156				EQUX 016004	0.9548			
103151010157				EQUX 016004	0.9548			
103151010158				EQUX 016004	0.9548			
103151010159				EQUX 016004	0.9548			
103151010160				EQUX 016004	0.9548			
103151010161				EQUX 016004	0.9548			
103151010162				EQUX 016004	0.9548			
103151010163				EQUX 016004	0.9548			
103151010164				EQUX 016004	0.9548			
103151010165	4.07	3.80		EQUX 016004	0.9542	265	2.56	
103151010166				EQUX 016004	0.9542			
103151010167				EQUX 016004	0.9542			
103151010168				EQUX 016004	0.9542			

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010169				EQUX 016004	0.9542			
103151010170				EQUX 016004	0.9542			
103151010171				EQUX 016004	0.9542			
103151010172				EQUX 016004	0.9542			
103151010173				EQUX 016004	0.9542			
103151010174				EQUX 016004	0.9542			
103151010175				EQUX 016004	0.9542			
103151010176				EQUX 016004	0.9542			
103151010177				EQUX 016004	0.9542			
103151010178				EQUX 016004	0.9542			
103151010179				EQUX 016004	0.9542			
103151010180	4.24	1.96		EQUX 016004	0.9540	261	2.66	
103151010181				EQUX 016004	0.9540			
103151010182				EQUX 016004	0.9540			
103151010183				EQUX 016004	0.9540			
103151010184				EQUX 016004	0.9540			
103151010185				EQUX 016004	0.9540			
103151010186				EQUX 016004	0.9540			
103151010187				EQUX 016004	0.9540			
103151010188				EQUX 016004	0.9540			
103151010189				EQUX 016004	0.9540			
103151010190				EQUX 016004	0.9540			
103151010191				EQUX 016004	0.9540			
103151010192				EQUX 016004	0.9540			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010193				EQUX 016004	0.9540			
103151010194				EQUX 016004	0.9540			
103151010195	3.45	4.06		EQUX 016004	0.9547	266	2.51	
103151010196				EQUX 016004	0.9547			
103151010197				EQUX 016004	0.9547			
103151010198				EQUX 016004	0.9547			
103151010199				EQUX 016004	0.9547			
103151010200				EQUX 016004	0.9547			
103151010201				EQUX 016004	0.9547			
103151010202				EQUX 016004	0.9547			
103151010203				EQUX 016004	0.9547			
103151010204				EQUX 016004	0.9547			
103151010205				EQUX 016004	0.9547			
103151010206				EQUX 016004	0.9547			
103151010207				EQUX 016004	0.9547			
103151010208				EQUX 016004	0.9547			
103151010209				EQUX 016004	0.9547			
103151010210	3.77	3.07		EQUX 016004	0.9549	269	2.28	
103151010211				EQUX 016004	0.9549			
103151010212				EQUX 016004	0.9549			
103151010213				EQUX 016004	0.9549			
103151010214				EQUX 016004	0.9549			
103151010215				EQUX 016004	0.9549			
103151010216				EQUX 016004	0.9549			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010217				EQUX 016004	0.9549			
103151010218				EQUX 016004	0.9549			
103151010219				EQUX 016004	0.9549			
103151010220				EQUX 016004	0.9549			
103151010221				EQUX 016004	0.9549			
103151010222				EQUX 016004	0.9549			
103151010223				EQUX 016004	0.9549			
103151010224				EQUX 016004	0.9549			
103151010225	2.11	3.27		EQUX 016004	0.9545	262	2.34	
103151010226				EQUX 016004	0.9545			
103151010227				EQUX 016004	0.9545			
103151010228				EQUX 016004	0.9545			
103151010229				EQUX 016004	0.9545			
103151010230				EQUX 016004	0.9545			
103151010231				EQUX 016004	0.9545			
103151010232				EQUX 016004	0.9545			
103151010233				EQUX 016004	0.9545			
103151010234				EQUX 016004	0.9545			
103151010235				EQUX 016004	0.9545			
103151010236				EQUX 016004	0.9545			
103151010237				EQUX 016004	0.9545			
103151010238				EQUX 016004	0.9545			
103151010239				EQUX 016004	0.9545			
103151010240	2.88	3.34		EQUX 016004	0.9543	259	2.65	

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010241				EQUX 016004	0.9543			
103151010242				EQUX 016004	0.9543			
103151010243				EQUX 016004	0.9543			
103151010244				EQUX 016004	0.9543			
103151010245				EQUX 016004	0.9543			
103151010246				EQUX 016004	0.9543			
103151010247				EQUX 016004	0.9543			
103151010248				EQUX 016004	0.9543			
103151010249				EQUX 016004	0.9543			
103151010250				EQUX 016004	0.9543			
103151010251				EQUX 016004	0.9543			
103151010252				EQUX 016004	0.9543			
103151010253				EQUX 016004	0.9543			
103151010254				EQUX 016004	0.9543			
103151010255	2.66	3.15		EQUX 016004	0.9541	267	2.37	
103151010256				EQUX 016004	0.9541			
103151010257				EQUX 016004	0.9541			
103151010258				EQUX 016004	0.9541			
103151010259				EQUX 016004	0.9541			
103151010260				EQUX 016004	0.9541			
103151010261				EQUX 016004	0.9541			
103151010262				EQUX 016004	0.9541			
103151010263				EQUX 016004	0.9541			
103151010264				EQUX 016004	0.9541			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010265				EQUX 016004	0.9541			
103151010266				EQUX 016004	0.9541			
103151010267				EQUX 016004	0.9541			
103151010268				EQUX 016004	0.9541			
103151010269				EQUX 016004	0.9541			
103151010270	4.15	3.55		EQUX 016004	0.9544	261	2.46	
103151010271				EQUX 016004	0.9544			
103151010272				EQUX 016004	0.9544			
103151010273				EQUX 016004	0.9544			
103151010274				EQUX 016004	0.9544			
103151010275				EQUX 016004	0.9544			
103151010276				EQUX 016004	0.9544			
103151010277				EQUX 016004	0.9544			
103151010278				EQUX 016004	0.9544			
103151010279				EQUX 016004	0.9544			
103151010280				EQUX 016004	0.9544			
103151010281				EQUX 016004	0.9544			
103151010282				EQUX 016004	0.9544			
103151010283				EQUX 016004	0.9544			
103151010284				EQUX 016004	0.9544			
103151010285	2.34	2.67		EQUX 016004	0.9549	270	2.32	
103151010286				EQUX 016004	0.9549			
103151010287				EQUX 016004	0.9549			
103151010288				EQUX 016004	0.9549			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010289				EQUX 016004	0.9549			
103151010290				EQUX 016004	0.9549			
103151010291				EQUX 016004	0.9549			
103151010292				EQUX 016004	0.9549			
103151010293				EQUX 016004	0.9549			
103151010294				EQUX 016004	0.9549			
103151010295				EQUX 016004	0.9549			
103151010296				EQUX 016004	0.9549			
103151010297				EQUX 016004	0.9549			
103151010298				EQUX 016004	0.9549			
103151010299				EQUX 016004	0.9549			
103151010300	2.82	3.15		EQUX 016004	0.9540	268	2.26	
103151010301				EQUX 016004	0.9540			
103151010302				EQUX 016004	0.9540			
103151010303				EQUX 016004	0.9540			
103151010304				EQUX 016004	0.9540			
103151010305				EQUX 016004	0.9540			
103151010306				EQUX 016004	0.9540			
103151010307				EQUX 016004	0.9540			
103151010308				EQUX 016004	0.9540			
103151010309				EQUX 016004	0.9540			
103151010310				EQUX 016004	0.9540			
103151010311				EQUX 016004	0.9540			
103151010312				EQUX 016004	0.9540			

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Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151010313				EQUX 016004	0.9540			
103151010314				EQUX 016004	0.9540			
103151010315	2.31	3.50		EQUX 016004	0.9544	271	2.58	
103151010316				EQUX 016004	0.9544			
103151010317				EQUX 016004	0.9544			
103151010318				EQUX 016004	0.9544			
103151010319				EQUX 016004	0.9544			
103151010320				EQUX 016004	0.9544			
103151010321				EQUX 016004	0.9544			
103151010322				EQUX 016004	0.9544			
103151010323				EQUX 016004	0.9544			
103151010324				EQUX 016004	0.9544			
103151010325				EQUX 016004	0.9544			
103151010326				EQUX 016004	0.9544			
103151010327				EQUX 016004	0.9544			

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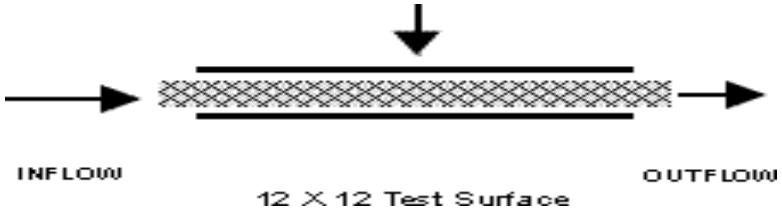
ASTM D 4716
Geocomposite Transmissivity Test

Client:	Waste Connections	**Job #:**	10315
Project:	WCI JED Cell 14, FL		
Product:	TN 270-2-6		

Test Configuration:



Test Information:

Boundary Conditions:	60 Mil Textured HDPE Geomembrane Geocomposite 60 Mil Textured HDPE Geomembrane	**Normal Load:**	700
		Gradient:	0.02
		Seating Time:	24 Hours
		Flow Direction:	MD

Test Results:

Roll No.	Pressure, psf	Gradient	Transmissivity, m^2/sec
			24 Hours
103151010001	700	0.02	1.86×10^{-3}
103151010060			1.75×10^{-3}
103151010120			2.25×10^{-3}
103151010180			2.1×10^{-3}
103151010240			2.32×10^{-3}
103151010300			2.21×10^{-3}

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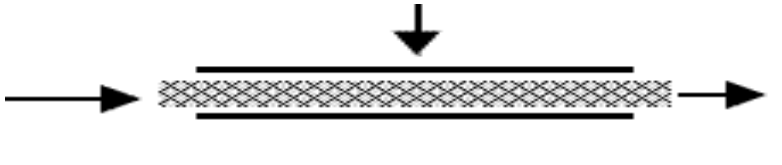
ASTM D 4716
Geocomposite Transmissivity Test

Client:	Waste Connections	**Job #:**	10315
Project:	WCI JED Cell 14, FL		
Product:	TN 270-2-6		

Test Configuration:



Test Information:

Boundary Conditions:	60 Mil Textured HDPE Geomembrane Geocomposite 60 Mil Textured HDPE Geomembrane	**Normal Load:**	15,000
		Gradient:	0.02
		Seating Time:	100 Hours
		Flow Direction:	MD

Test Results:

Roll No.	Pressure, psf	Gradient	Transmissivity, m^2/sec
			100 Hours
103151010001	15,000	0.02	7.91×10^{-4}
103151010060			8.07×10^{-4}
103151010120			8.03×10^{-4}
103151010180			8.31×10^{-4}
103151010240			8.24×10^{-4}
103151010300			8.12×10^{-4}

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Waste Connections
Project Name : WCI JED Cell 14, FL
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 270-2-6

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
M. Holland & Company	MULX 200254	Density	ASTM D1505	g/cm^3	0.9500	0.9503
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.11	0.14
M. Holland & Company	EQUX 016004	Density	ASTM D1505	g/cm^3	0.9500	0.9495
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.30	0.28

(a) Condition 190/2.16

* Data from SKAPS Quality Control

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Geotextile Certification

Product: TN 270-2-6
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

GEOCOMP ROLL#	FABRIC SIDE	WEIGHT oz/yd^2	GRAB lbs. (MD)	GRAB ELG % (MD)	GRAB lbs. (XMD)	GRAB ELG % (XMD)	TRAP lbs. (MD)	TRAP lbs. (XMD)	CBR PUNCTURE lbs	AOS us sieve	PERM-ITY sec^{-1}
103151010001	Side A	6.31	168	70	175	75	70	86	455	70	1.80
	Side B	6.69	169	74	174	85	72	82	483	70	1.80
103151010030	Side A	6.39	169	68	179	82	70	89	469	70	1.76
	Side B	6.34	165	66	179	78	75	88	453	70	1.76
103151010060	Side A	6.23	170	73	178	85	72	86	474	70	1.81
	Side B	6.51	162	75	178	82	77	81	481	70	1.80
103151010090	Side A	6.36	164	75	171	80	76	82	484	70	1.81
	Side B	6.60	167	66	170	80	73	84	477	70	1.78
103151010120	Side A	6.56	163	69	173	79	70	83	461	70	1.81
	Side B	6.42	166	66	177	83	77	87	472	70	1.81
103151010150	Side A	6.37	168	72	172	75	79	81	468	70	1.79
	Side B	6.59	162	74	174	78	73	83	473	70	1.79
103151010180	Side A	6.33	161	71	175	77	78	89	496	70	1.81
	Side B	6.53	163	71	173	80	73	83	471	70	1.76
103151010210	Side A	6.28	167	65	176	76	71	85	479	70	1.79
	Side B	6.66	165	72	180	81	75	88	457	70	1.79
103151010240	Side A	6.50	160	70	170	84	78	84	498	70	1.79
	Side B	6.41	160	72	177	81	80	90	493	70	1.76
103151010270	Side A	6.27	166	67	180	84	71	85	491	70	1.76
	Side B	6.35	170	65	177	79	79	80	468	70	1.80
103151010300	Side A	6.62	162	70	172	84	75	80	494	70	1.78
	Side B	6.47	167	69	176	77	74	87	459	70	1.80

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February 24, 2021
Waste Connections
5135 Madison Avenue
Tampa, FL, 33619

Ref. : WCI JED Cell 14, FL
Customer P.O. # 6564-21-0014
Product : TN 330-2-8

We hereby certify that the TN 330-2-8 drainage geocomposite, meets or exceeds the project requirements as stated in the specifications. The properties listed in this section are:

Property	Test Method	Unit	Value	Qualifier
Geonet[3]				
Thickness	ASTM D 5199	mil	200	MAV[6]
Carbon Black	ASTM D 4218	%	2.0 - 3.0	Range
Melt Flow	ASTM D 1238[2]	g/10 min	1.0	Maximum
Density	ASTM D 1505	g/cm^3	0.94	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in	1.0	MAV
Transmissivity[1a]	ASTM D 4716	m^2/sec	1.5×10^{-3}	MAV
Transmissivity[1b]	ASTM D 4716	m^2/sec	1.0×10^{-3}	MAV
Geotextile[3 & 4]				
Fabric Weight	ASTM D 5261	oz/yd^2	8.0	MARV[5]
Grab Strength	ASTM D 4632	lbs	200	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Trap Tear Strength	ASTM D 4533	lbs	75	MARV
CBR Puncture	ASTM D 6241	lbs	500	MARV
Permittivity	ASTM D 4491	sec^{-1}	0.50	MARV
AOS	ASTM D 4751	US Sieve	70	MaxARV
UV Resistance	ASTM D 4355	%/hrs	70/500	MARV

Notes:

1a. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.02 and a confining pressure of 700 psf between soil and 60 mil textured hdpe geomembrane after 24 hours.*
1b. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.02 and a confining pressure of 15,000 psf between soil and 60 mil textured hdpe geomembrane after 100 hours.*
2. *Condition 190/2.16*
3. *Geotextile and Geonet properties are prior to lamination.*
4. *Geotextile data is provided by the supplier.*
5. *MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.*
6. *Minium average value*

Sincerely,
Rajesh Patel
Rajesh Patel
QA Manager

APPROVED 5 QA

Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020001	3.88	2.34		CPCX 816089	0.9551	343	2.26	
103151020002				CPCX 816089	0.9551			
103151020003				CPCX 816089	0.9551			
103151020004				CPCX 816089	0.9551			
103151020005				CPCX 816089	0.9551			
103151020006				CPCX 816089	0.9551			
103151020007				CPCX 816089	0.9551			
103151020008				CPCX 816089	0.9551			
103151020009				CPCX 816089	0.9551			
103151020010				CPCX 816089	0.9551			
103151020011				CPCX 816089	0.9551			
103151020012				CPCX 816089	0.9551			
103151020013				CPCX 816089	0.9551			
103151020014				CPCX 816089	0.9551			
103151020015				CPCX 816089	0.9551			
103151020016				CPCX 816089	0.9551			
103151020017				CPCX 816089	0.9551			
103151020018				CPCX 816089	0.9551			
103151020019				CPCX 816089	0.9551			
103151020020	2.26	3.35		CPCX 816089	0.9559	345	2.63	
103151020021				CPCX 816089	0.9559			
103151020022				CPCX 816089	0.9559			
103151020023				CPCX 816089	0.9559			
103151020024				CPCX 816089	0.9559			

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Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020025				CPCX 816089	0.9559			
103151020026				CPCX 816089	0.9559			
103151020027				CPCX 816089	0.9559			
103151020028				CPCX 816089	0.9559			
103151020029				CPCX 816089	0.9559			
103151020030				CPCX 816089	0.9559			
103151020031				CPCX 816089	0.9559			
103151020032				CPCX 816089	0.9559			
103151020033				CPCX 816089	0.9559			
103151020034				CPCX 816089	0.9559			
103151020035				CPCX 816089	0.9559			
103151020036				CPCX 816089	0.9559			
103151020037				CPCX 816089	0.9559			
103151020038				CPCX 816089	0.9559			
103151020039				CPCX 816089	0.9559			
103151020040	3.66	4.79		CPCX 816089	0.9553	335	2.36	
103151020041				CPCX 816089	0.9553			
103151020042				CPCX 816089	0.9553			
103151020043				CPCX 816089	0.9553			
103151020044				CPCX 816089	0.9553			
103151020045				CPCX 816089	0.9553			
103151020046				CPCX 816089	0.9553			
103151020047				CPCX 816089	0.9553			
103151020048				CPCX 816089	0.9553			

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Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020049				CPCX 816089	0.9553			
103151020050				CPCX 816089	0.9553			
103151020051				CPCX 816089	0.9553			
103151020052				CPCX 816089	0.9553			
103151020053				CPCX 816089	0.9553			
103151020054				CPCX 816089	0.9553			
103151020055				CPCX 816089	0.9553			
103151020056				CPCX 816089	0.9553			
103151020057				CPCX 816089	0.9553			
103151020058				CPCX 816089	0.9553			
103151020059				CPCX 816089	0.9553			
103151020060	3.38	2.56		CPCX 816089	0.9557	341	2.50	
103151020061				CPCX 816089	0.9557			
103151020062				CPCX 816089	0.9557			
103151020063				CPCX 816089	0.9557			
103151020064				CPCX 816089	0.9557			
103151020065				CPCX 816089	0.9557			
103151020066				CPCX 816089	0.9557			
103151020067				CPCX 816089	0.9557			
103151020068				CPCX 816089	0.9557			
103151020069				CPCX 816089	0.9557			
103151020070				CPCX 816089	0.9557			
103151020071				CPCX 816089	0.9557			
103151020072				CPCX 816089	0.9557			

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Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020073				CPCX 816089	0.9557			
103151020074				CPCX 816089	0.9557			
103151020075				CPCX 816089	0.9557			
103151020076				CPCX 816089	0.9557			
103151020077				CPCX 816089	0.9557			
103151020078				CPCX 816089	0.9557			
103151020079				CPCX 816089	0.9557			
103151020080	4.00	3.54		CPCX 816089	0.9555	348	2.40	
103151020081				CPCX 816089	0.9555			
103151020082				CPCX 816089	0.9555			
103151020083				CPCX 816089	0.9555			
103151020084				CPCX 816089	0.9555			
103151020085				CPCX 816089	0.9555			
103151020086				CPCX 816089	0.9555			
103151020087				CPCX 816089	0.9555			
103151020088				CPCX 816089	0.9555			
103151020089				CPCX 816089	0.9555			
103151020090				CPCX 816089	0.9555			
103151020091				CPCX 816089	0.9555			
103151020092				CPCX 816089	0.9555			
103151020093				CPCX 816089	0.9555			
103151020094				CPCX 816089	0.9555			
103151020095				CPCX 816089	0.9555			
103151020096				CPCX 816089	0.9555			

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Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020097				CPCX 816089	0.9555			
103151020098				CPCX 816089	0.9555			
103151020099				CPCX 816089	0.9555			
103151020100	2.13	3.84		CPCX 816089	0.9550	334	2.73	
103151020101				CPCX 816089	0.9550			
103151020102				CPCX 816089	0.9550			
103151020103				CPCX 816089	0.9550			
103151020104				CPCX 816089	0.9550			
103151020105				CPCX 816089	0.9550			
103151020106				CPCX 816089	0.9550			
103151020107				CPCX 816089	0.9550			
103151020108				CPCX 816089	0.9550			
103151020109				CPCX 816089	0.9550			
103151020110				CPCX 816089	0.9550			
103151020111				CPCX 816089	0.9550			
103151020112				CPCX 816089	0.9550			
103151020113				CPCX 816089	0.9550			
103151020114				CPCX 816089	0.9550			
103151020115				CPCX 816089	0.9550			
103151020116				CPCX 816089	0.9550			
103151020117				CPCX 816089	0.9550			
103151020118				CPCX 816089	0.9550			
103151020119				CPCX 816089	0.9550			
103151020120	4.57	2.03		CPCX 816089	0.9558	342	2.68	

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Product: TN 330-2-8
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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020121				CPCX 816089	0.9558			
103151020122				CPCX 816089	0.9558			
103151020123				CPCX 816089	0.9558			
103151020124				CPCX 816089	0.9558			
103151020125				CPCX 816089	0.9558			
103151020126				CPCX 816089	0.9558			
103151020127				CPCX 816089	0.9558			
103151020128				CPCX 816089	0.9558			
103151020129				CPCX 816089	0.9558			
103151020130				CPCX 816089	0.9558			
103151020131				CPCX 816089	0.9558			
103151020132				CPCX 816089	0.9558			
103151020133				CPCX 816089	0.9558			
103151020134				CPCX 816089	0.9558			
103151020135				CPCX 816089	0.9558			
103151020136				CPCX 816089	0.9558			
103151020137				CPCX 816089	0.9558			
103151020138				CPCX 816089	0.9558			
103151020139				CPCX 816089	0.9558			
103151020140	4.14	4.72		CPCX 816089	0.9554	337	2.41	
103151020141				CPCX 816089	0.9554			
103151020142				CPCX 816089	0.9554			
103151020143				CPCX 816089	0.9554			
103151020144				CPCX 816089	0.9554			

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Product: TN 330-2-8
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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020145				CPCX 816089	0.9554			
103151020146				CPCX 816089	0.9554			
103151020147				CPCX 816089	0.9554			
103151020148				CPCX 816089	0.9554			
103151020149				CPCX 816089	0.9554			
103151020150				CPCX 816089	0.9554			
103151020151				CPCX 816089	0.9554			
103151020152				CPCX 816089	0.9554			
103151020153				CPCX 816089	0.9554			
103151020154				CPCX 816089	0.9554			
103151020155				CPCX 816089	0.9554			
103151020156				CPCX 816089	0.9554			
103151020157				CPCX 816089	0.9554			
103151020158				CPCX 816089	0.9554			
103151020159				CPCX 816089	0.9554			
103151020160	4.72	2.22		CPCX 816089	0.9552	346	2.45	
103151020161				CPCX 816089	0.9552			
103151020162				CPCX 816089	0.9552			
103151020163				CPCX 816089	0.9552			
103151020164				CPCX 816089	0.9552			
103151020165				CPCX 816089	0.9552			
103151020166				CPCX 816089	0.9552			
103151020167				CPCX 816089	0.9552			
103151020168				CPCX 816089	0.9552			

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020169				CHVX 895038	0.9560			
103151020170				CHVX 895038	0.9560			
103151020171				CHVX 895038	0.9560			
103151020172				CHVX 895038	0.9560			
103151020173				CHVX 895038	0.9560			
103151020174				CHVX 895038	0.9560			
103151020175				CHVX 895038	0.9560			
103151020176				CHVX 895038	0.9560			
103151020177				CHVX 895038	0.9560			
103151020178				CHVX 895038	0.9560			
103151020179				CHVX 895038	0.9560			
103151020180	3.13	2.33		CHVX 895038	0.9558	340	2.69	
103151020181				CHVX 895038	0.9558			
103151020182				CHVX 895038	0.9558			
103151020183				CHVX 895038	0.9558			
103151020184				CHVX 895038	0.9558			
103151020185				CHVX 895038	0.9558			
103151020186				CHVX 895038	0.9558			
103151020187				CHVX 895038	0.9558			
103151020188				CHVX 895038	0.9558			
103151020189				CHVX 895038	0.9558			
103151020190				CHVX 895038	0.9558			
103151020191				CHVX 895038	0.9558			
103151020192				CHVX 895038	0.9558			

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020193				CHVX 895038	0.9558			
103151020194				CHVX 895038	0.9558			
103151020195				CHVX 895038	0.9558			
103151020196				CHVX 895038	0.9558			
103151020197				CHVX 895038	0.9558			
103151020198				CHVX 895038	0.9558			
103151020199				CHVX 895038	0.9558			
103151020200	4.13	4.46		CHVX 895038	0.9567	338	2.61	
103151020201				CHVX 895038	0.9567			
103151020202				CHVX 895038	0.9567			
103151020203				CHVX 895038	0.9567			
103151020204				CHVX 895038	0.9567			
103151020205				CHVX 895038	0.9567			
103151020206				CHVX 895038	0.9567			
103151020207				CHVX 895038	0.9567			
103151020208				CHVX 895038	0.9567			
103151020209				CHVX 895038	0.9567			
103151020210				CHVX 895038	0.9567			
103151020211				CHVX 895038	0.9567			
103151020212				CHVX 895038	0.9567			
103151020213				CHVX 895038	0.9567			
103151020214				CHVX 895038	0.9567			
103151020215				CHVX 895038	0.9567			
103151020216				CHVX 895038	0.9567			

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Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020217				CHVX 895038	0.9567			
103151020218				CHVX 895038	0.9567			
103151020219				CHVX 895038	0.9567			
103151020220	2.32	4.80		CHVX 895038	0.9562	347	2.75	
103151020221				CHVX 895038	0.9562			
103151020222				CHVX 895038	0.9562			
103151020223				CHVX 895038	0.9562			
103151020224				CHVX 895038	0.9562			
103151020225				CHVX 895038	0.9562			
103151020226				CHVX 895038	0.9562			
103151020227				CHVX 895038	0.9562			
103151020228				CHVX 895038	0.9562			
103151020229				CHVX 895038	0.9562			
103151020230				CHVX 895038	0.9562			
103151020231				CHVX 895038	0.9562			
103151020232				CHVX 895038	0.9562			
103151020233				CHVX 895038	0.9562			
103151020234				CHVX 895038	0.9562			
103151020235				CHVX 895038	0.9562			
103151020236				CHVX 895038	0.9562			
103151020237				CHVX 895038	0.9562			
103151020238				CHVX 895038	0.9562			
103151020239				CHVX 895038	0.9562			
103151020240	2.77	3.17		CHVX 895038	0.9564	339	2.65	

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020241				CHVX 895038	0.9564			
103151020242				CHVX 895038	0.9564			
103151020243				CHVX 895038	0.9564			
103151020244				CHVX 895038	0.9564			
103151020245				CHVX 895038	0.9564			
103151020246				CHVX 895038	0.9564			
103151020247				CHVX 895038	0.9564			
103151020248				CHVX 895038	0.9564			
103151020249				CHVX 895038	0.9564			
103151020250				CHVX 895038	0.9564			
103151020251				CHVX 895038	0.9564			
103151020252				CHVX 895038	0.9564			
103151020253				CHVX 895038	0.9564			
103151020254				CHVX 895038	0.9564			
103151020255				CHVX 895038	0.9564			
103151020256				CHVX 895038	0.9564			
103151020257				CHVX 895038	0.9564			
103151020258				CHVX 895038	0.9564			
103151020259				CHVX 895038	0.9564			
103151020260	2.99	4.69		CHVX 895038	0.9561	344	2.46	
103151020261				CHVX 895038	0.9561			
103151020262				CHVX 895038	0.9561			
103151020263				CHVX 895038	0.9561			
103151020264				CHVX 895038	0.9561			

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Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020265				CHVX 895038	0.9561			
103151020266				CHVX 895038	0.9561			
103151020267				CHVX 895038	0.9561			
103151020268				CHVX 895038	0.9561			
103151020269				CHVX 895038	0.9561			
103151020270				CHVX 895038	0.9561			
103151020271				CHVX 895038	0.9561			
103151020272				CHVX 895038	0.9561			
103151020273				CHVX 895038	0.9561			
103151020274				CHVX 895038	0.9561			
103151020275				CHVX 895038	0.9561			
103151020276				CHVX 895038	0.9561			
103151020277				CHVX 895038	0.9561			
103151020278				CHVX 895038	0.9561			
103151020279				CHVX 895038	0.9561			
103151020280	3.53	2.71		CHVX 895038	0.9565	336	2.74	
103151020281				CHVX 895038	0.9565			
103151020282				CHVX 895038	0.9565			
103151020283				CHVX 895038	0.9565			
103151020284				CHVX 895038	0.9565			
103151020285				CHVX 895038	0.9565			
103151020286				CHVX 895038	0.9565			
103151020287				CHVX 895038	0.9565			
103151020288				CHVX 895038	0.9565			

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Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020289				CHVX 895038	0.9565			
103151020290				CHVX 895038	0.9565			
103151020291				CHVX 895038	0.9565			
103151020292				CHVX 895038	0.9565			
103151020293				CHVX 895038	0.9565			
103151020294				CHVX 895038	0.9565			
103151020295				CHVX 895038	0.9565			
103151020296				CHVX 895038	0.9565			
103151020297				CHVX 895038	0.9565			
103151020298				CHVX 895038	0.9565			
103151020299				CHVX 895038	0.9565			
103151020300	3.48	2.95		CHVX 895038	0.9563	346	2.71	
103151020301				CHVX 895038	0.9563			
103151020302				CHVX 895038	0.9563			
103151020303				CHVX 895038	0.9563			
103151020304				CHVX 895038	0.9563			
103151020305				CHVX 895038	0.9563			
103151020306				CHVX 895038	0.9563			
103151020307				CHVX 895038	0.9563			
103151020308				CHVX 895038	0.9563			
103151020309				CHVX 895038	0.9563			
103151020310				CHVX 895038	0.9563			
103151020311				CHVX 895038	0.9563			
103151020312				CHVX 895038	0.9563			

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Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020313				CHVX 895038	0.9563			
103151020314				CHVX 895038	0.9563			
103151020315				CHVX 895038	0.9563			
103151020316				CHVX 895038	0.9563			
103151020317				CHVX 895038	0.9563			
103151020318				CHVX 895038	0.9563			
103151020319				CHVX 895038	0.9563			
103151020320	2.40	3.27		CHVX 895038	0.9559	341	2.78	
103151020321				CHVX 895038	0.9559			
103151020322				CHVX 895038	0.9559			
103151020323				CHVX 895038	0.9559			
103151020324				CHVX 895038	0.9559			
103151020325				CHVX 895038	0.9559			
103151020326				CHVX 895038	0.9559			
103151020327				CHVX 895038	0.9559			
103151020328				CHVX 895038	0.9559			
103151020329				CHVX 895038	0.9559			
103151020330				CHVX 895038	0.9559			
103151020331				CHVX 895038	0.9559			
103151020332				CHVX 895038	0.9559			
103151020333				CHVX 895038	0.9559			
103151020334				CHVX 895038	0.9559			
103151020335				CHVX 895038	0.9559			
103151020336				CHVX 895038	0.9559			

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020337				CHVX 895038	0.9559			
103151020338				CHVX 895038	0.9559			
103151020339				CHVX 895038	0.9559			
103151020340	3.27	4.41		CHVX 895038	0.9566	347	2.64	
103151020341				CHVX 895038	0.9566			
103151020342				CHVX 895038	0.9566			
103151020343				CHVX 895038	0.9566			
103151020344				CHVX 895038	0.9566			
103151020345				CHVX 895038	0.9566			
103151020346				CHVX 895038	0.9566			
103151020347				CHVX 895038	0.9566			
103151020348				CHVX 895038	0.9566			
103151020349				CHVX 895038	0.9566			
103151020350				CHVX 895038	0.9566			
103151020351				CHVX 895038	0.9566			
103151020352				CHVX 895038	0.9566			
103151020353				CHVX 895038	0.9566			
103151020354				CHVX 895038	0.9566			
103151020355				CHVX 895038	0.9566			
103151020356				CHVX 895038	0.9566			
103151020357				CHVX 895038	0.9566			
103151020358				CHVX 895038	0.9566			
103151020359				CHVX 895038	0.9566			
103151020360	4.34	3.36		CHVX 895038	0.9561	336	2.55	

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020361				CHVX 895038	0.9561			
103151020362				CHVX 895038	0.9561			
103151020363				CHVX 895038	0.9561			
103151020364				CHVX 895038	0.9561			
103151020365				CHVX 895038	0.9561			
103151020366				CHVX 895038	0.9561			
103151020367				CHVX 895038	0.9561			
103151020368				CHVX 895038	0.9561			
103151020369				CHVX 895038	0.9561			
103151020370				CHVX 895038	0.9561			
103151020371				CHVX 895038	0.9561			
103151020372				CHVX 895038	0.9561			
103151020373				CHVX 895038	0.9561			
103151020374				CHVX 895038	0.9561			
103151020375				CHVX 895038	0.9561			
103151020376				CHVX 895038	0.9561			
103151020377				CHVX 895038	0.9561			
103151020378				CHVX 895038	0.9561			
103151020379				CHVX 895038	0.9561			
103151020380	2.92	4.87		CHVX 895038	0.9558	342	2.31	
103151020381				CHVX 895038	0.9558			
103151020382				CHVX 895038	0.9558			
103151020383				CHVX 895038	0.9558			
103151020384				CHVX 895038	0.9558			

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: **TN 330-2-8**
Project : **WCI JED Cell 14, FL**

We hereby certify the following test results for the above referenced product/project :

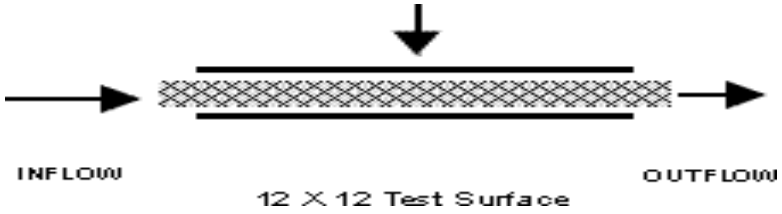
Geocomposite				Geonet				
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Transmissivity (m^2/sec)
	Side "A"	Side "B"						
103151020385				CHVX 895038	0.9558			

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

ASTM D 4716
Geocomposite Transmissivity Test

Client:	Waste Connections	**Job #:**	10315
Project:	WCI JED Cell 14, FL		
Product:	TN 330-2-8		

Test Configuration:



Test Information:

Boundary Conditions:	Soil Geocomposite 60 Mil Textured HDPE Geomembrane	**Normal Load:**	700
		Gradient:	0.02
		Seating Time:	24 Hours
		Flow Direction:	MD

Test Results:

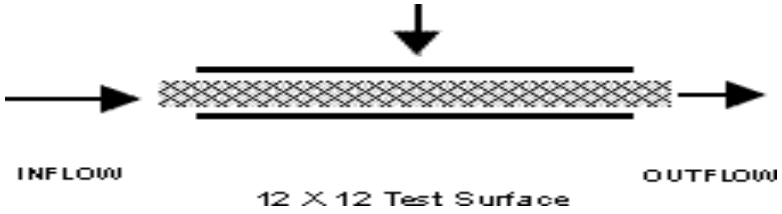
Roll No.	Pressure, psf	Gradient	Transmissivity, m^2/sec
			24 Hours
103151020001	700	0.02	2.05×10^{-3}
103151020080			2.12×10^{-3}
103151020160			1.96×10^{-3}
103151020240			1.93×10^{-3}
103151020320			2.04×10^{-3}

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

ASTM D 4716
Geocomposite Transmissivity Test

Client:	Waste Connections	**Job #:**	10315
Project:	WCI JED Cell 14, FL		
Product:	TN 330-2-8		

Test Configuration:



Test Information:

Boundary Conditions:	Soil Geocomposite 60 Mil Textured HDPE Geomembrane	**Normal Load:**	15,000
		Gradient:	0.02
		Seating Time:	100 Hours
		Flow Direction:	MD

Test Results:

Roll No.	Pressure, psf	Gradient	Transmissivity, m^2/sec
			100 Hours
103151020001	15,000	0.02	1.44×10^{-3}
103151020080			1.37×10^{-3}
103151020160			1.29×10^{-3}
103151020240			1.52×10^{-3}
103151020320			1.36×10^{-3}

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

POLYETHYLENE RESIN CERTIFICATION

Customer Name : Waste Connections
Project Name : WCI JED Cell 14, FL
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 330-2-8

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
Osterman and Company	CPCX 816089	Density	ASTM D1505	g/cm^3	0.9510	0.9505
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.10	0.13
Matrix Polymers	CHVX 895038	Density	ASTM D1505	g/cm^3	0.9510	0.9513
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.18	0.17

(a) Condition 190/2.16

* Data from SKAPS Quality Control

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Geotextile Certification

Product: TN 330-2-8
Project : WCI JED Cell 14, FL

We hereby certify the following test results for the above referenced product/project :

GEOCOMP ROLL#	FABRIC SIDE	WEIGHT oz/yd^2	GRAB lbs. (MD)	GRAB ELG % (MD)	GRAB lbs. (XMD)	GRAB ELG % (XMD)	TRAP lbs. (MD)	TRAP lbs. (XMD)	CBR PUNCTURE lbs	AOS us sieve	PERM-ITY sec^{-1}
103151020001	Side A	8.51	233	74	238	80	100	114	743	80	1.36
	Side B	8.21	227	66	240	84	103	118	709	80	1.39
103151020040	Side A	8.49	234	75	244	85	95	108	660	80	1.34
	Side B	8.52	226	72	234	77	96	111	687	80	1.36
103151020080	Side A	8.32	228	71	238	76	105	105	728	80	1.39
	Side B	8.56	225	65	230	79	98	117	736	80	1.37
103151020120	Side A	8.39	226	74	245	85	97	113	741	80	1.37
	Side B	8.18	234	65	243	83	102	120	659	80	1.36
103151020160	Side A	8.37	228	72	231	82	103	103	666	80	1.34
	Side B	8.50	235	75	242	78	95	109	747	80	1.39
103151020200	Side A	8.38	231	68	237	81	100	119	746	80	1.37
	Side B	8.51	233	74	238	80	100	114	743	80	1.36
103151020240	Side A	8.30	232	70	241	84	99	110	735	80	1.34
	Side B	8.36	225	70	235	76	97	112	673	80	1.39
103151020280	Side A	8.60	227	73	239	83	96	103	717	80	1.37
	Side B	8.28	229	69	232	75	105	107	722	80	1.37
103151020320	Side A	8.15	231	73	234	79	98	115	750	80	1.34
	Side B	8.42	230	71	233	80	104	104	727	80	1.34
103151020360	Side A	8.53	229	69	236	82	101	114	713	80	1.39
	Side B	8.22	235	67	243	77	101	106	686	80	1.34

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Section 4
Geotextile

SKAPS Industries (Nonwoven Division)
335, Athena Drive
Athens, GA 30601 (U.S.A.)
Phone (706) 354-3700 Fax (706) 354-3737
E-mail: contact@skaps.com

Sales Office:
Engineered Synthetic Product Inc.
Phone: (770)564-1857
Fax: (770)564-1818

October 9, 2018
Waste Connections
5135 Madison Avenue
Tampa, FL 33619
PO : 6465-18-0001

Dear Sir/Madam:

This is to certify that SKAPS GE180 is a high quality needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, randomly networked to form a high strength dimensionally stable fabric.SKAPS GE180 resists ultraviolet deterioration, rotting, biological degradation. The fabric is inert to commonly encountered soil chemicals. Polypropylene is stable within a pH range of 2 to 13. SKAPS GE180 conforms to the property values listed below:

PROPERTY	TEST METHOD	UNITS	M.A.R.V. Minimum Average Roll Value
Weight	ASTM D 5261	oz/sy (g/m^2)	8.00 (271)
Grab Tensile	ASTM D 4632	lbs (kN)	200 (0.89)
Grab Elongation	ASTM D 4632	%	50
Trapezoidal Tear	ASTM D 4533	lbs (kN)	75 (0.33)
CBR Puncture	ASTM D 6241	lbs (kN)	650 (2.89)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	500 (3447)
Permittivity*	ASTM D 4491	sec^{-1}	0.50
AOS*	ASTM D 4751	US Sieve (mm)	70 (0.21)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:
* At the time of manufacturing. Handling may change these properties.

KOUROSH SABZEVARI
QUALITY CONTROL MANAGER

Product : GE180-180

ROLL #	WEIGHT	MD TENSILE	MD ELONG	XMD TENSILE	XMD ELONG	MD TRAP	XMD TRAP	CBR PUNCTURE	MULLEN	AOS	PERMITTIVITY
ASTM METHOD	D5261	D4632	D4632	D4632	D4632	D4533	D4533	D6241	D3786	D4751	D4491
UNITS	oz/sq yd	lbs.	%	lbs	%	lbs.	lbs	lbs.	psi	US Sieve	sec^{-1}
TARGET	8.00	200	50	200	50	75	75	650	500	70	0.50
54819.1	8.59	234	72	242	82	103	117	691	507	80	1.37
54819.2	8.59	234	72	242	82	103	117	691	507	80	1.37
54819.3	8.59	234	72	242	82	103	117	691	507	80	1.37
54819.4	8.59	234	72	242	82	103	117	691	507	80	1.37
54819.5	8.13	227	66	235	78	103	117	691	507	80	1.37
54819.6	8.13	227	66	235	78	103	117	691	507	80	1.37

*All Values are MARV.

Section 5
#4 Stone and #57 Stone

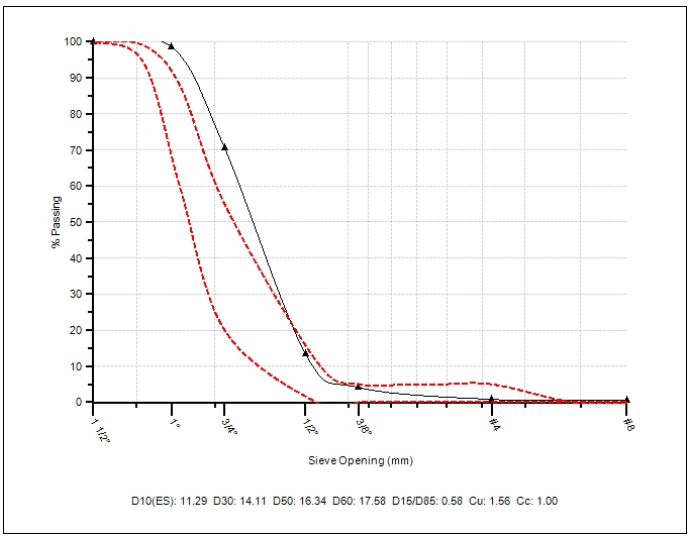
Orlando Terminal
410 W. Kaley Ave
Orlando, Florida 32806
(407)423-7625

Compliance Summary

Product Information

Plant Id	214_03206
Plant Name	Orlando Terminal
Product Id	GRVL-AL-04340
Product Name	#5 Brown
Specification	Trench Gravel

Period 05/08/2018 - 05/08/2019



Gradation Results

Sieve	% Passing	Tolerances
1 1/2" (37.5mm)	100.0	100-100
1" (25mm)	98.6	
3/4" (19mm)	70.6	20-55
1/2" (12.5mm)	13.5	
3/8" (9.5mm)	4.1	0-5
#4 (4.75mm)	0.8	0-5
#8 (2.36mm)	0.6	

Quality Results

Test	Result	Unit	Tolerances	Method

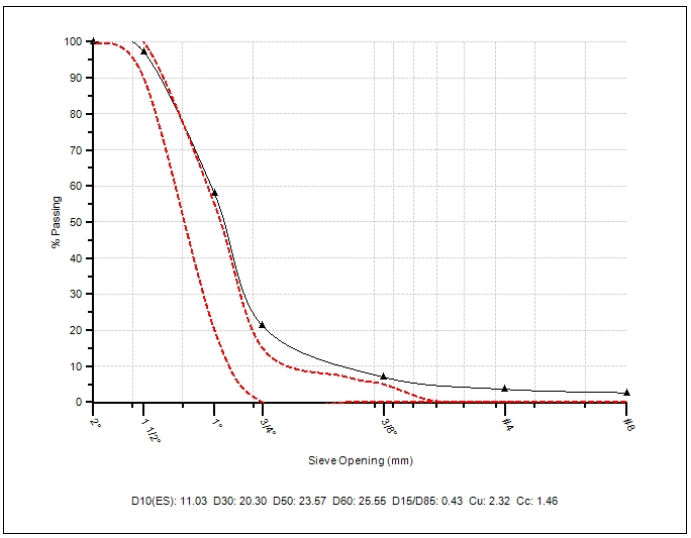
Orlando Terminal
410 W. Kaley Ave
Orlando, Florida 32806
(407)423-7625

Compliance Summary

Product Information

Plant Id	214_03206
Plant Name	Orlando Terminal
Product Id	GRVL-AL-04350
Product Name	1 1/2" Brown
Specification	FLDOT 4

Period 05/08/2018 - 05/08/2019



Gradation Results

Sieve	% Passing	Tolerances
2" (50mm)	100.0	100-100
1 1/2" (37.5mm)	97.3	90-100
1" (25mm)	57.9	20-55
3/4" (19mm)	21.2	0-15
3/8" (9.5mm)	7.0	0-5
#4 (4.75mm)	3.6	
#8 (2.36mm)	2.6	

Quality Results

Test	Result	Unit	Tolerances	Method

APPENDIX E
Conformance Test Results

Section 1
GCL

February 5, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/05/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of one (1) Bentomat ST GCL sample.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 5, 2021**

REFERENCE TRI JOB NO.: G210058

DATE RECEIVED: January 25, 2021

SAMPLE SENT BY: CETCO, WY

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#577 L#LL-03-2021	154075

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5887	Index Flux

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **1/25/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#577 L#LL-03-2021**
Material Description: **Bentomat ST GCL**

QC'd By: Maria Espitia
TRI Job No.: **G210058**
TRI Control No.: **154075**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Maximum
METHOD	**DESCRIPTION**															
ASTM D5887	Hydraulic Conductivity (cm./ sec.)															
	Effective Consolidation Stress: 5 psi															
		6.7E-10										**6.7E-10**	N/A			**$5x10^{-9}$**

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc from and against all liabilities in excess of the aforementioned limit.

February 5, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/05/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of one (1) Bentomat ST GCL sample.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 5, 2021**

REFERENCE TRI JOB NO.: G210065

DATE RECEIVED: January 29, 2021

SAMPLE SENT BY: CETCO, WY

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#697 L#LL-03-2021	154138

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5887	Index Flux

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **1/29/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#697 L#LL-03-2021**
Material Description: **Bentomat ST GCL**

QC'd By: Maria Espitia
TRI Job No.: **G210065**
TRI Control No.: **154138**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Maximum
METHOD	**DESCRIPTION**															
ASTM D5887	Hydraulic Conductivity (cm./ sec.)															
	Effective Consolidation Stress: 5 psi															
		1.0E-09										**1.0E-09**	N/A			**$5x10^{-9}$**

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc from and against all liabilities in excess of the aforementioned limit.

February 5, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/05/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of two (2) Bentomat ST GCL samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 5, 2021**

REFERENCE TRI JOB NO.: G210051

DATE RECEIVED: January 22, 2021

SAMPLE SENT BY: CETCO, WY

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#337 L#LL-03-2021	154054
R#457 L#LL-03-2021	154055

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5887	Index Flux

TEST RESULTS: The test results are summarized in the attached Table 1 to 2.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **1/22/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#337 L#LL-03-2021**
Material Description: **Bentomat ST GCL**

QC'd By: Maria Espitia
TRI Job No.: **G210051**
TRI Control No.: **154054**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Maximum**
ASTM D5887	Hydraulic Conductivity (cm./ sec.)															
	Effective Consolidation Stress: 5 psi															
		1.4E-09										**1.4E-09**	N/A			**$5x10^{-9}$**

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc from and against all liabilities in excess of the aforementioned limit.

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC
PROJECT: Jed Cell 14

Date Received: **1/22/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#457 L#LL-03-2021**
Material Description: **Bentomat ST GCL**

QC'd By: Maria Espitia
TRI Job No.: **G210051**
TRI Control No.: **154055**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Maximum
METHOD	**DESCRIPTION**															
ASTM D5887	Hydraulic Conductivity (cm./ sec.)															
	Effective Consolidation Stress: 5 psi															
		1.0E-09										**1.0E-09**	N/A			**$5x10^{-9}$**

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc from and against all liabilities in excess of the aforementioned limit.

Section 2
HDPE Geomembrane

March 30, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 03/30/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of three (3) 60mil HDPE Double Sided Microspike geomembrane samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **March 30, 2021**

REFERENCE TRI JOB NO.: G210176

DATE RECEIVED: March 9, 2021

SAMPLE SENT BY: AGRU, SC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#GTF0064530037 L#PMF821510	154703
R#GTC0065910011 L#PMG820820	154704
R#GTC0065910019 L#PMG820820	154705

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5994	Thickness
2. ASTM D1505	Density
3. ASTM D6693	Tensile Properties
4. ASTM D1603	Carbon Black Content
5. ASTM D5593	Carbon Black Dispersion

TEST RESULTS: The test results are summarized in the attached Table 1 to 3.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

4 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **3/9/2021**
Date Reported: **3/30/2021**
Client Sample ID: **R#GTF0064530037 L#PMF821510**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210176**
TRI Control No.: **154703**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		62	60	60	61	61	60	61	62	61	60	61	1	60	62	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9479	0.9479	0.9479								0.9479	0.0000	0.9479	0.9479	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	155	157	161	155	158						157	2	155	161	126 min.
	TD	181	180	179	177	181						180	2	177	181	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	193	176	186	202	195						190	10	176	202	90 min.
	TD	194	183	187	195	195						191	5	183	195	
	Elongation at Yield (percent, %)															
	MD	18	19	17	19	19						19	1	17	19	12 min.
	TD	16	16	16	16	17						16	0	16	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	469	456	476	516	466						476	23	456	516	100 min.
	TD	525	473	505	566	557						525	38	473	566	
ASTM D1603	Carbon Black Content (percent, %)															
		2.33	2.34									2.34	0.00	2.33	2.34	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **3/9/2021**
Date Reported: **3/30/2021**
Client Sample ID: **R#GTC0065910011 L#PMG820820**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210176**
TRI Control No.: **154704**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	60	60	60	60	61	61	61	63	61	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9481	0.9481	0.9481								0.9481	0.0000	0.9481	0.9481	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	168	177	167	178	169						172	5	167	178	126 min.
	TD	189	182	182	181	184						184	3	181	189	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	219	223	209	241	216						222	12	209	241	90 min.
	TD	219	236	221	204	218						219	11	204	236	
	Elongation at Yield (percent, %)															
	MD	20	19	21	18	16						19	2	16	21	12 min.
	TD	16	15	16	16	15						16	0	15	16	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	493	470	462	472	500						479	16	462	500	100 min.
	TD	567	636	597	581	615						599	27	567	636	
ASTM D1603	Carbon Black Content (percent, %)															
		2.43	2.40									2.41	0.02	2.40	2.43	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 2) (Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 3.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **3/9/2021**
Date Reported: **3/30/2021**
Client Sample ID: **R#GCT0065910019 L#PMG820820**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210176**
TRI Control No.: **154705**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	63	61	61	61	63	63	61	60	62	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9474	0.9474	0.9474								0.9474	0.0000	0.9474	0.9474	0.94 min.
ASTM D6693	Tensile Properties:															
Type IV	*Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min*															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	181	167	178	177	171						175	6	167	181	126 min.
	TD	181	188	181	188	184						185	4	181	188	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	232	221	244	233	226						231	9	221	244	90 min.
	TD	214	213	229	228	236						224	10	213	236	
	Elongation at Yield (percent, %)															
	MD	20	19	18	17	23						19	2	17	23	12 min.
	TD	16	16	16	16	15						16	0	15	16	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	461	486	478	473	491						478	12	461	491	100 min.
	TD	572	597	615	639	629						610	27	572	639	
ASTM D1603	Carbon Black Content (percent, %)															
		2.31	2.35									2.33	0.03	2.31	2.35	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

February 24, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/24/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of seven (7) 60mil HDPE Double Sided Microspike geomembrane samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 24, 2021**

REFERENCE TRI JOB NO.: G210100

DATE RECEIVED: February 15, 2021

SAMPLE SENT BY: AGRU, SC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#GTD0067930080 L#PMH821470	154258
R#GTD0067930091 L#PMH821470	154259
R#GTD0067930099 L#PMH821470	154260
R#GTD0067930107 L#PMH821470	154261
R#GTD0067930115 L#PMF821560	154262
R#GTD0067930123 L#PMF821560	154263
R#GTD0067930131 L#PMF821560	154264

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5994	Thickness
2. ASTM D1505	Density
3. ASTM D6693	Tensile Properties
4. ASTM D1603	Carbon Black Content
5. ASTM D5593	Carbon Black Dispersion

TEST RESULTS: The test results are summarized in the attached Table 1 to 7.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance

Cora Queja — TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

8 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930080 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154258**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz) Loading Time: 5 sec Specimen Size: 4" x 4"														
		63	60	61	60	62	62	61	63	61	60	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9479	0.9479	0.9479								0.9479	0.0000	0.9479	0.9479	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	155	151	151	151	155						153	2	151	155	126 min.
	TD	175	165	175	165	171						170	5	165	175	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	229	226	204	181	232						214	21	181	232	90 min.
	TD	181	176	181	179	180						180	2	176	181	
	Elongation at Yield (percent, %)															
	MD	19	19	22	18	22						20	2	18	22	12 min.
	TD	15	15	17	17	14						15	1	14	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	459	450	425	463	461						452	16	425	463	100 min.
	TD	496	457	496	478	477						481	16	457	496	
ASTM D1603	Carbon Black Content (percent, %)															
		2.39	2.33									2.36	0.04	2.33	2.39	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930091 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154259**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		61	**61**	**60**	**64**	**63**	**62**	**62**	**62**	**60**	**61**	**61**	**1**	**60**	**64**	**60 min. avg.**
ASTM D1505	Density (grams/ cm.^{3})															
		0.9476	**0.9476**	**0.9476**								**0.9476**	**0.0000**	**0.9476**	**0.9476**	**0.94 min.**
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	**142**	**145**	**148**	**151**	**144**						**146**	**3**	**142**	**151**	**126 min.**
	TD	**155**	**155**	**158**	**160**	**154**						**156**	**2**	**154**	**160**	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	**164**	**214**	**152**	**175**	**202**						**181**	**26**	**152**	**214**	**90 min.**
	TD	**194**	**224**	**212**	**225**	**232**						**217**	**15**	**194**	**232**	
	Elongation at Yield (percent, %)															
	MD	**17**	**21**	**20**	**19**	**17**						**19**	**2**	**17**	**21**	**12 min.**
	TD	**21**	**21**	**20**	**19**	**20**						**20**	**1**	**19**	**21**	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	**431**	**445**	**419**	**455**	**406**						**431**	**19**	**406**	**455**	**100 min.**
	TD	**531**	**561**	**477**	**541**	**486**						**519**	**36**	**477**	**561**	
ASTM D1603	Carbon Black Content (percent, %)															
		2.37	**2.37**									**2.37**	**0.00**	**2.37**	**2.37**	**2 - 3**
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															**9 in Cat 1 or 2**
		1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**10 out of 10 in Category 1**				**all in Cat 1,2 or 3**

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 3.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930099 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154260**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	61	62	61	62	60	63	60	61	62	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9468	0.9468	0.9468								0.9468	0.0000	0.9468	0.9468	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	156	157	159	157	155						157	1	155	159	126 min.
	TD	167	158	159	174	169						165	7	158	174	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	230	241	239	220	227						231	9	220	241	90 min.
	TD	168	174	182	189	176						178	8	168	189	
	Elongation at Yield (percent, %)															
	MD	19	19	19	19	20						19	0	19	20	12 min.
	TD	15	17	16	15	14						15	1	14	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	446	458	488	430	438						452	23	430	488	100 min.
	TD	457	497	505	512	490						492	21	457	512	
ASTM D1603	Carbon Black Content (percent, %)															
		2.47	2.34									2.40	0.09	2.34	2.47	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 4.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930107 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154261**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	**61**	**62**	**63**	**60**	**60**	**60**	**60**	**62**	**61**	**61**	**1**	**60**	**63**	**60 min. avg.**
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9487	**0.9487**	**0.9487**								**0.9487**	**0.0000**	**0.9487**	**0.9487**	**0.94 min.**
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	**152**	**156**	**156**	**159**	**159**						**156**	**3**	**152**	**159**	**126 min.**
	TD	**176**	**160**	**160**	**159**	**162**						**163**	**7**	**159**	**176**	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	**224**	**227**	**216**	**219**	**223**						**222**	**4**	**216**	**227**	**90 min.**
	TD	**182**	**178**	**187**	**175**	**164**						**177**	**8**	**164**	**187**	
	Elongation at Yield (percent, %)															
	MD	**19**	**19**	**19**	**21**	**17**						**19**	**1**	**17**	**21**	**12 min.**
	TD	**15**	**17**	**15**	**15**	**18**						**16**	**1**	**15**	**18**	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	**447**	**497**	**449**	**423**	**467**						**457**	**27**	**423**	**497**	**100 min.**
	TD	**490**	**524**	**529**	**508**	**475**						**505**	**23**	**475**	**529**	
ASTM D1603	Carbon Black Content (percent, %)															
		2.37	**2.32**									**2.34**	**0.04**	**2.32**	**2.37**	**2 - 3**
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															**9 in Cat 1 or 2**
		1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**10 out of 10 in Category 1**				**all in Cat 1,2 or 3**

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 5.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930115 L#PMF821560**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154262**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	60	60	60	60	60	61	60	63	61	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9487	0.9487	0.9487								0.9487	0.0000	0.9487	0.9487	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	163	164	161	159	164						162	2	159	164	126 min.
	TD	150	163	155	168	167						160	8	150	168	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	222	207	226	216	222						219	7	207	226	90 min.
	TD	195	194	193	186	208						195	8	186	208	
	Elongation at Yield (percent, %)															
	MD	20	19	19	20	20						20	0	19	20	12 min.
	TD	17	16	15	15	14						16	1	14	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	511	537	478	485	481						498	25	478	537	100 min.
	TD	552	556	572	540	587						561	18	540	587	
ASTM D1603	Carbon Black Content (percent, %)															
		2.44	2.31									2.37	0.09	2.31	2.44	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 6.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930123 L#PMF821560**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154263**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz) Loading Time: 5 sec Specimen Size: 4" x 4"														
		61	62	62	63	61	62	61	63	61	61	62	1	61	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9479	0.9479	0.9479								0.9479	0.0000	0.9479	0.9479	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	156	153	161	157	156						156	3	153	161	126 min.
	TD	155	154	157	169	166						160	7	154	169	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	212	222	230	220	208						218	9	208	230	90 min.
	TD	176	180	161	177	173						173	7	161	180	
	Elongation at Yield (percent, %)															
	MD	21	18	22	18	18						19	2	18	22	12 min.
	TD	15	17	16	16	15						16	1	15	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	437	462	457	481	470						461	16	437	481	100 min.
	TD	522	535	489	516	517						516	17	489	535	
ASTM D1603	Carbon Black Content (percent, %)															
		2.33	2.33									2.33	0.00	2.33	2.33	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 6)

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LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 7.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/15/2021**
Date Reported: **2/24/2021**
Client Sample ID: **R#GTD0067930131 L#PMF821560**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210100**
TRI Control No.: **154264**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	61	62	60	61	62	61	60	61	60	61	1	60	62	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9476	0.9476	0.9476								0.9476	0.0000	0.9476	0.9476	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	155	161	154	157	161						158	4	154	161	126 min.
	TD	158	161	162	169	158						162	5	158	169	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	211	223	213	203	200						210	9	200	223	90 min.
	TD	177	183	188	201	168						183	12	168	201	
	Elongation at Yield (percent, %)															
	MD	19	18	20	18	17						19	1	17	20	12 min.
	TD	15	16	14	16	16						15	1	14	16	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	471	454	437	445	413						444	21	413	471	100 min.
	TD	512	517	520	569	467						517	36	467	569	
ASTM D1603	Carbon Black Content (percent, %)															
		2.47	2.43									2.45	0.03	2.43	2.47	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

February 12, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/12/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of nine (9) 60mil HDPE Double Sided Microspike geomembrane samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 12, 2021**

REFERENCE TRI JOB NO.: G210084

DATE RECEIVED: February 5, 2021

SAMPLE SENT BY: AGRU, SC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#GTD0067930005 L#PMH821480	154179
R#GTD0067930014 L#PMH821480	154180
R#GTD0067930022 L#PMH821480	154181
R#GTD0067930030 L#PMH821480	154182
R#GTD0067930038 L#PMH821480	154183
R#GTD0067930046 L#PMH821480	154184
R#GTD0067930055 L#PMH821480	154185
R#GTD0067930063 L#PMH821470	154186
R#GTD0067930072 L#PMH821470	154187

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5994	Thickness
2. ASTM D1505	Density
3. ASTM D6693	Tensile Properties
4. ASTM D1603	Carbon Black Content
5. ASTM D5593	Carbon Black Dispersion

TEST RESULTS: The test results are summarized in the attached Table 1 to 9.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Signatures are on file

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

10 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930005 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154179**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		60	60	61	61	62	62	60	61	62	61	61	1	60	62	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9474	0.9474	0.9474								0.9474	0.0000	0.9474	0.9474	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	156	154	159	155	152						155	2	152	159	126 min.
	TD	162	172	167	173	163						167	5	162	173	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	229	219	251	211	229						228	15	211	251	90 min.
	TD	207	194	181	190	192						193	9	181	207	
	Elongation at Yield (percent, %)															
	MD	18	24	21	21	19						21	2	18	24	12 min.
	TD	17	17	16	15	15						16	1	15	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	461	457	485	428	451						456	20	428	485	100 min.
	TD	603	546	507	526	537						544	36	507	603	
ASTM D1603	Carbon Black Content (percent, %)															
		2.39	2.38									2.38	0.01	2.38	2.39	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 1)

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LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930014 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154180**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		63	62	61	61	60	60	61	60	62	61	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9484	0.9484	0.9484								0.9484	0.0000	0.9484	0.9484	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	159	153	155	155	153						155	3	153	159	126 min.
	TD	153	154	157	160	153						155	3	153	160	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	224	202	215	219	223						217	9	202	224	90 min.
	TD	184	203	203	214	184						198	13	184	214	
	Elongation at Yield (percent, %)															
	MD	23	21	22	21	21						21	1	21	23	12 min.
	TD	16	16	17	16	15						16	1	15	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	442	482	447	465	465						460	16	442	482	100 min.
	TD	536	574	584	602	553						570	26	536	602	
ASTM D1603	Carbon Black Content (percent, %)															
		2.34	2.41									2.37	0.05	2.34	2.41	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 2)

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LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 3.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930022 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154181**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		61	60	61	61	61	62	63	62	60	63	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9489	0.9489	0.9489								0.9489	0.0000	0.9489	0.9489	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	154	157	158	154	158						156	2	154	158	126 min.
	TD	169	174	171	169	167						170	3	167	174	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	218	223	220	223	224						221	3	218	224	90 min.
	TD	213	228	210	209	216						215	8	209	228	
	Elongation at Yield (percent, %)															
	MD	18	20	22	20	20						20	1	18	22	12 min.
	TD	17	16	18	17	16						17	1	16	18	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	450	476	469	461	448						461	12	448	476	100 min.
	TD	520	626	554	594	607						580	43	520	626	
ASTM D1603	Carbon Black Content (percent, %)															
		2.37	2.34									2.36	0.02	2.34	2.37	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 4.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930030 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154182**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		65	**64**	**60**	**61**	**61**	**63**	**60**	**63**	**61**	**62**	**62**	**1**	**60**	**65**	**60 min. avg.**
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9468	**0.9468**	**0.9468**								**0.9468**	**0.0000**	**0.9468**	**0.9468**	**0.94 min.**
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	**153**	**155**	**158**	**154**	**156**						**155**	**2**	**153**	**158**	**126 min.**
	TD	**162**	**159**	**159**	**159**	**163**						**160**	**2**	**159**	**163**	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	**224**	**221**	**218**	**235**	**230**						**226**	**7**	**218**	**235**	**90 min.**
	TD	**205**	**198**	**212**	**214**	**210**						**208**	**6**	**198**	**214**	
	Elongation at Yield (percent, %)															
	MD	**22**	**21**	**23**	**22**	**20**						**21**	**1**	**20**	**23**	**12 min.**
	TD	**17**	**18**	**19**	**17**	**17**						**18**	**1**	**17**	**19**	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	**439**	**546**	**491**	**469**	**491**						**487**	**39**	**439**	**546**	**100 min.**
	TD	**587**	**558**	**604**	**527**	**596**						**574**	**32**	**527**	**604**	
ASTM D1603	Carbon Black Content (percent, %)															
		2.34	**2.33**									**2.33**	**0.01**	**2.33**	**2.34**	**2 - 3**
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															**9 in Cat 1 or 2**
		1	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**10 out of 10 in Category 1**				**all in Cat 1,2 or 3**

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 5.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930038 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154183**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz) Loading Time: 5 sec Specimen Size: 4" x 4"															
		62	61	62	61	60	60	61	60	63	60	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9476	0.9476	0.9476								0.9476	0.0000	0.9476	0.9476	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	156	152	156	155	158						155	2	152	158	126 min.
	TD	175	172	167	169	159						168	6	159	175	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	215	224	217	219	224						220	4	215	224	90 min.
	TD	206	191	209	193	193						198	9	191	209	
	Elongation at Yield (percent, %)															
	MD	21	21	21	20	19						20	1	19	21	12 min.
	TD	16	17	17	15	15						16	1	15	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	466	463	486	433	448						459	20	433	486	100 min.
	TD	563	521	584	544	560						554	24	521	584	
ASTM D1603	Carbon Black Content (percent, %)															
		2.35	2.40									2.37	0.04	2.35	2.40	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 6.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930046 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154184**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		61	64	62	63	61	62	62	61	62	63	62	1	61	64	60 min. avg.
ASTM D1505	Density (grams/ $cm.^3$)															
		0.9479	0.9479	0.9479								0.9479	0.0000	0.9479	0.9479	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	164	153	160	158	159						159	4	153	164	126 min.
	TD	159	162	167	164	160						162	3	159	167	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	256	221	220	240	226						232	15	220	256	90 min.
	TD	190	188	203	198	182						192	8	182	203	
	Elongation at Yield (percent, %)															
	MD	22	21	24	21	20						22	1	20	24	12 min.
	TD	18	18	18	18	15						18	1	15	18	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	482	448	454	467	461						462	13	448	482	100 min.
	TD	542	535	575	570	533						551	20	533	575	
ASTM D1603	Carbon Black Content (percent, %)															
		2.38	2.34									2.36	0.03	2.34	2.38	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 6)

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LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 7.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930055 L#PMH821480**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154185**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
METHOD	**DESCRIPTION**															
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"	62	62	61	62	60	63	61	60	60	63	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9481	0.9481	0.9481								0.9481	0.0000	0.9481	0.9481	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	157	154	156	160	155						156	2	154	160	126 min.
	TD	157	163	161	163	159						160	3	157	163	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	230	225	245	227	231						231	8	225	245	90 min.
	TD	203	189	199	204	188						197	8	188	204	
	Elongation at Yield (percent, %)															
	MD	23	24	23	21	22						23	1	21	24	12 min.
	TD	19	17	18	18	16						18	1	16	19	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	453	473	471	448	447						458	13	447	473	100 min.
	TD	564	544	578	573	563						564	13	544	578	
ASTM D1603	Carbon Black Content (percent, %)															
		2.42	2.50									2.46	0.06	2.42	2.50	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 8.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930063 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154186**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz) Loading Time: 5 sec Specimen Size: 4" x 4"															
		63	60	62	60	61	63	63	61	61	61	61	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9489	0.9489	0.9489								0.9489	0.0000	0.9489	0.9489	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	160	161	159	157	154						158	3	154	161	126 min.
	TD	167	158	155	155	157						159	5	155	167	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	247	243	215	250	209						233	19	209	250	90 min.
	TD	206	191	182	184	200						193	10	182	206	
	Elongation at Yield (percent, %)															
	MD	21	23	22	24	22						22	1	21	24	12 min.
	TD	17	17	16	17	17						17	1	16	17	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	467	476	468	491	473						475	10	467	491	100 min.
	TD	563	532	519	537	582						547	25	519	582	
ASTM D1603	Carbon Black Content (percent, %)															
		2.36	2.33									2.34	0.02	2.33	2.36	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 8)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

TABLE 9.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: Jed Cell 14

Date Received: **2/5/2021**
Date Reported: **2/12/2021**
Client Sample ID: **R#GTD0067930072 L#PMH821470**
Material Description: **60mil HDPE Double Sided Microspike Geomembrane**

QC'd By: Maria Espitia
TRI Job No.: **G210084**
TRI Control No.: **154187**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs.
ASTM D5994	Thickness (mils)															
	Apparatus: Dead-weight dial micrometer with gauge points tapered at an angle of 60° +/- 2° to the horizontal with the tip rounded to a radius of 0.8+/-0.1 mm(0.031+/-0.004 in), with a specified force of 0.56+/-0.05 N (2+/-0.2 oz)															
	Loading Time: 5 sec Specimen Size: 4" x 4"															
		62	62	63	60	61	62	60	63	62	60	62	1	60	63	60 min. avg.
ASTM D1505	Density (grams/ cm.^{3})															
		0.9474	0.9474	0.9474								0.9474	0.0000	0.9474	0.9474	0.94 min.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Rate of Separation: 2"/min															
	Tensile Strength at Yield (lbs/ in.-width)															
	MD	154	156	158	157	155						156	2	154	158	126 min.
	TD	159	159	155	161	160						159	2	155	161	
	Tensile Strength at Break (lbs/ in.- width)															
	MD	244	251	237	191	209						227	25	191	251	90 min.
	TD	193	193	181	180	207						191	11	180	207	
	Elongation at Yield (percent, %)															
	MD	21	18	22	20	21						21	1	18	22	12 min.
	TD	17	19	18	17	17						18	1	17	19	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	472	498	457	418	465						462	29	418	498	100 min.
	TD	536	543	529	510	506						525	16	506	543	
ASTM D1603	Carbon Black Content (percent, %)															
		2.51	2.43									2.47	0.06	2.43	2.51	2 - 3
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Cat 1 or 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				all in Cat 1,2 or 3

(End of Table 9)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD- TRANSVERSE DIRECTION

Section 3
Drainage Geocomposite

February 17, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/17/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of five (5) 270mil Double Sided Geocomposite samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 17, 2021**

REFERENCE TRI JOB NO.: G210048

DATE RECEIVED: January 21, 2021

SAMPLE SENT BY: SKAPS, GA

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#0103151010003	
Geocomposite	154037
NW Geotextile	154042/ 154043
R#0103151010083	
Geocomposite	154038
NW Geotextile	154044/ 154045
R#0103151010163	
Geocomposite	154039
NW Geotextile	154046/ 154047
R#0103151010243	
Geocomposite	154040
NW Geotextile	154048/ 154049
R#0103151010322	
Geocomposite	154041
NW Geotextile	154050/ 154051

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
Geotextile	
ASTM D5261	Mass Per Unit Area
ASTM D4632	Grab Tensile
ASTM D4533	Tear Resistance
ASTM D6241	Static Puncture Resistance
ASTM D4751	Apparent Opening Size
ASTM D4491	Permittivity
Geocomposite	
ASTM D7005	Ply Adhesion
ASTM D4716	Transmissivity

TEST RESULTS: The test results are summarized in the attached Table 1 to 5B.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance
Cora Queja — TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

20 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010003**
Material Description: **270mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154037**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs Type of water= de-aerated*															
	Temperature of Test Water: 21.1 ^{0}C Specimen Size: 12 Equipment: Transmissivity rig compliant to ASTM & ISO standards															
	Transmissivity (m.^{2}/ sec.)															
	MD **1.45E-03**											**1.45E-03**	**N/A**			**6.1x10^{-4}**
	Flow Rate (gal/min)															
	MD **0.14**											**0.14**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **6.98**											**6.98**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***363***	***mils (Before)***							
	Plate						***Thickness :***	***357***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs Type of water= de-aerated*															
	Temperature of Test Water: 20.5 ^{0}C Specimen Size: 12 Equipment: Transmissivity rig compliant to ASTM & ISO standards															
	Transmissivity (m.^{2}/ sec.)															
	MD **6.34E-04**											**6.34E-04**	**N/A**			**1.0x10^{-4}**
	Transmissivity (gal./ min./ ft.)															
	MD **3.06**											**3.06**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.06**											**0.06**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***367***	***mils (Before)***							
	Plate						***Thickness :***	***327***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**5.1**	**6.2**	**6.5**	**4.0**	**5.7**						**5.5**	**1.0**	**4.0**	**6.5**	**1.0**
	Side B of Composite															
	MD	**5.0**	**4.4**	**6.9**	**3.6**	**5.1**						**5.0**	**1.2**	**3.6**	**6.9**	**1.0**

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 1A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010003**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154042**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
METHOD	**DESCRIPTION**															
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.28	6.57	6.78	6.65	6.55						6.57	0.18	6.28	6.78	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	202	253	265	199	201	195	196	244	243	179	218	30	179	265	160
	TD	194	194	184	197	197	183	209	189	208	206	196	9	183	209	
	Apparent Breaking Elongation (percent)															
	MD	81	61	63	72	71	73	77	58	68	70	69	7	58	81	-
	TD	87	115	119	105	103	98	89	87	109	109	102	12	87	119	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	90	87	86	88	90	93	94	90	88	90	90	2	86	94	65
	TD	90	90	93	86	85	84	84	89	90	92	88	3	84	93	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.4					Correction Factor: 0.9904										
		Specimen 1					Specimen 2									
	Thickness (mils)	99.00	99.00	99.00	99.00	99.00	96.00	96.00	96.00	96.00	96.00					
	Specimen Permittivity (sec-1)	1.92	1.92	1.92	1.92	1.93	1.98	1.97	1.96	1.97	1.98					
	Specimen Flow rate (GPM/ft2)	143.83	143.83	143.83	143.83	144.26	148.12	147.19	146.72	147.62	148.18					
	Specimen Permeability (cm/sec)	0.48	0.48	0.48	0.48	0.49	0.48	0.48	0.48	0.48	0.48					
		Specimen 3					Specimen 4									
	Thickness (mm)	100.00	100.00	100.00	100.00	100.00	97.00	97.00	97.00	97.00	97.00					
	Specimen Permittivity (sec-1)	1.92	1.92	1.92	1.92	1.91	2.00	2.00	2.01	2.01	2.02					
	Specimen Flow rate (GPM/ft2)	143.40	143.83	143.83	143.41	143.00	149.73	149.21	150.27	150.36	151.28					
	Specimen Permeability (cm/sec)	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.50	0.50	0.50					
											TEMPERATURE CORRECTED VALUES					
											Permittivity (sec-1)	1.96	0.04			0.5
											Flow Rate (GPM/ft2)	146.29	3.17			-
											Permeability (cm./ sec.)	0.49	0.01			-

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 1A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010003**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154042**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.208	**0.208**	**0.207**	**0.206**	**0.208**						**0.207**	**0.001**	**0.206**	**0.208**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		540	**518**	**578**	**599**	**606**	**645**	**620**	**690**	**525**	**638**	**596**	**56**	**518**	**690**	**435**

(End of Table 1A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 1B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010003**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Capitia
TRI Job No.: **G210048**
TRI Control No.: **154043**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
METHOD	**DESCRIPTION**															
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.42	6.58	6.41	6.65	6.55						6.52	0.10	6.41	6.65	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	201	176	194	178	214	238	232	201	236	194	206	23	176	238	160
	TD	192	195	215	228	207	211	197	198	203	208	205	11	192	228	
	Apparent Breaking Elongation (percent)															
	MD	71	69	81	67	78	75	79	76	76	68	74	5	67	81	-
	TD	106	94	97	97	101	101	101	101	91	109	100	5	91	109	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	84	86	83	86	87	87	79	92	91	88	86	4	79	92	65
	TD	82	93	103	97	85	84	93	92	94	90	91	6	82	103	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.4	Correction Factor: 0.9904														
		Specimen 1					Specimen 2									
	Thickness (mils)	98.00	98.00	98.00	98.00	98.00	96.00	96.00	96.00	96.00	96.00					
	Specimen Permittivity (sec-1)	1.93	1.92	1.92	1.92	1.92	1.97	1.97	1.97	1.98	1.99					
	Specimen Flow rate (GPM/ft2)	144.26	143.83	143.41	143.83	143.83	147.14	147.62	147.19	148.12	148.56					
	Specimen Permeability (cm/sec)	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48					
		Specimen 3					Specimen 4									
	Thickness (mm)	97.00	97.00	97.00	97.00	97.00	96.00	96.00	96.00	96.00	96.00					
	Specimen Permittivity (sec-1)	1.93	1.92	1.92	1.91	1.94	1.96	1.96	1.95	1.95	1.96					
	Specimen Flow rate (GPM/ft2)	144.25	143.83	143.41	143.00	144.69	146.85	146.37	145.94	145.91	146.33					
	Specimen Permeability (cm/sec)	0.48	0.47	0.47	0.47	0.48	0.48	0.48	0.48	0.48	0.48					
											TEMPERATURE CORRECTED VALUES					
											Permittivity (sec-1)	1.94	0.03			0.5
											Flow Rate (GPM/ft2)	145.42	1.92			-
											Permeability (cm./ sec.)	0.48	0.00			-

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

GAI-LAP

TABLE 1B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010003**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Capitia
TRI Job No.: **G210048**
TRI Control No.: **154043**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															Minimum
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	70-100	70-100	70-100	70-100						70-100	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.															
		0.204	0.210	0.210	0.210	0.210						0.209	0.003	0.204	0.210	≤ 0.21
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		628	628	636	755	602	623	691	637	583	700	648	52	583	755	435

(End of Table 1B)

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LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010083**
Material Description: **270mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154038**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs* *Temperature of Test Water: 20.4 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity ($m.^2$/ sec.)															
	MD **1.54E-03**											**1.54E-03**	**N/A**			**6.1x10^{-4}**
	Flow Rate (gal/min)															
	MD **0.15**											**0.15**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **7.44**											**7.44**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***370***	***mils (Before)***							
	Plate						***Thickness :***	***358***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs* *Temperature of Test Water: 20.5 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity ($m.^2$/ sec.)															
	MD **7.13E-04**											**7.13E-04**	**N/A**			**1.0x10^{-4}**
	Transmissivity (gal./ min./ ft.)															
	MD **3.44**											**3.44**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.07**											**0.07**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***372***	***mils (Before)***							
	Plate						***Thickness :***	***332***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**3.1**	**4.6**	**3.3**	**3.2**	**4.3**						**3.7**	**0.7**	**3.1**	**4.6**	**1.0**
	Side B of Composite															
	MD	**2.7**	**4.2**	**3.0**	**4.1**	**3.7**						**3.6**	**0.7**	**2.7**	**4.2**	**1.0**

(End of Table 2)

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LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 2A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010083**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210048**
TRI Control No.: **154044**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.68	6.71	6.87	7.07	6.65						6.79	0.17	6.65	7.07	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	180	187	190	216	239	207	228	192	221	228	209	21	180	239	160
	TD	192	181	233	236	202	199	201	199	229	189	206	19	181	236	
	Apparent Breaking Elongation (percent)															
	MD	77	65	75	72	71	77	75	72	70	71	72	4	65	77	-
	TD	96	96	96	96	95	101	108	93	89	100	97	5	89	108	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	87	86	88	80	84	84	86	88	79	86	85	3	79	88	65
	TD	84	86	87	90	94	95	90	89	96	94	90	4	84	96	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		706	536	671	646	586	644	636	640	661	698	642	50	536	706	435

(End of Table 2A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 2B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010083**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210048**
TRI Control No.: **154045**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.68	6.55	6.42	6.41	6.61						6.53	0.12	6.41	6.68	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	254	241	243	192	213	264	217	239	180	253	230	28	180	264	160
	TD	229	183	194	197	209	194	227	196	222	206	206	16	183	229	
	Apparent Breaking Elongation (percent)															
	MD	77	71	65	73	74	66	65	77	76	63	71	5	63	77	-
	TD	97	91	97	107	97	95	95	103	95	104	98	5	91	107	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	84	80	79	80	83	80	86	84	84	84	82	2	79	86	65
	TD	84	84	86	93	92	91	90	92	89	103	90	5	84	103	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		676	675	715	612	580	677	579	714	602	673	650	52	579	715	435

(End of Table 2B)

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LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 3.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010163**
Material Description: **270mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154039**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs* *Temperature of Test Water: 20.2^0 C Specimen Size: 12" x 14"*															
	Transmissivity (m.^{2}/ sec.)															
	MD **1.48E-03**											**1.48E-03**	**N/A**			**6.1x10^{-4}**
	Flow Rate (gal/min)															
	MD **0.14**											**0.14**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **7.15**											**7.15**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***366***	***mils (Before)***							
	Plate						***Thickness :***	***359***	***mils (After)***							
	HDPE Microspike ooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs* *Temperature of Test Water: 20.2^0 C Specimen Size: 12" x 14"*															
	Transmissivity (m.^{2}/ sec.)															
	MD **7.98E-04**											**7.98E-04**	**N/A**			**1.0x10^{-4}**
	Transmissivity (gal./ min./ ft.)															
	MD **3.85**											**3.85**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.08**											**0.08**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***375***	***mils (Before)***							
	Plate						***Thickness :***	***333***	***mils (After)***							
	HDPE Microspike ooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**13.3**	**9.0**	**8.8**	**15.6**	**6.8**						**10.7**	**3.6**	**6.8**	**15.6**	**1.0**
	Side B of Composite															
	MD	**6.6**	**7.4**	**6.8**	**9.1**	**5.3**						**7.0**	**1.4**	**5.3**	**9.1**	**1.0**

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 3A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010163**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154046**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.57	6.52	6.68	6.69	6.81						6.65	0.11	6.52	6.81	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	206	241	247	200	194	199	205	201	184	205	208	20	184	247	160
	TD	202	226	207	200	186	208	192	191	220	219	205	14	186	226	
	Apparent Breaking Elongation (percent)															
	MD	77	76	75	73	69	69	69	72	73	77	73	3	69	77	-
	TD	94	94	107	103	105	99	93	110	93	99	100	6	93	110	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	83	85	86	87	87	83	90	92	92	88	87	3	83	92	65
	TD	87	94	96	87	86	80	84	97	96	86	89	6	80	97	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.4 Correction Factor: 0.9904															
		Specimen 1					Specimen 2									
	Thickness (mils)	92.00	92.00	92.00	92.00	92.00	100.00	100.00	100.00	100.00	100.00					
	Specimen Permittivity (sec-1)	2.02	2.03	2.03	2.04	2.04	1.93	1.94	1.92	1.92	1.92					
	Specimen Flow rate (GPM/ft2)	151.29	151.72	151.84	152.41	152.87	144.25	144.68	143.41	143.41	143.83					
	Specimen Permeability (cm/sec)	0.47	0.47	0.47	0.48	0.48	0.49	0.49	0.49	0.49	0.49					
		Specimen 3					Specimen 4									
	Thickness (mm)	95.00	95.00	95.00	95.00	95.00	96.00	96.00	96.00	96.00	96.00					
	Specimen Permittivity (sec-1)	1.98	1.97	1.98	1.99	1.98	1.93	1.95	1.91	1.92	1.92					
	Specimen Flow rate (GPM/ft2)	148.06	147.57	148.12	148.56	148.06	144.25	145.94	143.00	143.83	143.83					
	Specimen Permeability (cm/sec)	0.48	0.48	0.48	0.48	0.48	0.47	0.48	0.47	0.47	0.47					
											TEMPERATURE CORRECTED VALUES					
											Permittivity (sec-1)	1.97	0.05			0.5
											Flow Rate (GPM/ft2)	147.05	3.83			-
											Permeability (cm./ sec.)	0.48	0.01			-

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

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TABLE 3A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010163**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154046**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.															
		0.205	**0.206**	**0.209**	**0.210**	**0.204**						**0.207**	**0.003**	**0.204**	**0.210**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		607	**585**	**734**	**535**	**716**	**564**	**619**	**687**	**709**	**640**	**640**	**69**	**535**	**734**	**435**

(End of Table 3A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 3B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010163**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154047**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.87	**7.07**	**6.57**	**6.61**	**6.55**						**6.73**	**0.23**	**6.55**	**7.07**	**6.0**
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	**196**	**226**	**242**	**231**	**204**	**223**	**197**	**190**	**191**	**195**	**209**	**19**	**190**	**242**	**160**
	TD	**210**	**217**	**224**	**195**	**201**	**206**	**183**	**200**	**244**	**196**	**208**	**17**	**183**	**244**	
	Apparent Breaking Elongation (percent)															
	MD	**69**	**79**	**83**	**63**	**69**	**69**	**69**	**75**	**75**	**76**	**73**	**6**	**63**	**83**	**-**
	TD	**93**	**95**	**108**	**103**	**108**	**103**	**103**	**97**	**97**	**97**	**100**	**5**	**93**	**108**	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	**94**	**94**	**88**	**84**	**79**	**80**	**82**	**84**	**84**	**86**	**85**	**5**	**79**	**94**	**65**
	TD	**88**	**90**	**94**	**97**	**83**	**80**	**84**	**93**	**100**	**94**	**90**	**6**	**80**	**100**	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.4 Correction Factor: 0.9904															
		Specimen 1					Specimen 2									
	Thickness (mils)	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00					
	Specimen Permittivity (sec-1)	1.93	1.92	1.92	1.92	1.92	1.88	1.89	1.89	1.88	1.90					
	Specimen Flow rate (GPM/ft2)	144.25	143.83	143.41	143.41	143.83	140.92	141.30	141.33	140.92	141.71					
	Specimen Permeability (cm/sec)	0.48	0.48	0.48	0.48	0.48	0.47	0.47	0.47	0.47	0.47					
		Specimen 3					Specimen 4									
	Thickness (mm)	96.00	96.00	96.00	96.00	96.00	94.00	94.00	94.00	94.00	94.00					
	Specimen Permittivity (sec-1)	2.00	1.96	1.95	1.95	1.95	1.97	1.98	1.98	1.99	1.99					
	Specimen Flow rate (GPM/ft2)	149.46	146.80	145.94	145.49	145.91	147.14	148.06	148.12	148.56	149.09					
	Specimen Permeability (cm/sec)	0.49	0.48	0.48	0.47	0.48	0.47	0.47	0.47	0.47	0.48					
											TEMPERATURE CORRECTED VALUES					
											Permittivity (sec-1)	**1.94**	**0.04**			**0.5**
											Flow Rate (GPM/ft2)	**144.97**	**3.10**			**-**
											Permeability (cm./ sec.)	**0.48**	**0.00**			**-**

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

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TABLE 3B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010163**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154047**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.206	**0.207**	**0.209**	**0.210**	**0.210**						**0.208**	**0.002**	**0.206**	**0.210**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		686	**736**	**645**	**556**	**764**	**640**	**645**	**717**	**610**	**697**	**670**	**62**	**556**	**764**	**435**

(End of Table 3B)

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LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 4.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010243**
Material Description: **270mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154040**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs* *Temperature of Test Water: 20.8 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity (m.^{2}/ sec.)															
	MD **1.44E-03**											**1.44E-03**	**N/A**			**6.1x10^{-4}**
	Flow Rate (gal/min)															
	MD **0.14**											**0.14**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **6.97**											**6.97**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***370***	***mils (Before)***							
	Plate						***Thickness :***	***360***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs* *Temperature of Test Water: 21.2 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity (m.^{2}/ sec.)															
	MD **7.00E-04**											**7.00E-04**	**N/A**			**1.0x10^{-4}**
	Transmissivity (gal./ min./ ft.)															
	MD **3.38**											**3.38**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.07**											**0.07**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***372***	***mils (Before)***							
	Plate						***Thickness :***	***338***	***mils (After)***							
	HDPE Microspike oooooooo															
	Geocomposite XXXXXX															
	HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**6.7**	**12.6**	**12.1**	**6.3**	**12.7**						**10.1**	**3.3**	**6.3**	**12.7**	**1.0**
	Side B of Composite															
	MD	**6.2**	**7.9**	**5.7**	**6.6**	**8.3**						**7.0**	**1.1**	**5.7**	**8.3**	**1.0**

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 4A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010243**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154048**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.58	6.45	6.42	6.41	6.61						6.49	0.09	6.41	6.61	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	211	216	197	212	233	194	192	260	236	226	218	21	192	260	160
	TD	215	216	192	181	193	208	207	212	209	245	208	17	181	245	
	Apparent Breaking Elongation (percent)															
	MD	69	68	65	65	69	67	79	67	73	76	70	5	65	79	-
	TD	111	101	101	100	100	95	102	104	91	101	101	5	91	111	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	93	91	89	82	90	90	92	89	94	89	90	3	82	94	65
	TD	95	96	88	88	90	94	90	90	87	94	91	3	87	96	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		657	597	683	685	651	546	527	543	640	573	610	60	527	685	435

(End of Table 4A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 4B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010243**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154049**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.61	6.67	6.87	7.07	6.89						6.82	0.18	6.61	7.07	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	202	229	193	215	189	222	185	191	231	205	206	17	185	231	160
	TD	196	183	190	188	197	216	185	206	192	209	196	11	183	216	
	Apparent Breaking Elongation (percent)															
	MD	73	74	73	74	71	71	63	64	73	75	71	4	63	75	-
	TD	105	104	95	95	95	93	103	108	97	100	100	5	93	108	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	80	81	84	81	80	86	85	85	86	88	83	3	80	88	65
	TD	88	89	94	96	101	93	91	89	84	93	92	5	84	101	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		646	613	646	614	673	611	607	619	707	542	628	44	542	707	435

(End of Table 4B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 5.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010322**
Material Description: **270mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154041**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs* *Temperature of Test Water: 20.9 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity ($m.^2$/ sec.)															
	MD **1.62E-03**											**1.62E-03**	**N/A**			**6.1x10^{-4}**
	Flow Rate (gal/min)															
	MD **0.16**											**0.16**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **7.84**											**7.84**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***376***	***mils (Before)***							
	Plate						***Thickness :***	***362***	***mils (After)***							
	HDPE Microspike ***oooooooo***															
	Geocomposite ***XXXXXX***															
	HDPE Microspike ***=========***															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs* *Temperature of Test Water: 21.2 ^{0}C Specimen Size: 12" x 14"*															
	Transmissivity ($m.^2$/ sec.)															
	MD **6.49E-04**											**6.49E-04**	**N/A**			**1.0x10^{-4}**
	Transmissivity (gal./ min./ ft.)															
	MD **3.14**											**3.14**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.06**											**0.06**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***365***	***mils (Before)***							
	Plate						***Thickness :***	***323***	***mils (After)***							
	HDPE Microspike ***oooooooo***															
	Geocomposite ***XXXXXX***															
	HDPE Microspike ***=========***															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**7.1**	**7.6**	**6.5**	**7.6**	**5.5**						**6.9**	**0.9**	**5.5**	**7.6**	**1.0**
	Side B of Composite															
	MD	**5.2**	**7.2**	**5.6**	**5.6**	**4.8**						**5.7**	**0.9**	**4.8**	**7.2**	**1.0**

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 5A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010322**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210048**
TRI Control No.: **154050**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.55	6.59	6.67	6.42	6.45						6.54	0.10	6.42	6.67	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	199	202	222	202	181	230	215	189	206	213	206	15	181	230	160
	TD	229	205	198	193	219	205	190	195	196	217	205	13	190	229	
	Apparent Breaking Elongation (percent)															
	MD	69	78	79	83	73	73	73	66	72	77	74	5	66	83	-
	TD	101	110	92	92	103	105	105	95	99	103	100	6	92	110	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	80	84	81	80	83	80	83	85	82	90	83	3	80	90	65
	TD	90	93	91	96	80	81	86	94	96	93	90	6	80	96	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		508	740	689	786	617	814	632	655	679	652	677	88	508	814	435

(End of Table 5A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 5B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/21/2021**
Date Reported: **2/17/2021**
Client Sample ID: **R#0103151010322**
Material Description: **6oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210048**
TRI Control No.: **154051**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		6.49	6.59	6.87	6.99	6.92						6.77	0.22	6.49	6.99	6.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	221	196	210	180	191	206	247	192	197	255	209	25	180	255	160
	TD	204	208	210	208	217	205	214	193	201	203	206	7	193	217	
	Apparent Breaking Elongation (percent)															
	MD	63	65	71	81	76	69	67	75	64	70	70	6	63	81	-
	TD	101	103	91	91	103	101	94	94	97	109	98	6	91	109	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	82	80	79	78	84	90	93	91	83	87	85	5	78	93	65
	TD	101	101	100	95	93	93	96	88	100	92	96	4	88	101	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		606	571	707	694	593	730	556	651	625	624	636	59	556	730	435

(End of Table 5B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

March 9, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 03/09/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of five (5) 330mil Double Sided Geocomposite samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **March 9, 2021**

REFERENCE TRI JOB NO.: G210063

DATE RECEIVED: January 28, 2021

SAMPLE SENT BY: SKAPS, GA

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#10351020003	
Geocomposite	154119
NW Geotextile	154124/ 154125
R#10351020097	
Geocomposite	154120
NW Geotextile	154126/ 154127
R#10351020191	
Geocomposite	154121
NW Geotextile	154128/ 154129
R#10351020285	
Geocomposite	154122
NW Geotextile	154130/ 154131
R#10351020379	
Geocomposite	154123
NW Geotextile	154132/ 154133

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
Geotextile	
ASTM D5261	Mass Per Unit Area
ASTM D4632	Grab Tensile
ASTM D4533	Tear Resistance
ASTM D6241	Static Puncture Resistance
ASTM D4751	Apparent Opening Size
ASTM D4491	Permittivity
Geocomposite	
ASTM D7005	Ply Adhesion
ASTM D4716	Transmissivity

TEST RESULTS: The test results are summarized in the attached Table 1 to 5B.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance
Cora Queja — TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

20 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020003**
Material Description: **330mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154119**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D4716	Transmissivity	*Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs Type of water= de-aerated*														
		Temperature of Test Water: 20.5^0 C Specimen Size: 12 Equipment: Transmissivity rig compliant to ASTM & ISO standards														
	Transmissivity (m.^{2}/ sec.)															
	MD	**8.43E-03**										**8.43E-03**	**N/A**			**1.5x10^{-3}**
	Flow Rate (gal/min)															
	MD	**0.82**										**0.82**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD	**40.74**										**40.74**	**N/A**			**-**
		Test Set-Up:					***Thickness :***	***417***	***mils (Before)***							
		Plate					***Thickness :***	***402***	***mils (After)***							
		Protective Layer Soil (C#154265)	***oooooooo***													
		Geocomposite	***XXXXXX***													
		60mil HDPE Microspike	***=========***													
		Plate														
ASTM D4716	Transmissivity	*Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs Type of water= de-aerated*														
		Temperature of Test Water: 20.2^0 C Specimen Size: 12 Equipment: Transmissivity rig compliant to ASTM & ISO standards														
	Transmissivity (m.^{2}/ sec.)															
	MD	**4.56E-03**										**4.56E-03**	**N/A**			**1.0x10^{-3}**
	Transmissivity (gal./ min./ ft.)															
	MD	**22.04**										**22.04**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD	**0.44**										**0.44**	**N/A**			**-**
		Test Set-Up:					***Thickness :***	***423***	***mils (Before)***							
		Plate					***Thickness :***	***389***	***mils (After)***							
		Protective Layer Soil (C#154265)	***oooooooo***													
		Geocomposite	***XXXXXX***													
		60mil HDPE Microspike	***=========***													
		Plate														
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**4.8**	**8.2**	**4.0**	**8.7**	**4.4**						**6.0**	**2.2**	**4.0**	**8.7**	**1.0**
	Side B of Composite															
	MD	**3.1**	**6.7**	**2.7**	**6.4**	**3.7**						**4.5**	**1.9**	**2.7**	**6.7**	**1.0**

(End of Table 1) (Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 1A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020003**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154124**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		9.06	**8.64**	**8.85**	**8.59**	**8.49**						**8.73**	**0.23**	**8.49**	**9.06**	**8.0**
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	**244**	**313**	**232**	**249**	**290**	**247**	**250**	**265**	**336**	**302**	**273**	**35**	**232**	**336**	**200**
	TD	**255**	**273**	**274**	**245**	**236**	**253**	**282**	**238**	**258**	**262**	**258**	**16**	**236**	**282**	
	Apparent Breaking Elongation (percent)															
	MD	**70**	**65**	**61**	**65**	**70**	**59**	**72**	**73**	**69**	**67**	**67**	**5**	**59**	**73**	**-**
	TD	**103**	**89**	**89**	**93**	**103**	**96**	**86**	**86**	**93**	**83**	**92**	**7**	**83**	**103**	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	**114**	**121**	**119**	**115**	**116**	**111**	**114**	**126**	**124**	**121**	**118**	**5**	**111**	**126**	**75**
	TD	**124**	**120**	**125**	**120**	**120**	**125**	**130**	**116**	**119**	**128**	**123**	**4**	**116**	**130**	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.7	Correction Factor: 0.9832														
		Specimen 1					Specimen 2									
	Thickness (mils)	116.00	116.00	116.00	116.00	116.00	117.00	117.00	117.00	117.00	117.00					
	Specimen Permittivity (sec-1)	1.74	1.73	1.64	1.74	1.73	1.77	1.77	1.76	1.78	1.76					
	Specimen Flow rate (GPM/ft2)	129.80	129.42	122.67	129.99	129.61	132.52	132.13	131.89	132.92	131.67					
	Specimen Permeability (cm/sec)	0.51	0.51	0.48	0.51	0.51	0.53	0.53	0.52	0.53	0.52					
		Specimen 3					Specimen 4									
	Thickness (mm)	114.00	114.00	114.00	114.00	114.00	116.00	116.00	116.00	116.00	116.00					
	Specimen Permittivity (sec-1)	1.77	1.77	1.77	1.76	1.77	1.76	1.77	1.76	1.77	1.75					
	Specimen Flow rate (GPM/ft2)	132.52	132.28	132.13	131.67	132.05	131.89	132.52	131.51	132.13	130.92					
	Specimen Permeability (cm/sec)	0.51	0.51	0.51	0.51	0.51	0.52	0.52	0.52	0.52	0.52					
											TEMPERATURE CORRECTED VALUES					
											Permittivity (sec-1)	**1.75**	**0.03**			**0.5**
											Flow Rate (GPM/ft2)	**131.11**	**1.88**			**-**
											Permeability (cm./ sec.)	**0.52**	**0.01**			**-**

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

TABLE 1A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020003**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154124**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.202	**0.203**	**0.206**	**0.205**	**0.202**						**0.204**	**0.002**	**0.202**	**0.206**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		700	**771**	**795**	**778**	**855**	**880**	**664**	**848**	**707**	**689**	**769**	**76.5**	**664.5**	**880.2**	**500**

(End of Table 1A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 1B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020003**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Capitia
TRI Job No.: **G210063**
TRI Control No.: **154125**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.55	8.42	8.35	8.36	8.41						8.42	0.08	8.35	8.55	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	252	316	250	238	287	297	282	280	248	293	274	26	238	316	200
	TD	238	258	265	287	263	260	240	264	271	254	260	14	238	287	
	Apparent Breaking Elongation (percent)															
	MD	59	64	69	58	70	65	61	73	65	60	64	5	58	73	-
	TD	99	84	92	91	103	89	83	93	87	95	92	6	83	103	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	116	120	120	110	111	114	106	120	117	123	116	5	106	123	75
	TD	136	140	117	116	125	121	116	115	120	120	123	9	115	140	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															

Water Temperature oC: 20.7 Correction Factor: 0.9832

	Specimen 1					Specimen 2				
Thickness (mils)	110.00	110.00	110.00	110.00	110.00	112.00	112.00	112.00	112.00	112.00
Specimen Permittivity (sec-1)	1.79	1.79	1.80	1.80	1.77	1.76	1.77	1.77	1.78	1.77
Specimen Flow rate (GPM/ft2)	133.73	134.11	134.38	134.26	132.52	131.67	132.05	132.28	133.32	132.67
Specimen Permeability (cm/sec)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51	0.50
	Specimen 3					**Specimen 4**				
Thickness (mm)	116.00	116.00	116.00	116.00	116.00	113.00	113.00	113.00	113.00	113.00
Specimen Permittivity (sec-1)	1.78	1.78	1.77	1.77	1.77	1.77	1.76	1.77	1.76	1.77
Specimen Flow rate (GPM/ft2)	133.32	133.32	132.05	132.28	132.67	132.52	131.89	132.13	131.67	132.52
Specimen Permeability (cm/sec)	0.53	0.53	0.52	0.52	0.52	0.51	0.51	0.51	0.51	0.51

TEMPERATURE CORRECTED VALUES	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
Permittivity (sec-1)	1.78	0.01			0.5
Flow Rate (GPM/ft2)	132.77	0.73			-
Permeability (cm./ sec.)	0.51	0.01			-

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

TABLE 1B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020003**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Capitia
TRI Job No.: **G210063**
TRI Control No.: **154125**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.208	**0.207**	**0.204**	**0.205**	**0.203**						**0.205**	**0.002**	**0.203**	**0.208**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		733	**659**	**779**	**905**	**634**	**919**	**829**	**721**	**834**	**681**	**769**	**100.4**	**633.9**	**919.2**	**500**

(End of Table 1B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 2.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020097**
Material Description: **330mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154120**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
METHOD	**DESCRIPTION**															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs*															
	Temperature of Test Water: 20.7° C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **8.45E-03**											**8.45E-03**	**N/A**			**$1.5x10^{-3}$**
	Flow Rate (gal/min)															
	MD **0.83**											**0.83**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **40.79**											**40.79**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***420***	***mils (Before)***							
	Plate						***Thickness :***	***406***	***mils (After)***							
	Protective Layer Soil (C#154265) ooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs*															
	Temperature of Test Water: 20.2° C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **4.90E-03**											**4.90E-03**	**N/A**			**$1.0x10^{-3}$**
	Transmissivity (gal./ min./ ft.)															
	MD **23.69**											**23.69**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.48**											**0.48**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***432***	***mils (Before)***							
	Plate						***Thickness :***	***395***	***mils (After)***							
	Protective Layer Soil (C#154265) ooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**9.1**	**12.0**	**17.2**	**8.5**	**7.0**						**10.8**	**4.0**	**7.0**	**17.2**	**1.0**
	Side B of Composite															
	MD	**7.0**	**9.1**	**9.7**	**7.7**	**4.3**						**7.6**	**2.1**	**4.3**	**9.7**	**1.0**

(End of Table 2) (Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 2A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020097**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154126**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.32	8.42	8.41	8.45	8.65						8.45	0.12	8.32	8.65	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	245	241	278	240	304	257	311	285	233	269	266	28	233	311	200
	TD	232	238	271	249	247	256	270	251	256	267	254	13	232	271	
	Apparent Breaking Elongation (percent)															
	MD	67	63	68	65	65	57	63	63	61	62	63	3	57	68	-
	TD	92	92	90	87	94	93	88	85	84	92	90	4	84	94	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	120	120	120	121	119	116	117	115	110	120	118	3	110	121	75
	TD	121	119	116	127	120	124	121	120	124	130	122	4	116	130	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		645	731	767	699	722	682	699	828	748	781	730	53	645	828	500

(End of Table 2A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 2B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020097**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210063**
TRI Control No.: **154127**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.65	8.72	8.52	8.36	8.29						8.51	0.18	8.29	8.72	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	239	295	304	244	264	260	242	309	269	241	267	27	239	309	200
	TD	254	246	250	238	271	276	282	259	256	248	258	14	238	282	
	Apparent Breaking Elongation (percent)															
	MD	71	64	67	57	73	65	61	63	66	64	65	5	57	73	-
	TD	91	84	90	91	93	101	97	90	83	107	93	7	83	107	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	111	110	110	113	116	121	121	116	111	111	114	4	110	121	75
	TD	130	127	114	116	120	120	125	120	118	120	121	5	114	130	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		871	707	687	724	818	697	763	801	810	886	776	72	687	886	500

(End of Table 2B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 3.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020191**
Material Description: **330mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154121**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs*															
	Temperature of Test Water: 20.3 ^{0}C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **8.32E-03**											**8.32E-03**	**N/A**			**1.5x10^{-3}**
	Flow Rate (gal/min)															
	MD **0.81**											**0.81**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **40.21**											**40.21**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***413***	***mils (Before)***							
	Plate						***Thickness :***	***399***	***mils (After)***							
	Protective Layer Soil (C#154265) oooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs*															
	Temperature of Test Water: 20.2 ^{0}C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **4.28E-03**											**4.28E-03**	**N/A**			**1.0x10^{-3}**
	Transmissivity (gal./ min./ ft.)															
	MD **20.66**											**20.66**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.42**											**0.42**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***416***	***mils (Before)***							
	Plate						***Thickness :***	***377***	***mils (After)***							
	Protective Layer Soil (C#154265) oooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**13.6**	**3.3**	**4.5**	**10.3**	**6.3**						**7.6**	**4.3**	**3.3**	**13.6**	**1.0**
	Side B of Composite															
	MD	**10.7**	**5.2**	**4.6**	**8.5**	**4.2**						**6.7**	**2.8**	**4.2**	**10.7**	**1.0**

(End of Table 3) (Sheet 1 of 1)

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LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 3A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020191**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210063**
TRI Control No.: **154128**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.46	**8.56**	**8.65**	**8.58**	**8.45**						**8.54**	**0.08**	**8.45**	**8.65**	**8.0**
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	**254**	**234**	**260**	**299**	**250**	**259**	**230**	**260**	**255**	**293**	**259**	**22**	**230**	**299**	**200**
	TD	**238**	**264**	**273**	**248**	**303**	**253**	**274**	**262**	**247**	**273**	**263**	**18**	**238**	**303**	
	Apparent Breaking Elongation (percent)															
	MD	**65**	**58**	**61**	**61**	**65**	**66**	**71**	**61**	**67**	**70**	**64**	**4**	**58**	**71**	**-**
	TD	**90**	**82**	**101**	**93**	**93**	**87**	**96**	**82**	**98**	**98**	**92**	**7**	**82**	**101**	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	**120**	**117**	**116**	**116**	**114**	**110**	**120**	**121**	**116**	**115**	**116**	**3**	**110**	**121**	**75**
	TD	**136**	**130**	**127**	**119**	**120**	**125**	**120**	**124**	**130**	**130**	**126**	**6**	**119**	**136**	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.7 Correction Factor: 0.9832															
		Specimen 1					Specimen 2									
	Thickness (mils)	118.00	118.00	118.00	118.00	118.00	117.00	117.00	117.00	117.00	117.00					
	Specimen Permittivity (sec-1)	1.73	1.74	1.74	1.74	1.73	1.77	1.77	1.78	1.77	1.77					
	Specimen Flow rate (GPM/ft2)	129.61	129.80	129.99	129.80	129.42	132.05	132.28	132.92	132.28	132.52					
	Specimen Permeability (cm/sec)	0.52	0.52	0.52	0.52	0.52	0.52	0.53	0.53	0.53	0.53					
		Specimen 3					Specimen 4									
	Thickness (mm)	119.00	119.00	119.00	119.00	119.00	120.00	120.00	120.00	120.00	120.00					
	Specimen Permittivity (sec-1)	1.78	1.77	1.76	1.77	1.76	1.69	1.70	1.69	1.68	1.69					
	Specimen Flow rate (GPM/ft2)	133.17	132.52	131.67	132.13	131.89	126.35	126.87	126.73	125.86	125.98					
	Specimen Permeability (cm/sec)	0.54	0.54	0.53	0.53	0.53	0.52	0.52	0.52	0.51	0.51					
									TEMPERATURE CORRECTED VALUES							
											Permittivity (sec-1)	**1.74**	**0.04**			**0.5**
											Flow Rate (GPM/ft2)	**130.19**	**2.84**			**-**
											Permeability (cm./ sec.)	**0.52**	**0.01**			**-**

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

TABLE 3A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020191**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154128**

		SPECIMENS														
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
METHOD	**DESCRIPTION**															
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.203	**0.204**	**0.209**	**0.207**	**0.200**						**0.205**	**0.004**	**0.200**	**0.209**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		687	**658**	**801**	**782**	**727**	**690**	**819**	**787**	**784**	**759**	**750**	**55.2**	**658.3**	**818.5**	**500**

(End of Table 3A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 3B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020191**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154129**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.39	8.52	8.45	8.48	8.35							0.07	8.35	8.52	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	294	288	288	282	258	261	282	275	290	278	280	12	258	294	200
	TD	277	289	243	235	253	243	240	237	273	299	259	23	235	299	
	Apparent Breaking Elongation (percent)															
	MD	65	66	65	61	70	61	55	67	74	60	64	5	55	74	-
	TD	87	93	87	85	93	93	93	87	84	99	90	5	84	99	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	115	114	120	120	116	115	120	125	124	120	119	4	114	125	75
	TD	125	120	120	119	120	123	126	130	120	121	122	3	119	130	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.*															
	Water Temperature oC: 20.7 Correction Factor: 0.9832															
		Specimen 1					Specimen 2									
	Thickness (mils)	112.00	112.00	112.00	112.00	112.00	110.00	110.00	110.00	110.00	110.00					
	Specimen Permittivity (sec-1)	1.77	1.77	1.76	1.77	1.77	1.77	1.76	1.76	1.77	1.77					
	Specimen Flow rate (GPM/ft2)	132.28	132.13	131.67	132.05	132.52	132.05	131.67	131.89	132.13	132.52					
	Specimen Permeability (cm/sec)	0.50	0.50	0.50	0.50	0.50	0.49	0.49	0.49	0.49	0.50					
		Specimen 3					Specimen 4									
	Thickness (mm)	117.00	117.00	117.00	117.00	117.00	114.00	114.00	114.00	114.00	114.00					
	Specimen Permittivity (sec-1)	1.72	1.73	1.72	1.70	1.71	1.73	1.74	1.75	1.74	1.74					
	Specimen Flow rate (GPM/ft2)	128.63	129.02	128.46	126.96	127.92	129.61	129.80	130.77	130.18	130.18					
	Specimen Permeability (cm/sec)	0.51	0.51	0.51	0.50	0.51	0.50	0.50	0.51	0.50	0.50					
									TEMPERATURE CORRECTED VALUES							
												Permittivity (sec-1)	**1.75**	**0.02**			**0.5**
												Flow Rate (GPM/ft2)	**130.62**	**1.87**			**-**
												Permeability (cm./ sec.)	**0.50**	**0.01**			**-**

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

TABLE 3B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020191**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154129**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.205	**0.206**	**0.199**	**0.202**	**0.206**						**0.204**	**0.003**	**0.199**	**0.206**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		687	**829**	**748**	**758**	**699**	**711**	**794**	**701**	**869**	**814**	**761**	**63.2**	**687.3**	**869.2**	**500**

(End of Table 3B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 4.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020285**
Material Description: **330mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154122**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs*															
	Temperature of Test Water: 20.5^{0}C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **8.06E-03**											**8.06E-03**	**N/A**			**1.5x10^{-3}**
	Flow Rate (gal/min)															
	MD **0.79**											**0.79**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **38.92**											**38.92**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***406***	***mils (Before)***							
	Plate						***Thickness :***	***380***	***mils (After)***							
	Protective Layer Soil (C#154265) ooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs*															
	Temperature of Test Water: 20.5^{0}C Specimen Size: 12" x 14"															
	Transmissivity ($m.^2$/ sec.)															
	MD **4.61E-03**											**4.61E-03**	**N/A**			**1.0x10^{-3}**
	Transmissivity (gal./ min./ ft.)															
	MD **22.25**											**22.25**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.45**											**0.45**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***427***	***mils (Before)***							
	Plate						***Thickness :***	***392***	***mils (After)***							
	Protective Layer Soil (C#154265) ooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**4.1**	**3.7**	**4.6**	**3.8**	**3.9**						**4.0**	**0.4**	**3.7**	**4.6**	**1.0**
	Side B of Composite															
	MD	**2.5**	**2.7**	**3.6**	**3.1**	**2.3**						**2.9**	**0.5**	**2.3**	**3.6**	**1.0**

(End of Table 4) (Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 4A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020285**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154130**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.52	8.55	8.65	8.59	8.72						8.61	0.08	8.52	8.72	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	282	274	271	305	232	298	292	267	306	304	283	23	232	306	200
	TD	301	244	238	230	272	264	298	256	266	231	260	25	230	301	
	Apparent Breaking Elongation (percent)															
	MD	58	69	66	62	60	70	73	63	65	79	66	6	58	79	-
	TD	98	97	87	91	105	97	89	89	85	90	93	6	85	105	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	110	113	116	117	116	111	113	111	106	120	113	4	106	120	75
	TD	117	120	121	130	130	127	120	116	117	125	122	5	116	130	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		843	759	770	738	815	873	673	667	816	754	771	68	667	873	500

(End of Table 4A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 4B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020285**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Cipitia
TRI Job No.: **G210063**
TRI Control No.: **154131**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs. Minimum
METHOD	**DESCRIPTION**															
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.49	8.65	8.72	8.49	8.42						8.56	0.12	8.42	8.72	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	246	245	307	237	299	284	296	233	255	279	268	28	233	307	200
	TD	236	260	234	264	256	287	266	294	248	274	262	20	234	294	
	Apparent Breaking Elongation (percent)															
	MD	68	67	62	58	69	67	64	58	61	77	65	6	58	77	-
	TD	93	85	85	94	95	95	89	94	91	87	91	4	85	95	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	110	113	116	120	120	121	130	117	115	116	118	5	110	130	75
	TD	130	127	121	120	110	120	127	125	120	116	122	6	110	130	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		750	556	868	822	691	606	803	643	828	863	743	112	556	868	500

(End of Table 4B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 5.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020379**
Material Description: **330mil Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154123**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D4716	Transmissivity *Tested at Normal Pressure : 700 psf, Gradient: 0.02 , Seating Time: 24 hrs*															
	Temperature of Test Water: 21.1 ^{0}C Specimen Size: 12" x 14"															
	Transmissivity (m.^{2}/ sec.)															
	MD **8.84E-03**											**8.84E-03**	**N/A**			**1.5x10^{-3}**
	Flow Rate (gal/min)															
	MD **0.88**											**0.88**	**N/A**			**-**
	Transmissivity (gal/min/ft)															
	MD **42.69**											**42.69**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***425***	***mils (Before)***							
	Plate						***Thickness :***	***408***	***mils (After)***							
	Protective Layer Soil (C#154265) oooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D4716	Transmissivity *Tested at Normal Pressure : 15,000 psf, Gradient: 0.02 , Seating Time: 100 hrs*															
	Temperature of Test Water: 20.7 ^{0}C Specimen Size: 12" x 14"															
	Transmissivity (m.^{2}/ sec.)															
	MD **5.36E-03**											**5.36E-03**	**N/A**			**1.0x10^{-3}**
	Transmissivity (gal./ min./ ft.)															
	MD **25.89**											**25.89**	**N/A**			**-**
	Flow Rate (gal./ min)															
	MD **0.53**											**0.53**	**N/A**			**-**
	Test Set-Up:						***Thickness :***	***433***	***mils (Before)***							
	Plate						***Thickness :***	***395***	***mils (After)***							
	Protective Layer Soil (C#154265) oooooooo															
	Geocomposite XXXXXX															
	60mil HDPE Microspike =========															
	Plate															
ASTM D7005	Ply Bond Adhesion (lbs/ in.- width)															
	Instron Tensile Testing Machine is set for 305mm(12 in./min.) constant rate of extension with initial gauge length of 50mm.															
	Full scale force range used for testing: 100 lbs.															
	Side A of Composite															
	MD	**3.6**	**4.0**	**5.3**	**4.5**	**4.0**						**4.3**	**0.7**	**3.6**	**5.3**	**1.0**
	Side B of Composite															
	MD	**3.5**	**3.6**	**3.9**	**4.0**	**3.5**						**3.7**	**0.2**	**3.5**	**4.0**	**1.0**

(End of Table 5) (Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

TABLE 5A.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020379**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154132**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.72	8.54	8.45	8.39	8.85						8.59	0.19	8.39	8.85	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	288	307	248	291	309	279	255	292	252	275	280	22	248	309	200
	TD	229	273	258	240	301	242	255	245	267	280	259	22	229	301	
	Apparent Breaking Elongation (percent)															
	MD	67	63	65	62	69	64	64	66	60	68	65	3	60	69	-
	TD	89	91	92	93	105	103	95	87	94	92	94	6	87	105	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	113	116	110	101	110	112	113	116	125	124	114	7	101	125	75
	TD	136	127	120	118	115	120	120	121	124	131	123	6	115	136	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		698	701	779	724	639	713	926	799	772	772	752	78	639	926	500

(End of Table 5A)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

GAI-LAP

TABLE 5B.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/28/2021**
Date Reported: **3/9/2021**
Client Sample ID: **R#010351020379**
Material Description: **8oz Non-Woven Geotextile Component of Double-Sided Geocomposite**

QC'd By: Maria Espitia
TRI Job No.: **G210063**
TRI Control No.: **154133**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**Minimum**
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.28	8.49	8.35	8.41	8.65						8.44	0.14	8.28	8.65	8.0
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	286	266	297	318	289	274	347	239	295	315	292	30	239	347	200
	TD	245	243	263	256	254	241	288	285	264	297	264	20	241	297	
	Apparent Breaking Elongation (percent)															
	MD	67	68	66	67	69	58	69	61	62	67	65	4	58	69	-
	TD	89	91	84	97	94	85	92	97	93	97	92	5	84	97	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	103	112	106	113	120	121	121	120	119	116	115	7	103	121	75
	TD	121	121	120	130	127	111	110	120	117	116	119	6	110	130	
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241.															
	Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		830	786	754	733	635	812	690	597	627	705	717	81	597	830	500

(End of Table 5B)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

Section 4
Geotextile

February 5, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 02/05/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Conformance testing of one (1) 8oz Non Woven Geotextile sample.

PROJECT NAME: JED Cell 14 DATE REPORTED: **February 5, 2021**

REFERENCE TRI JOB NO.: G210040

DATE RECEIVED: January 15, 2021

SAMPLE SENT BY: SKAPS, GA

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI CONTROL NUMBER*
R#65276.4	154007

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D5261	Mass Per Unit Area
2. ASTM D4632	Grab Tensile
3. ASTM D4533	Trapezoidal Tear Resistance
4. ASTM D6241	Static Puncture Resistance
5. ASTM D4751	Apparent Opening Size
6. ASTM D4491	Permittivity

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Cora Queja
TRI-CA Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Retained conformance samples are disposed of after one (1) month.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total *(including this sheet)*

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/15/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#65276.4**
Material Description: **8oz Non Woven Geotextile**

QC'd By: Maria Espitia
TRI Job No.: **G210040**
TRI Control No.: **154007**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. MARV
ASTM D5261	Mass per Unit Area (oz/ yd.^{2})															
	Test Specimen Size: 4" x 8"															
		8.49	8.29	8.46	8.26	8.55						8.41	0.13	8.26	8.55	8
ASTM D4632	Grab Tensile															
	Test was performed as directed in D4632, dry condition.															
	Grab Breaking Load (lbs)															
	MD	284	274	278	266	303	308	250	293	291	237	278	23	237	308	200
	TD	260	251	240	254	270	266	271	265	280	254	261	12	240	280	
	Apparent Breaking Elongation (percent)															
	MD	63	65	62	67	67	69	62	75	72	63	67	4	62	75	-
	TD	87	93	95	85	93	98	96	93	95	98	93	4	85	98	
ASTM D4533	Trapezoid Tear Strength (lbs)															
	Specimens were tested as directed in Test Method D4533, dry condition.															
	MD	102	106	111	120	117	126	111	110	120	116	114	7	102	126	75
	TD	122	125	117	118	118	123	126	132	126	120	123	5	117	132	
ASTM D4491	Water Permittivity															
Constant Head	*Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen.*															
	BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used. *Type of water= De-aerated*															
	Water Temperature oC: 20.6 Correction Factor: 0.9856															
		Specimen 1					Specimen 2									
	Thickness (mils)	120.00	120.00	120.00	120.00	120.00	114.00	114.00	114.00	114.00	114.00					
	Specimen Permittivity (sec-1)	1.74	1.75	1.74	1.74	1.75	1.77	1.78	1.77	1.77	1.77					
	Specimen Flow rate (GPM/ft2)	129.93	130.70	130.12	130.31	130.70	132.60	132.84	132.22	132.37	132.60					
	Specimen Permeability (cm/sec)	0.53	0.53	0.53	0.53	0.53	0.51	0.51	0.51	0.51	0.51					
		Specimen 3					Specimen 4									
	Thickness (mils)	119.00	119.00	119.00	119.00	119.00	117.00	117.00	117.00	117.00	117.00					
	Specimen Permittivity (sec-1)	1.76	1.76	1.75	1.75	1.74	1.75	1.75	1.74	1.74	1.74					
	Specimen Flow rate (GPM/ft2)	131.49	131.49	130.88	130.50	130.31	131.09	130.70	129.93	130.12	130.31					
	Specimen Permeability (cm/sec)	0.53	0.53	0.53	0.53	0.53	0.52	0.52	0.52	0.52	0.52					
											Permittivity (sec-1)	**1.75**	**0.01**			**0.5**
											Flow Rate (GPM/ft2)	**131.06**	**1.01**			**-**
											Permeability (cm./ sec.)	**0.52**	**0.01**			**-**

Continued on next page

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
TRI Environmental, Inc. dba Precision Geosynthetic Laboratories International

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Brantley Engineering, LLC

PROJECT: JED Cell 14

Date Received: **1/15/2021**
Date Reported: **2/5/2021**
Client Sample ID: **R#65276.4**
Material Description: **8oz Non Woven Geotextile**

QC'd By: Maria Espitia
TRI Job No.: **G210040**
TRI Control No.: **154007**

		SPECIMENS														Proj.
		1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Specs.
METHOD	**DESCRIPTION**															**MARV**
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		70-100	**70-100**	**70-100**	**70-100**	**70-100**						**70-100**	N/A	N/A	N/A	-
ASTM D4751	Apparent Opening Size (mm)															
	Specimens were tested as directed in Test Method D4751.Type of sieve shaker used is W.S. Tyler Rotap.															
		0.208	**0.206**	**0.207**	**0.203**	**0.208**						**0.206**	**0.002**	**0.203**	**0.208**	**≤ 0.21**
ASTM D6241	Static Puncture Strength (lbs)															
	The specimens were tested in accordance with ASTM D6241. Specimens were conditioned for 1 hr in the laboratory at 21+/-5° C (75+/-3.6oF) and at 60%+/-10 Relative Humidity. Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.															
		791	**809**	**832**	**828**	**800**	**772**	**867**	**838**	**824**	**828**	**819**	**27**	**772**	**867**	**500**

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:
MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION

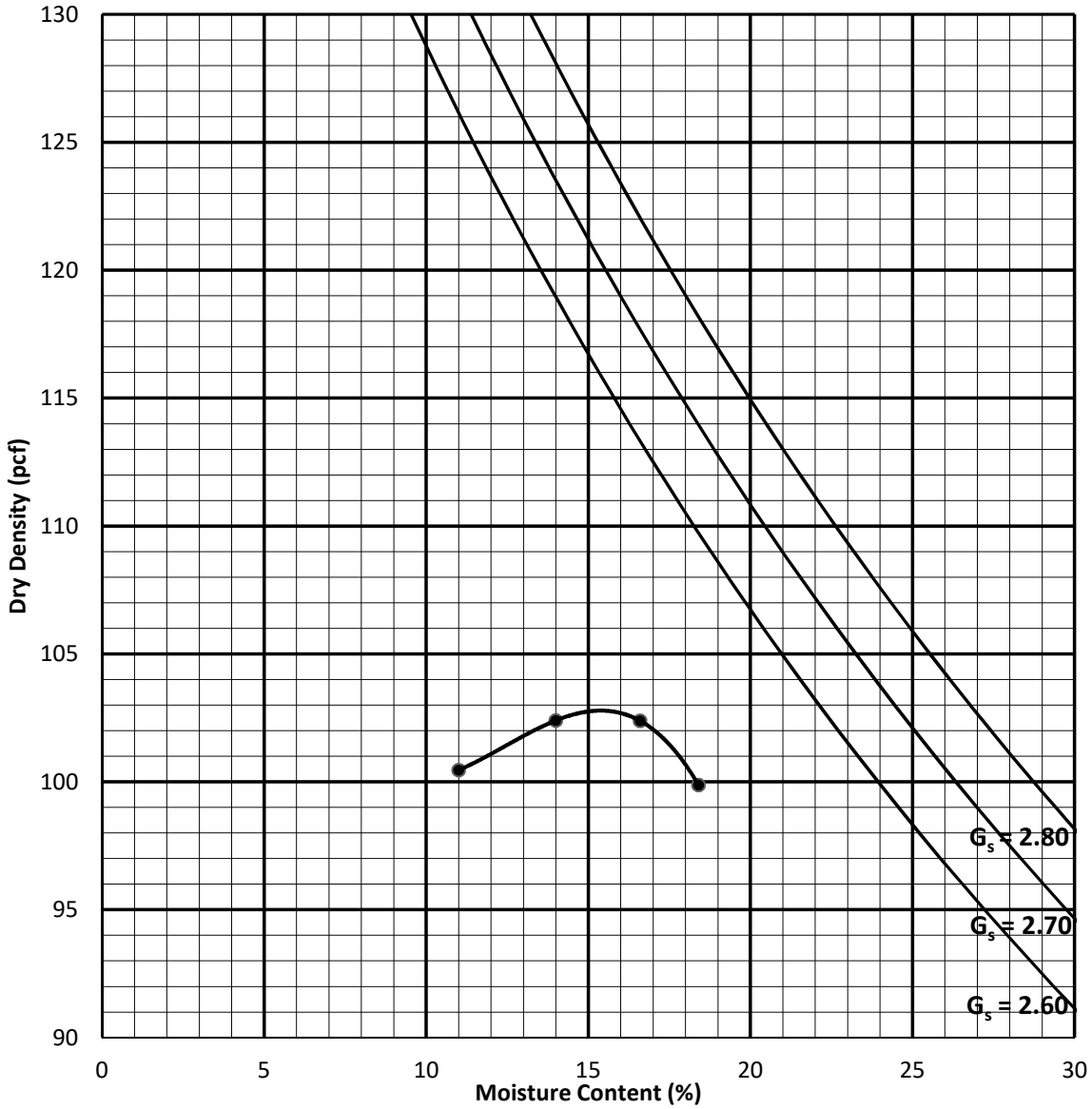
Section 5
Interface Friction Test

COMPACTION TEST REPORT

Project: TRI # G210049 C# 154267 **GLA No.** 2001-068
Sample: Structural Fill Soil **Date:** 2/17/2021
Description: Brown, F. Silty Sand **By:** LD

ASTM D698	Method A	Volume (cf): 0.03333		# Blows: 25	# Layers: 3
Specimen		A	B	C	D
Wet Weight (grs)		1765	1805	1788	1686
Wet Density (pcf)		116.7	119.4	118.3	111.5
Moisture Content (%)		14.0	16.6	18.4	11.0
Dry Density (pcf)		102.4	102.4	99.9	100.5

Max. Dry Density : 103.0 pcf
Opt. Water Content: 15.5 %



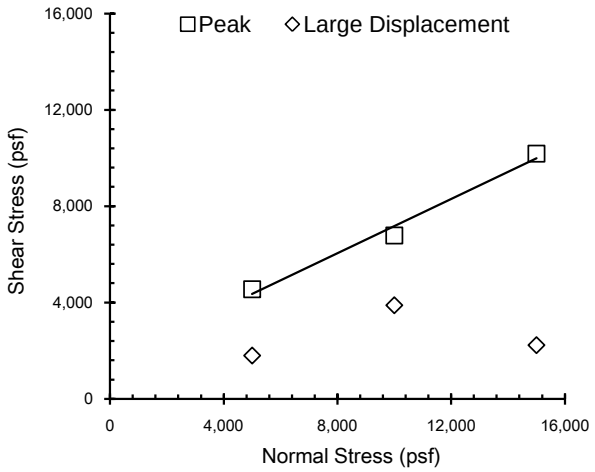
Geo-Logic ASSOCIATES

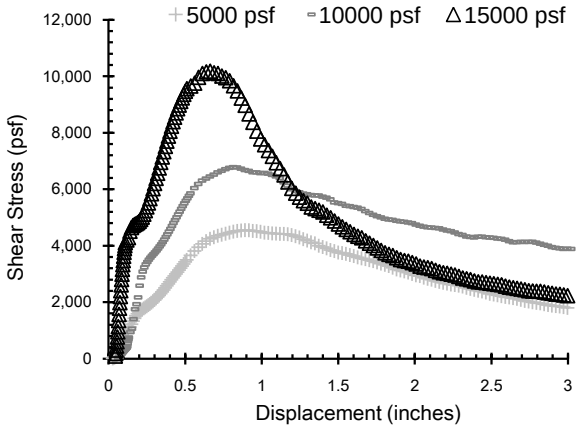
Internal Shear Strength of Geosynthetic Clay Liner by Direct Shear (ASTM D6243)

Client: Brantley Eng'g
Project: JED Landfill Cell 14

TRI Log #: G210049-1
Richard S. Lacey, P.E. 2/3/2021
Analysis & Quality Review/Date

CETCO Bentomat ST GCL





Test Results, Linear Regression			
Mohr-Coulomb Parameters		Peak	Large Displacement
Friction Angle	Degrees	29.4	Non-linear Shear Stresses *Refer to per-normal-stress secant angles.*
Y-intercept or Adhesion	psf	1,541	
Minimum Secant Angle	Degrees	34.1	8.5

Note - Large Displacement Values Reported for 3.0 inches of Displacement

Test Conditions		
	CETCO Bentomat ST GCL R# 338	
	GCL Internal Shear	
Conditioning	WET - Loading applied and interface soaked for 24 hours prior to shear.	
Shearing Rate	inches/minute	0.04

Test Notes

GCL sheared internally at all stresses.

Specimen No.		-	1	2	3
Normal Stress		psf	5,000	10,000	15,000
Box Edge Dimension		in	12	12	12
Equivalent Bearing Slide Resist. Correction		psf	56	103	151
Peak	Shear Stress	psf	4,551	6,783	10,181
	Secant Angle	deg.	42.3	34.1	34.2
Large Displacement	Shear Stress	psf	1,797	3,885	2,230
	Secant Angle	deg.	19.8	21.2	8.5

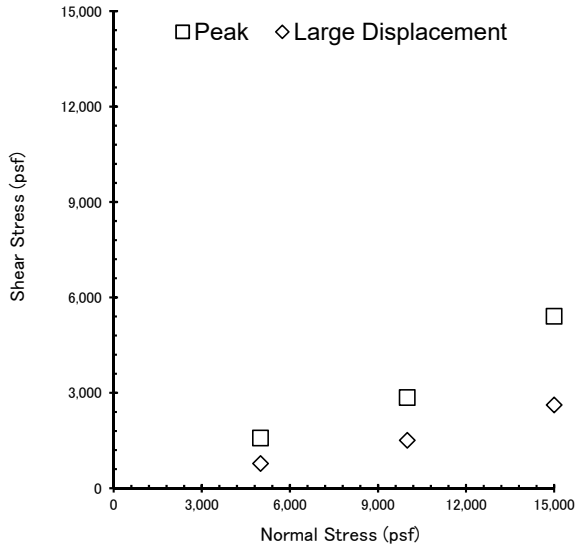
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

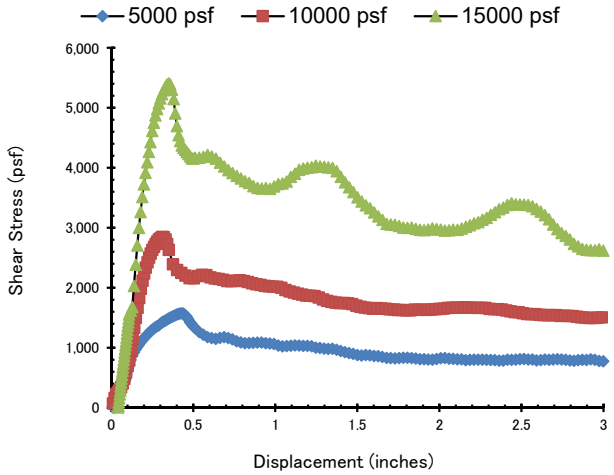
Multi-Layered Interface Friction Test (ASTM D5321 Modified)

Client: Brantley Eng'g
Project: JED Landfill Cell 14
(Bottom Liner System)

TRI Log #: G210049-2
Richard S. Lacey, P.E. 3/1/2021
Analysis & Quality Review/Date

Liner Protective Cover vs 330mil DS Geocomposite vs 60mil DS HDPE Microspike vs 270mil DS Geocomposite





Test Results, Linear Regression			
Mohr-Coulomb Parameters		Peak	Large Displacement
Friction Angle	Degrees	Negative Intercept *Refer to per-normal-stress secant angles.*	
Y-intercept or Adhesion	psf		
Minimum Secant Angle	Degrees	15.9	8.6

Note - Large Displacement Values Reported for 3.0 inches of Displacement

Test Conditions		
Upper Box	Protective Cover Soil (*hand-tamped at as-received MC*)	
Floating	(Primary GC) SKAPS TN330-2-8 DS Geocomposite R# 010351020191	
	(Primary GM) AGRU 60mil HDPE Microspike R# GTD0067930046 *(shiny side down against 270mil DSGC)*	
Lower Box	(Secondary GC) SKAPS TN270-2-6 DS Geocomposite R# 0103151010162	
Conditioning	WET - Loading applied and interface soaked for 24 hours prior to shear.	
Shearing Rate	inches/minute	0.04

Test Notes

Shearing occurred between the primary geomembrane and secondary geocomposite (270mil) interface at all stresses.

Specimen No.		-	1	2	3
Normal Stress		psf	5,000	10,000	15,000
Box Edge Dimension		in	12	12	12
Equivalent Bearing Slide Resist. Correction		psf	56	103	151
Peak	Shear Stress	psf	1,578	2,848	5,406
	Secant Angle	deg.	17.5	15.9	19.8
Large Displacement	Shear Stress	psf	776	1,506	2,620
	Secant Angle	deg.	8.8	8.6	9.9
Pre-test Asperity Height, Avg. of 5 Meas. (dull side)		mils	30	30	29
Pre-test Asperity Height, Avg. of 5 Meas. (shiny side)		mils	30	30	30

NOTE: Observed behavior may be attributed to the non-standard, multi-layered method employed.

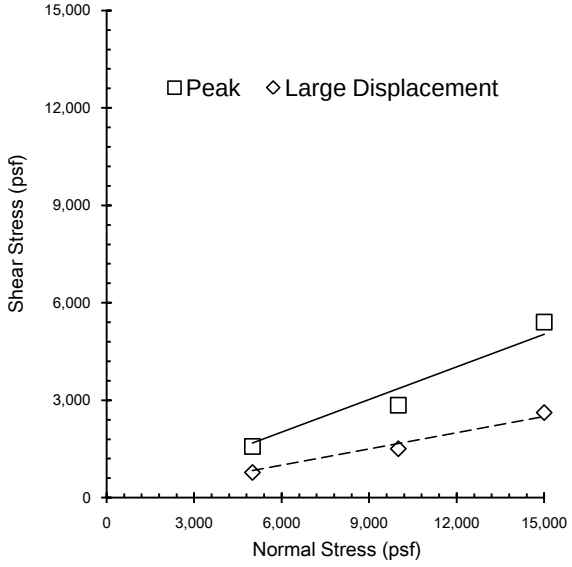
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

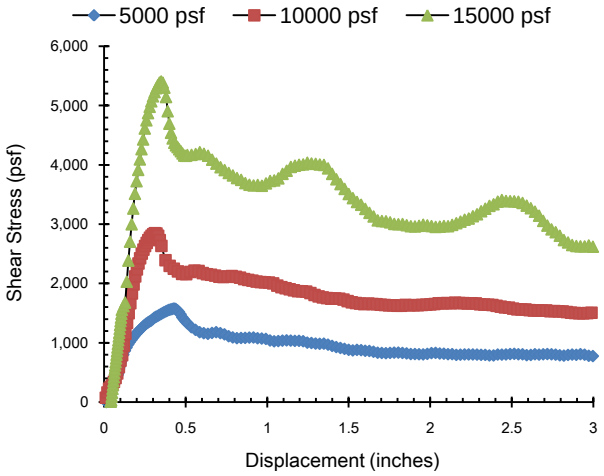
Multi-Layered Interface Friction Test (ASTM D5321 Modified)

Client: Brantley Eng'g
Project: JED Landfill Cell 14
(Bottom Liner System)

TRI Log #: G210049-2
Richard S. Lacey, P.E. 3/5/2021
Analysis & Quality Review/Date

Liner Protective Cover vs 330mil DS Geocomposite vs 60mil DS HDPE Microspike vs 270mil DS Geocomposite





Test Results, Linear Regression			
Mohr-Coulomb Parameters		Peak	Large Displacement
Friction Angle	Degrees	18.6	9.4
Y-intercept or Adhesion	psf	0 (Forced)	0 (Forced)
Minimum Secant Angle	Degrees	15.9	8.6

Note - Large Displacement Values Reported for 3.0 inches of Displacement

Test Conditions		
Upper Box	Protective Cover Soil (*hand-tamped at as-received MC*)	
Floating	(Primary GC) SKAPS TN330-2-8 DS Geocomposite R# 010351020191	
	(Primary GM) AGRU 60mil HDPE Microspike R# GTD0067930046 *(shiny side down against 270mil DSGC)*	
Lower Box	(Secondary GC) SKAPS TN270-2-6 DS Geocomposite R# 0103151010162	
Conditioning	WET - Loading applied and interface soaked for 24 hours prior to shear.	
Shearing Rate	inches/minute	0.04

Test Notes

Shearing occurred between the primary geomembrane and secondary geocomposite (270mil) interface at all stresses. Linear regression forced through the origin at the client's request.

Specimen No.		-	1	2	3
Normal Stress		psf	5,000	10,000	15,000
Box Edge Dimension		in	12	12	12
Equivalent Bearing Slide Resist. Correction		psf	56	103	151
Peak	Shear Stress	psf	1,578	2,848	5,406
	Secant Angle	deg.	17.5	15.9	19.8
Large Displacement	Shear Stress	psf	776	1,506	2,620
	Secant Angle	deg.	8.8	8.6	9.9
Pre-test Asperity Height, Avg. of 5 Meas. (dull side)		mils	30	30	29
Pre-test Asperity Height, Avg. of 5 Meas. (shiny side)		mils	30	30	30

NOTE: Observed behavior may be attributed to the non-standard, multi-layered method employed.

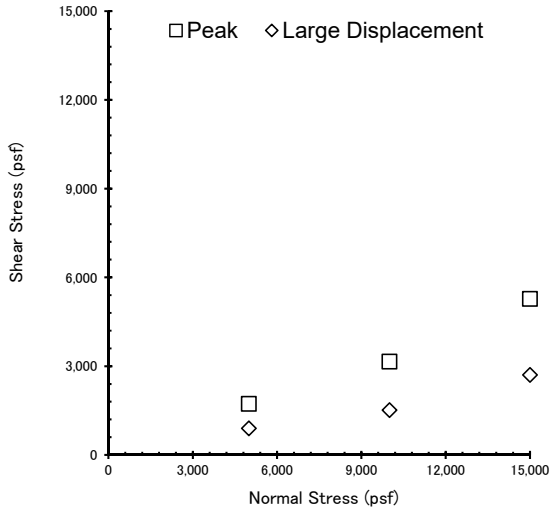
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

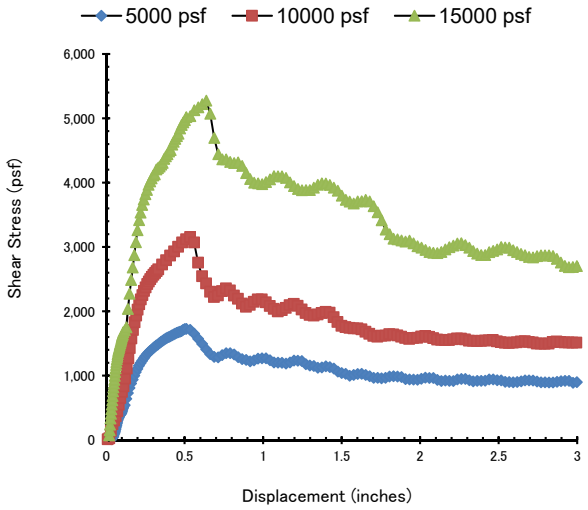
Multi-Layered Interface Friction Test (ASTM D6243 Modified)

Client: Brantley Eng'g
Project: JED Landfill Cell 14
(Bottom Liner System)

TRI Log #: G210049-3
Richard S. Lacey, P.E. 3/1/2021
Analysis & Quality Review/Date

General Fill vs Bentomat ST GCL vs 60mil DS HDPE Microspike vs 270mil DS Geocomposite vs 60mil DS HDPE Microspike





Test Results, Linear Regression			
Mohr-Coulomb Parameters		Peak	Large Displacement
Friction Angle	Degrees	Negative Intercept *Refer to per-normal-stress secant angles.*	
Y-intercept or Adhesion	psf		
Minimum Secant Angle	Degrees	17.5	8.6

Note - Large Displacement Values Reported for 3.0 inches of Displacement

Test Conditions		
Upper Box	Structural Fill Soil *(ω = 15.5%, γ_d =97.9 pcf)*	
Floating	CETCO Bentomat ST GCL R# 338 *(white side up against soil)*	
	(Secondary GM) AGRU 60mil HDPE Microspike R# GTD0067930055 *(shiny side up against GCL)*	
	(Secondary GC) SKAPS TN270-2-6 DS Geocomposite R# 0103151010162	
Lower Box	(Primary GM) AGRU 60mil HDPE Microspike R# GTD0067930046 *(shiny side up against geocomposite)*	
Conditioning	WET - Loading applied and interface soaked for 24 hours prior to shear.	
Shearing Rate	inches/minute	0.04

Test Notes

Shearing occurred at the secondary geocomposite (270mil) and primary HDPE (bottom HDPE) interface at all stresses.

Specimen No.		-	1	2	3
Normal Stress		psf	5,000	10,000	15,000
Box Edge Dimension		in	12	12	12
Equivalent Bearing Slide Resist. Correction		psf	56	103	151
Peak	Shear Stress	psf	1,727	3,155	5,274
	Secant Angle	deg.	19.1	17.5	19.4
Large Displacement	Shear Stress	psf	899	1,514	2,702
	Secant Angle	deg.	10.2	8.6	10.2
Pre-test Asperity Height, Avg. of 5 Meas. (Secondary GM,shiny side)		mils	30	31	30
Pre-test Asperity Height, Avg. of 5 Meas. (Secondary GM,dull side)		mils	29	30	30
Pre-test Asperity Height, Avg. of 5 Meas. (Primary GM,shiny side)		mils	30	30	31

NOTE: Observed behavior may be attributed to the non-standard, multi-layered method employed.

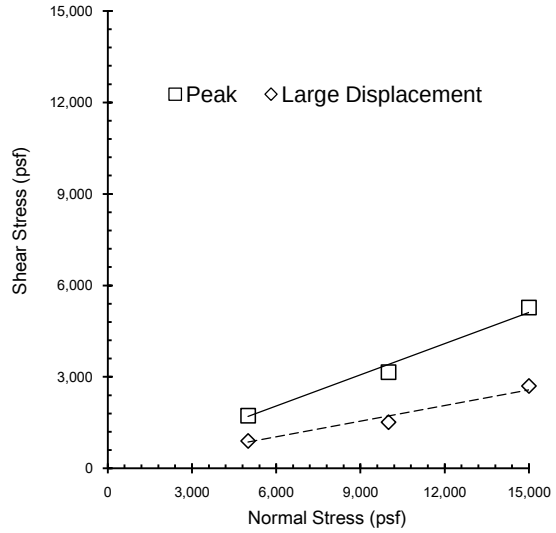
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

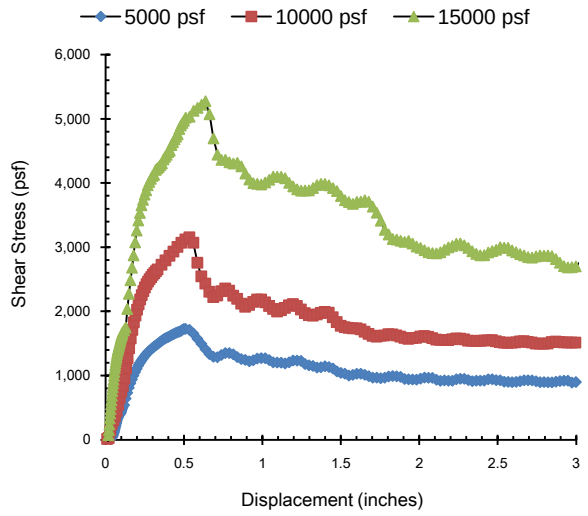
Multi-Layered Interface Friction Test (ASTM D6243 Modified)

Client: Brantley Eng'g
Project: JED Landfill Cell 14
(Bottom Liner System)

TRI Log #: G210049-3
Richard S. Lacey, P.E. 3/5/2021
Analysis & Quality Review/Date

General Fill vs Bentomat ST GCL vs 60mil DS HDPE Microspike vs 270mil DS Geocomposite vs 60mil DS HDPE Microspike





Test Results, Linear Regression			
Mohr-Coulomb Parameters		Peak	Large Displacement
Friction Angle	Degrees	18.8	9.8
Y-intercept or Adhesion	psf	0 (Forced)	0 (Forced)
Minimum Secant Angle	Degrees	17.5	8.6

Note - Large Displacement Values Reported for 3.0 inches of Displacement

Test Conditions		
Upper Box	Structural Fill Soil *(ω = 15.5%, γ_d =97.9 pcf)*	
Floating	CETCO Bentomat ST GCL R# 338 *(white side up against soil)*	
	(Secondary GM) AGRU 60mil HDPE Microspike R# GTD0067930055 *(shiny side up against GCL)*	
	(Secondary GC) SKAPS TN270-2-6 DS Geocomposite R# 0103151010162	
Lower Box	(Primary GM) AGRU 60mil HDPE Microspike R# GTD0067930046 *(shiny side up against geocomposite)*	
Conditioning	WET - Loading applied and interface soaked for 24 hours prior to shear.	
Shearing Rate	inches/minute	0.04

Test Notes

Shearing occurred at the secondary geocomposite (270mil) and primary HDPE (bottom HDPE) interface at all stresses. Linear regression forced through the origin at the client's request.

Specimen No.		-	1	2	3
Normal Stress		psf	5,000	10,000	15,000
Box Edge Dimension		in	12	12	12
Equivalent Bearing Slide Resist. Correction		psf	56	103	151
Peak	Shear Stress	psf	1,727	3,155	5,274
	Secant Angle	deg.	19.1	17.5	19.4
Large Displacement	Shear Stress	psf	899	1,514	2,702
	Secant Angle	deg.	10.2	8.6	10.2
Pre-test Asperity Height, Avg. of 5 Meas. (Secondary GM,shiny side)		mils	30	31	30
Pre-test Asperity Height, Avg. of 5 Meas. (Secondary GM,dull side)		mils	29	30	30
Pre-test Asperity Height, Avg. of 5 Meas. (Primary GM,shiny side)		mils	30	30	31

NOTE: Observed behavior may be attributed to the non-standard, multi-layered method employed.

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

APPENDIX F
Subgrade Acceptance Certificates

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
SUBGRADE FOR PANELS S1-S14 @ 11,810 SF.

CQA REPRESENTATIVE:

Date: 7-20-21

Signature:

Name: KEVIN LESLEY

Title: QUALITY MGR

CONTRACTORS REP:

Date: 7-20-21

Signature: William Hall

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/20/21

Signature:

Name: Gerardo Ruiz

Title: Sup.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
SUBGRADE FOR PANELS S15-S29@ 33,791 SQ FT.

CQA REPRESENTATIVE:

Date: 7-21-21

Signature:

Name: Ryan LESLEY

Title: QUALITY MGR.

CONTRACTORS REP:

Date: 7-21-21

Signature: William PH

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/21/21

Signature:

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
COVERED PANELS S-30 to S-34 @ 57,915 SF.

CQA REPRESENTATIVE:

Date: 7-22-21

Signature:

Name: KEVIN LESLEY

Title: QUALITY MGR.

CONTRACTORS REP:

Date: 7/22/21

Signature: William T. [illegible]

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/22/21

Signature:

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
Approved AREA Covers Panels S-35 to S-39 @ 57,870 sf.

CQA REPRESENTATIVE:

Date: 7-23-21

Signature:

Name: Kevin Lesley

Title: CQA MGR.

CONTRACTORS REP:

Date: 7-23-21

Signature:

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/23/21

Signature:

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
APPROVED AREA COVERS PANELS S40 - S42 @ 34,830 sf.

CQA REPRESENTATIVE:

Date: 7-27-21

Signature:

Name: KEVIN LOGLER

Title: CQA MGR

CONTRACTORS REP:

Date: 7-27-21

Signature:

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/27/21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install A Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile A HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
APPROVED AREA COVERED BY S 43 - S45 @ 34,897 SF.

CQA REPRESENTATIVE:

Date: 7-28-21

Signature:

Name: REVAN LESCOE

Title: CQA MGR.

CONTRACTORS REP:

Date: 7/28/21

Signature: William T. H

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/28/21

Signature:

Name: Gerardo Ruiz

Title: Super.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
Approved Area Covered By Panels S-46 to S-49 @ 34.965 SF

CQA REPRESENTATIVE:

Date: 7-30-21

Signature:

Name: Kevin Lesley

Title: CQA MGR.

CONTRACTORS REP:

Date: 7-30-21

Signature:

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 7/30/21

Signature:

Name: Gerardo Ruiz

Title: Superintendent

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
AREA HAS BEEN PREPPED AND APPROVED FOR DEPLOYMENT OF GCL AND S50-S53 HDPE SECONDARY LAYER PANELS. 92,835 SF.

CQA REPRESENTATIVE:

Date: 8.2.21

Signature:

Name: KEVIN LESLIE

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-2-21

Signature: William P.

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8.2.21

Signature:

Name: Gerardo Ruiz

Title: Superinten.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite __ __ Geotextile __X__HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
AREA HAS BEEN PREPPED AND APPROVED FOR DEPLOYMENT OF GCL + 54-55 HDPE SECONDARY LINER PANELS.. 23,130 SF.

CQA REPRESENTATIVE:

Date: 8-3-21

Signature:

Name: KEVIN LESLEY

Title: CQA MGR

CONTRACTORS REP:

Date: 8-3-21

Signature:

Name: Will

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-3-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite __/__ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
AREA HAS BEEN PREPPED AND APPROVED FOR DEPLOYMENT, GCL & S56-S61 HDPE SECONDARY LAYER. 69,390 SF.

CQA REPRESENTATIVE:

Date: 8-5-21

Signature:

Name: KEVIN LESLEY

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-5-21

Signature: William

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8-5-21

Signature:

Name: Gerardo Gil

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
AREA HAS BEEN PREPPED AND APPROVED FOR GCL PLACEMENT + HDPE LINER, SECONDARY LAYER FOR PANELS S-62 TO S64, 34,785 SF.

CQA REPRESENTATIVE:

Date: 8-6-21

Signature:

Name: KEVIN LESLEY

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-6-21

Signature: William

Name: Will

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-6-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: AREA PREPARED COVERED BY GCL + PANELS S65 - S69, HDPE SECONDARY LAYER, 57,937.5 SF.

CQA REPRESENTATIVE:

Date: 8-9-21

Signature: [signature]

Name: KEVIN LESLEY

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-9-21

Signature: William P. [signature]

Name: Will

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-9-21

Signature: [signature]

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: COVERED BY GCL & SECONDARY PANELS S70-S74 @ 58,162.5

CQA REPRESENTATIVE:

Date: 8-10-21

Signature:

Name: Kevin Lesley

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-10-21

Signature: William DK

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8-10-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
Covered by GCL and HDPE Panels S75-S78
@ 46,670 SF.

CQA REPRESENTATIVE:

Date: 8-11-21

Signature:

Name: Kevin Lesley

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-11-21

Signature: William P.

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8-11-21

Signature:

Name: Gerardo Ruiz

Title: Supervint.

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
AREA COVERED BY GCL & HDPE
PANELS 579-580 @ 23,220 SF.

CQA REPRESENTATIVE:

Date: 8-12-21

Signature:

Name: KEVIN LESLEY

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-12-21

Signature: William P/A

Name: WILL

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-12-21

Signature:

Name: Gerardo Ruiz

Title: Superint

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
Covered by GCL of Secondary Panels S81-S87 @ 81,585 SF.

CQA REPRESENTATIVE:

Date: 8-18-21

Signature:

Name: Kevin Lesley

Title: CQA MGR

CONTRACTORS REP:

Date: 8-18-21

Signature: William P.A

Name: Will

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8-18-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
COVERED BY GCL + SECONDARY PANELS S88 - S93 @ 69,930 SF

CQA REPRESENTATIVE:

Date: 8-19-21

Signature:

Name: Kevin Cegley

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-19-21

Signature: William P. K

Name: Will

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-19-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: Covered by GCL & Secondary Panels S94-S95 @ 23,220 SF.

CQA REPRESENTATIVE:

Date: 8-20-21

Signature: [signature]

Name: Kevin Cisco

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-20-21

Signature: [signature]

Name: Will

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-20-21

Signature: [signature]

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install __X__ Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile __X__ HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: Covered By GCL & Panels 596 - 5114 @ 35,595 SF.

CQA REPRESENTATIVE:

Date: 8-24-21

Signature:

Name: Kevin Cosby

Title: CQA MGR.

CONTRACTORS REP:

Date: 8-24-21

Signature: William P.

Name: SUPER

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 8-24-21

Signature:

Name: Gerardo Ruiz

Title: Superint.

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install 4 Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile 4 HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: COVERED BY GCL + SECONDARY HDPE PANELS S115-S125 @ 15,255.5

CQA REPRESENTATIVE:

Date: 8-25-21

Signature: [signature]

Name: KEVIN LESLIE

Title: CQA MGR

CONTRACTORS REP:

Date: 8-25-21

Signature: [signature]

Name: SUPER

Title: Super

INSTALLERS REPRESENTATIVE:

Date: 8-25-21

Signature: [signature]

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
PREPPARED FOR WEST BERM TIE IN TO PANEL S-126 TO PANELS S-5 THROUGH S-25

CQA REPRESENTATIVE:

Date: 9-2-21

Signature: [signature]

Name: KEVIN LESLY

Title: CQA MGR.

CONTRACTORS REP:

Date: 9/9/21

Signature: William [signature]

Name: William P. Hair

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 9/9/21

Signature: [signature]

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted:
PREPARED AREA FOR SECONDARY PANEL S127 HDPE SOUTH BERM TIE IN TO PANELS S26 - S51

CQA REPRESENTATIVE:

Date: 9-7-21

Signature: [signature]

Name: Kevin Lerley

Title: CQA MGR.

CONTRACTORS REP:

Date: 9-7-21

Signature: William P. Hair

Name: William P. Hair

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 9/9/21

Signature: [signature]

Name: Gerardo Ruiz

Title: Supervisor

BRANTLEY ENGINEERING, LLC.

Brantley
Engineering, LLC

SUBGRADE ACCEPTANCE

PROJECT NAME: JED Cell 14 Construction

PROJECT NUMBER: 2021-002

OWNER: Omni Waste of Osceola County, LLC

ENGINEER: Geosyntec

LOCATION: St. Cloud, Florida

I, undersigned, a duly appointed representative of Brantley Engineering, LLC, have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install X Geosynthetic Clay Liner(GCL) _____ Geocomposite _____ Geotextile X HDPE.

The certification is based on subterranean inspections and tests performed by Brantley Engineering and visual observations of the subgrade only. Brantley makes no representations or warranties regarding conditions which may exist below the prepared surface of the subgrade. The subgrade conforms to the project specifications for installation of geosynthetics.

Area Being Accepted: PREPARED FOR SECONDARY PANELS S128, S129, S130 IN THE SOUTH BERM TO COMPLETE SECONDARY HDPE PLACEMENT

CQA REPRESENTATIVE:

Date: 9-8-21

Signature: [signature]

Name: Kevin Lesley

Title: CQA MGR

CONTRACTORS REP:

Date: 9.8.21

Signature: [signature]

Name: William D. Hair

Title: SUPER

INSTALLERS REPRESENTATIVE:

Date: 9/9/21

Signature: [signature]

Name: Gerardo Ruiz

Title: Supervisor

APPENDIX G
Geomembrane Installation
(Secondary Layer)

Section 1
Geomembrane Panel Deployment Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-20-2021
PAGE# 1

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S1	30028	93	29	22.5	652.5	64	KL	
S2	30028	93	21	15	315	64	KL	TRIANGLE 20X30X21
S3	30028	90	11	8	88	64	KL	TRIANGLE 18X11X16
S4	30028	90	24	22.5	540	64	KL	
S5	30028	90	47	22.5	1057.5	64	KL	
S6	30028	89	46	22.5	1035	64	KL	
S7	30028	89	45	22.5	1012.5	64	KL	
S8	30028	88	44	22.5	990	64	KL	
S9	30028	88	43	22.5	967.5	64	KL	
S10	30028	88	44	22.5	990	64	KL	
S11	30028	87	45	22.5	1012.5	64	KL	
S12	30028	87	46	22.5	1035	64	KL	
S13	30028	86	47	22.5	1057.5	64	KL	
S14	30028	86	47	22.5	1057.5	64	KL	
PAGE APPROX. TOTAL (SQ FT):			11810.5					

DAILY TOTAL (SQ FT): 11810.5

ACCUMULATED TOTAL (SQ FT): 11810.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-21-2021
PAGE# 2

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S15	30137	94	50	22.5	1125	64	KL	
S16	30137	94	48	22.5	1080	64	KL	
S17	30137	94	48	22.5	1080	64	KL	
S18	30137	94	49	22.5	1102.5	64	KL	
S19	30137	93	48	22.5	1080	64	KL	
S20	30137	93	49	22.5	1102.5	64	KL	
S21	30137	93	50	22.5	1125	64	KL	
S22	30137	93	51	22.5	1147.5	64	KL	
S23	30137	92	52	22.5	1170	64	KL	
S24	30063	92	52	22.5	1170	64	KL	
S25	30063	91	36	22.5	810	64	KL	
S26	30063	91	23	7	161	64	KL	TRIANGLE 20X23X14
S27	30137	91	28	11	308	64	KL	TRIANGLE 32X28X22
S28	30063	90	35	22.5	787.5	64	KL	
S29	30002	90	512	22.5	11520	64	KL	

PAGE APPROX. TOTAL (SQ FT): 24769

DAILY TOTAL (SQ FT): 24769

ACCUMULATED TOTAL (SQ FT): 36579.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-22-2021
PAGE# 3

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S30	30033	99	512	22.5	11520	64	KL	
S31	30017	99	515	22.5	11587.5	64	KL	
S32	30079	99	515	22.5	11587.5	64	KL	
S33	30042	99	516	22.5	11610	64	KL	
S34	30092	89	516	22.5	11610	64	KL	

PAGE APPROX. TOTAL (SQ FT): 57915

DAILY TOTAL (SQ FT): 57915

ACCUMULATED TOTAL (SQ FT): 94494.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-23-2021
PAGE# 4

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S35	30100	90	516	22.5	11610	64	KL	
S36	30126	90	516	22.5	11610	64	KL	
S37	30036	90	516	22.5	11610	64	KL	
S38	30058	90	512	22.5	11520	64	KL	
S39	30077	90	512	22.5	11520	64	KL	

PAGE APPROX. TOTAL (SQ FT): 57870

DAILY TOTAL (SQ FT): 57870

ACCUMULATED TOTAL (SQ FT): 152364.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-27-2021
PAGE# 5

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S40	30038	86	516	22.5	11610	64	KL	
S41	30069	86	516	22.5	11610	64	KL	
S42	10021	85	516	22.5	11610	64	KL	

PAGE APPROX. TOTAL (SQ FT): 34830

DAILY TOTAL (SQ FT): 34830

ACCUMULATED TOTAL (SQ FT): 187194.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-28-2021
PAGE# 6

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S43	30040	86	517	22.5	11632.5	64	KL	
S44	10019	86	517	22.5	11632.5	64	KL	
S45	30090	85	517	22.5	11632.5	64	KL	

PAGE APPROX. TOTAL (SQ FT): 34897.5

DAILY TOTAL (SQ FT): 34897.5

ACCUMULATED TOTAL (SQ FT): 222092

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7-30-2021
PAGE# 7

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S46	30073	87	490	22.5	11025	64	KL	
S47	30025	87	515	22.5	11587.5	64	KL	
S48	30063	88	34	22.5	765	64	KL	
S49	30019	88	515	22.5	11587.5	64	KL	

PAGE APPROX. TOTAL (SQ FT): 34965

DAILY TOTAL (SQ FT): 34965

ACCUMULATED TOTAL (SQ FT): 257057

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-2-2021
PAGE# 8

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S50	30096	87	516	22.5	11610	60	KL	
S51	30094	87	515	22.5	11587.5	60	KL	
S52	30062	88	515	22.5	11587.5	60	KL	
S53	30122	92	516	22.5	11610	60	KL	

PAGE APPROX. TOTAL (SQ FT): 46395

DAILY TOTAL (SQ FT): 46395

ACCUMULATED TOTAL (SQ FT): 303452

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-3-2021
PAGE# 9

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S54	30061	78	514	22.5	11565	60	KL	
S55	30064	80	515	22.5	11587.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 23152.5

DAILY TOTAL (SQ FT): 23152.5

ACCUMULATED TOTAL (SQ FT): 326604.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-5-2021
PAGE# 10

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S56	30098	82	514	22.5	11565	60	KL	
S57	30039	86	514	22.5	11565	60	KL	
S58	30052	86	514	22.5	11565	60	KL	
S59	30013	89	514	22.5	11565	60	KL	
S60	30076	92	514	22.5	11565	60	KL	
S61	30084	92	514	22.5	11565	60	KL	

PAGE APPROX. TOTAL (SQ FT): 69390

DAILY TOTAL (SQ FT): 69390

ACCUMULATED TOTAL (SQ FT): 395994.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-6-2021
PAGE# 11

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S62	30135	88	515	22.5	11587.5	60	KL	
S63	30014	90	516	22.5	11610	60	KL	
S64	30131	92	515	22.5	11587.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 34785

DAILY TOTAL (SQ FT): 34785

ACCUMULATED TOTAL (SQ FT): 430779.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-9-2021
PAGE# 12

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S65	30091	91	515	22.5	11587.5	60	KL	
S66	30026	92	516	22.5	11610	60	KL	
S67	30032	92	515	22.5	11587.5	60	KL	
S68	30109	92	515	22.5	11587.5	60	KL	
S69	30010	91	515	22.5	11587.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 57960

DAILY TOTAL (SQ FT): 57960

ACCUMULATED TOTAL (SQ FT): 488739.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-10-2021
PAGE# 13

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S70	30024	90	517	22.5	11632.5	60	KL	
S71	30093	90	517	22.5	11632.5	60	KL	
S72	30065	91	517	22.5	11632.5	60	KL	
S73	30072	91	517	22.5	11632.5	60	KL	
S74	30099	86	517	22.5	11632.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 58162.5

DAILY TOTAL (SQ FT): 58162.5

ACCUMULATED TOTAL (SQ FT): 546902

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-11-2021
PAGE# 14

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S75	30004	88	518	22.5	11655	60	KL	
S76	30101	88	518	22.5	11655	60	KL	
S77	30059	89	518	22.5	11655	60	KL	
S78	30107	89	518	22.5	11655	60	KL	

PAGE APPROX. TOTAL (SQ FT): 46620

DAILY TOTAL (SQ FT): 46620

ACCUMULATED TOTAL (SQ FT): 593522

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-12-2021
PAGE# 15

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S79	30012	82	516	22.5	11610	60	KL	
S80	30034	82	516	22.5	11610	60	KL	

PAGE APPROX. TOTAL (SQ FT): 23220

DAILY TOTAL (SQ FT): 23220

ACCUMULATED TOTAL (SQ FT): 616742

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-18-2021
PAGE# 16

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S81	30045	89	518	22.5	11655	60	KL	
S82	30018	92	518	22.5	11655	60	KL	
S83	30036	93	518	22.5	11655	60	KL	
S84	30030	94	518	22.5	11655	60	KL	
S85	30035	94	518	22.5	11655	60	KL	
S86	30025	94	518	22.5	11655	60	KL	
S87	30029	94	518	22.5	11655	60	KL	

PAGE APPROX. TOTAL (SQ FT): 81585

DAILY TOTAL (SQ FT): 81585

ACCUMULATED TOTAL (SQ FT): 698327

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-19-2021
PAGE# 17

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S88	30037	89	518	22.5	11655	60	KL	
S89	30020	91	518	22.5	11655	60	KL	
S90	30123	93	518	22.5	11655	60	KL	
S91	30111	96	518	22.5	11655	60	KL	
S92	30078	97	518	22.5	11655	60	KL	
S93	30095	98	518	22.5	11655	60	KL	

PAGE APPROX. TOTAL (SQ FT): 69930

DAILY TOTAL (SQ FT): 69930

ACCUMULATED TOTAL (SQ FT): 768257

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-20-2021
PAGE# 18

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S94	30046	86	516	22.5	11610	60	KL	
S95	30015	87	516	22.5	11610	60	KL	

PAGE APPROX. TOTAL (SQ FT): 23220

DAILY TOTAL (SQ FT): 23220

ACCUMULATED TOTAL (SQ FT): 791477

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-24-2021
PAGE# 19

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S96	30110	82	215	22.5	4837.5	60	KL	
S97	30110	82	215	18	3870	60	KL	
S98	30110	82	62	22.5	1395	60	KL	
S99	30006	83	60	22.5	1350	60	KL	
S100	30006	84	60	22.5	1350	60	KL	
S101	30006	86	62	22.5	1395	60	KL	
S102	30006	87	61	22.5	1372.5	60	KL	
S103	30006	87	62	22.5	1395	60	KL	
S104	30006	88	61	22.5	1372.5	60	KL	
S105	30006	89	61	22.5	1372.5	60	KL	
S106	30006	89	61	22.5	1372.5	60	KL	
S107	30040	89	86	22.5	1935	60	KL	
S108	30040	90	67	22.5	1507.5	60	KL	
S109	30040	92	67	22.5	1507.5	60	KL	
S110	30040	92	82	22.5	1845	60	KL	

PAGE APPROX. TOTAL (SQ FT): 27877.5

DAILY TOTAL (SQ FT): 35595

ACCUMULATED TOTAL (SQ FT): 827072

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-24-2021
PAGE# 20

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S111	30040	92	83	22.5	1867.5	60	KL	
S112	30009	92	74	22.5	1665	60	KL	
S113	30009	91	93	22.5	2092.5	60	KL	
S114	30009	91	93	22.5	2092.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 7717.5

DAILY TOTAL (SQ FT): 35595

ACCUMULATED TOTAL (SQ FT): 827072

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:8-25-2021
PAGE# 21

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S115	30009	86	89	22.5	2002.5	60	KL	
S116	30009	86	90	22.5	2025	60	KL	
S117	30083	86	91	22.5	2047.5	60	KL	
S118	30083	87	92	22.5	2070	60	KL	
S119	30083	87	92	22.5	2070	60	KL	
S120	30083	88	93	22.5	2092.5	60	KL	
S121	30083	88	32	22.5	720	60	KL	
S122	30083	90	29	22.5	652.5	60	KL	TRAPEZOID
S123	30083	90	14	22.5	315	60	KL	TRAPEZOID
S124	30083	90	32	9	288	60	KL	
S125	30009	91	45	22.5	1012.5	60	KL	TRAPEZOID

PAGE APPROX. TOTAL (SQ FT): 15295.5

DAILY TOTAL (SQ FT): 15295.5

ACCUMULATED TOTAL (SQ FT): 842367.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:9-2-2021
PAGE# 22

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S126	30044	74	470	7.5	3525	60	KL	PANEL EXTENSION

PAGE APPROX. TOTAL (SQ FT): 3525

DAILY TOTAL (SQ FT): 3525

ACCUMULATED TOTAL (SQ FT): 845892.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:9-7-2021
PAGE# 23

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S127	30044	93	534	7.5	4005	60	KL	PANEL EXTENSION

PAGE APPROX. TOTAL (SQ FT): 4005

DAILY TOTAL (SQ FT): 4005

ACCUMULATED TOTAL (SQ FT): 849897.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X OTHER

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE:9-8-2021
PAGE# 24

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
S128	30044	90	534	7.5	4005	60	KL	PANEL EXTENSION
S129	30027	90	534	7.5	4005	60	KL	PANEL EXTENSION
S130	30027	90	534	7.5	4005	60	KL	PANEL EXTENSION
S131	30027	90	34	7.5	255	60	KL	PANEL EXTENSION

PAGE APPROX. TOTAL (SQ FT): 12270

DAILY TOTAL (SQ FT): 12270

ACCUMULATED TOTAL (SQ FT): 862167.5

REVIEWED BY : SAM NEJAD

DATE: 9-30-21

Section 2
Geomembrane Trial Seam Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/20/2021 PAGE# 1

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-1	1540	91	027	LV	16	800	-	-	INSIDE	118	121	118	123	121	123	124	123	123	124	P	KL
									OUTSIDE	119	110	117	110	115							
TF-2	1548	91	27	LV	20	800	-	-	INSIDE	110	114	114	117	112	121	121	125	125	123	P	KL
									OUTSIDE	115	106	112	103	107							
TF-3	1605	91	27	LV	20	760	-	-	INSIDE	114	111	109	115	108	124	123	126	123	120	P	KL
									OUTSIDE	96	97	115	92	93							
TF-4	1630	90	27	LV	21	720	-	-	INSIDE	118	107	111	107	105	120	121	124	120	123	P	KL
									OUTSIDE	102	100	92	95	98							
TF-5	1656	90	A115	LV	8	850	-	-	INSIDE	97	97	107	97	86	123	121	124	120	123	P	KL
									OUTSIDE	103	94	102	93	93							
TF-6	1702	90	A115	LV	8	850	-	-	INSIDE	124	119	125	125	123	137	124	122	120	122	P	KL
									OUTSIDE	116	121	115	118	118							
TF-7	1716	90	18	LP	19	770	-	-	INSIDE	113	112	114	116	116	126	120	122	123	129	P	KL
									OUTSIDE	98	108	116	109	113							
TF-8	1747	90	A115	LV	8	850	-	-	INSIDE	106	113	109	124	109	126	121	124	128	126	P	KL
									OUTSIDE	104	99	119	98	111							
TF-9	1800	90	18	LP	17	740	-	-	INSIDE	115	110	112	117	110	132	124	125	129	129	P	KL
									OUTSIDE	107	104	102	104	109							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021 PAGE# 2

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-10	711	72	A115	LV	8	850	-	-	INSIDE	115	103	114	114	104	136	130	128	136	127	P	KL
									OUTSIDE	110	92	103	116	108							
TF-11	850	76	27	LV	18	760	-	-	INSIDE	117	114	111	107	122	127	123	128	135	122	P	KL
									OUTSIDE	94	99	120	119	98							
TF-12	854	76	18	LP	18	760	-	-	INSIDE	121	110	105	101	102	128	131	128	135	122	P	KL
									OUTSIDE	98	99	102	100	105							
TF-13	1044	84	A104	AR	7	850	-	-	INSIDE	102	111	105	101	102	122	123	123	124	129	P	KL
									OUTSIDE	102	97	95	100	108							
TF-14	1050	84	A104	AR	6	850	-	-	INSIDE	114	123	121	128	126	135	125	128	132	124	P	KL
									OUTSIDE	105	102	108	105	104							
TF-15	1057	84	A099	CG	7	850	-	-	INSIDE	112	101	108	113	104	121	121	122	124	128	P	KL
									OUTSIDE	101	109	105	104	97							
TF-16	1103	84	A099	CG	6	850	-	-	INSIDE	119	132	138	142	139	124	125	120	122	128	P	KL
									OUTSIDE	111	130	135	139	138							
TF-17	1120	84	A099	CG	8	800	-	-	INSIDE	106	116	107	113	99	129	125	126	127	121	P	KL
									OUTSIDE	99	104	107	103	99							
TF-18	1133	84	A099	CH	8	800	-	-	INSIDE	128	122	120	121	117	128	127	122	124	120	P	KL
									OUTSIDE	120	122	121	116	123							
TF-19	1142	84	A104	AR	9	780	-	-	INSIDE	103	100	98	98	94	127	120	123	123	120	P	KL
									OUTSIDE	107	96	96	101	103							
TF-20	1305	86	27	LV	22	760	-	-	INSIDE	110	102	106	122	114	127	128	125	123	122	P	KL
									OUTSIDE	114	1008	123	98	106							
TF-21	1604	92	A104	AR	7	780	-	-	INSIDE	126	114	117	119	113	124	128	131	134	122	P	KL
									OUTSIDE	118	111	113	113	119							
TF-22	1610	92	A099	CG	8	800	-	-	INSIDE	122	122	114	125	116	132	132	129	131	125	P	KL
									OUTSIDE	108	119	112	118	100							
TF-23	1615	92	A099	CG	8	800	-	-	INSIDE	109	107	105	106	107	128	123	124	122	126	P	KL
									OUTSIDE	107	102	100	108	99							
TF-24	1620	92	A104	AR	9	780	-	-	INSIDE	116	114	115	105	101	120	122	123	121	124	P	KL
									OUTSIDE	104	107	115	110	99							

Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/22/2021 PAGE# 3

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TF-25	803	78	G027	LV	17	720	-	-	INSIDE	132	120	133	127	119	138	134	131	136	131	P	KL
									OUTSIDE	108	105	98	110	101							
TF-26	808	78	A104	AR	9	820	-	-	INSIDE	115	106	99	119	118	137	135	136	138	126	P	KL
									OUTSIDE	109	97	93	114	101							
TF-27	814	78	A104	AR	7	780	-	-	INSIDE	142	132	139	131	127	145	140	134	140	131	P	KL
									OUTSIDE	126	128	134	119	125							
TF-28	1647	94	G027	LV	20	720	-	-	INSIDE	111	121	120	117	107	126	125	124	120	128	P	KL
									OUTSIDE	96	103	108	102	104							
TF-29	1651	94	A104	AR	9	820	-	-	INSIDE	106	109	106	102	111	124	120	122	121	121	P	KL
									OUTSIDE	108	95	101	104	108							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/23/2021 PAGE# 4

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-30	820	78	A104	AR	9	820	-	-	INSIDE	99	107	115	110	102	135	131	134	136	131	P	KL
									OUTSIDE	106	107	99	103	102							
TF-31	825	78	G027	LV	18	720	-	-	INSIDE	106	104	118	97	114	127	125	126	130	130	P	KL
									OUTSIDE	117	115	103	120	99							
TF-32	830	78	A104	AR	7	820	-	-	INSIDE	111	110	96	111	101	127	125	126	130	130	P	KL
									OUTSIDE	106	93	93	96	99							
TF-33	1250	90	A104	AR	9	820	-	-	INSIDE	119	108	93	97	113	123	127	128	128	120	P	KL
									OUTSIDE	109	116	107	111	98							
TF-34	1255	90	G027	LV	18	720	-	-	INSIDE	110	98	99	100	103	121	124	122	124	126	P	KL
									OUTSIDE	106	103	101	99	98							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/24/2021 PAGE# 5

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TX-1	734	74	A023	LV	-	-	520	520	INSIDE	125	118	128	122	124	133	134	135	136	136	P	KL
									OUTSIDE	-	-	-	-	-							
TX-2	800	76	A041	ALS	-	-	480	460	INSIDE	97	117	111	95	107	131	131	136	156	132	P	KL
									OUTSIDE	-	-	-	-	-							
TX-3	1245	90	A023	LV	-	-	520	520	INSIDE	100	113	115	108	106	124	127	126	122	125	P	KL
									OUTSIDE	-	-	-	-	-							
TX-4	1250	90	A041	ALS	-	-	480	460	INSIDE	102	98	90	99	101	123	124	121	127	125	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/27/2021 PAGE# 6

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-35	1045	78	G027	LV	18	740	-	-	INSIDE	116	117	128	114	114	142	134	139	145	136	P	KL
									OUTSIDE	107	105	106	120	99							
TF-36	1050	78	A104	OV	9	810	-	-	INSIDE	116	104	108	106	97	139	133	131	137	131	P	KL
									OUTSIDE	113	104	100	102	92							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/28/2021 PAGE# 7

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-37	930	82	G027	LV	18	740	-	-	INSIDE	115	123	135	127	108	142	137	135	142	135	P	KL
									OUTSIDE	124	106	106	109	107							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/29/2021 PAGE# 8

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-38	1020	85	G027	LV	18	740	-	-	INSIDE	126	109	114	125	100	134	133	140	137	130	P	KL
									OUTSIDE	115	107	102	102	100							
TX-5	1240	90	A041	ALS	-	-	480	460	INSIDE	151	148	146	153	135	149	147	152	149	129	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/30/2021 PAGE# 9

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-39	1010	84	G027	LV	18	740	-	-	INSIDE	129	132	122	114	92	134	135	141	133	132	P	KL
									OUTSIDE	96	104	94	98	112							
TF-40	1015	84	G027	LV	16	740	-	-	INSIDE	98	101	103	95	99	128	123	140	133	121	P	KL
									OUTSIDE	104	100	105	104	96							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/2/2021 PAGE# 10

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-41	1010	82	G027	LV	18	760	-	-	INSIDE	110	114	105	106	112	128	123	140	133	121	P	KL
									OUTSIDE	100	103	95	115	93							
TF-42	1015	82	G018	LP	19	770	-	-	INSIDE	111	101	113	116	116	122	120	130	137	123	P	KL
									OUTSIDE	97	103	93	96	98							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/3/2021 PAGE# 11

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-43	900	76	G027	LV	18	840	-	-	INSIDE	98	93	102	104	106	135	137	138	134	136	P	KL
									OUTSIDE	109	95	105	115	104							
TX-6	1250	84	A023	LV	-	-	500	470	INSIDE	126	127	125	126	121	125	125	128	128	126	P	KL
									OUTSIDE	-	-	-	-	-							
TX-7	1254	84	A041	ED	-	-	500	500	INSIDE	128	128	125	126	133	144	141	136	143	140	P	KL
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/4/2021 PAGE# 12

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TX-8	740	78	A023	LV	-	-	500	500	INSIDE	115	117	124	121	116	125	129	130	127	132	P	KL
									OUTSIDE	-	-	-	-	-							
TX-9	752	78	A041	ED	-	-	500	470	INSIDE	134	127	136	135	127	131	132	135	135	132	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/5/2021 PAGE# 13

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-44	930	80	G027	LV	18	800	-	-	INSIDE	109	121	116	131	101	143	140	138	146	138	P	KL
									OUTSIDE	110	101	95	107	114							
TF-45	950	80	G018	LP	16	815	-	-	INSIDE	121	120	110	99	99	140	135	143	143	135	P	KL
									OUTSIDE	123	109	122	121	115							
TF-46	1320	88	G027	LV	18	800	-	-	INSIDE	105	112	104	107	99	131	130	132	133	127	P	KL
									OUTSIDE	115	92	108	111	112							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/6/2021 PAGE# 14

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TF-47	950	86	G027	LV	18	800	-	-	INSIDE	114	109	111	109	101	143	134	143	144	140	P	KL
									OUTSIDE	123	114	121	129	114							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/9/2021 PAGE# 15

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TF-48	1245	90	G027	LV	18	800	-	-	INSIDE	113	105	99	114	107	128	123	130	129	128	P	KL
									OUTSIDE	114	115	120	120	107							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/10/2021 PAGE# 16

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-49	900	84	G027	LV	18	800	-	-	INSIDE	113	112	119	107	103	144	141	147	138	131	P	KL
									OUTSIDE	112	104	119	123	105							
TF-50	1620	82	G027	LV	18	800	-	-	INSIDE	123	124	127	129	116	136	137	137	140	132	P	KL
									OUTSIDE	110	112	118	109	104							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/11/2021 PAGE# 17

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TF-51	1030	88	G027	LV	18	800	-	-	INSIDE	129	110	126	128	118	137	128	133	136	132	P	KL
									OUTSIDE	109	108	121	100	100							
TX-10	1510	84	A014	LP	-	-	540	540	INSIDE	134	129	131	114	125	162	154	158	162	155	P	KL
									OUTSIDE												
TX-11	1340	84	A049	ALS	-	-	480	480	INSIDE	128	122	121	128	118	140	138	147	144	135	P	KL
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/12/2021 PAGE# 18

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX-12	1030	75	A049	LV	-	-	540	540	INSIDE	149	155	138	144	136	157	152	159	164	157	P	KL
									OUTSIDE												
TX-13	1510	75	A041	ALS	-	-	480	480	INSIDE	135	129	136	138	130	149	140	152	147	136	P	KL
									OUTSIDE												
TF-52	1340	91	A049	LV	18	800	-	-	INSIDE	107	109	110	114	104	129	124	121	126	122	P	KL
									OUTSIDE	110	116	114	125	116							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/13/2021 PAGE# 19

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX-14	710	78	A049	LV	-	-	540	540	INSIDE	119	116	123	116	165	135	135	131	137	130	P	KL
									OUTSIDE												
TX-15	800	78	A041	ALS	-	-	460	480	INSIDE	125	117	100	113	110	133	133	135	134	137	P	KL
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/18/2021 PAGE# 20

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-53	12:00	90	27	LV	18	800			INSIDE	117	107	127	124	119	126	125	131	127	125	P	KL
									OUTSIDE	95	92	109	92	107							
TF-54	12:00	90	18	LP	17	815			INSIDE	101	102	120	113	111	125	129	130	125	123	P	KL
									OUTSIDE	98	108	120	106	106							
TF-55	15:30	92	27	LV	18	800			INSIDE	105	106	107	107	123	123	122	121	122	123	P	KL
									OUTSIDE	95	95	94	95	92							
TF-56	15:35	92	115	LV	8	850			INSIDE	116	103	122	106	101	129	123	131	131	124	P	KL
									OUTSIDE	102	95	116	117	101							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/19/2021 PAGE# 21

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-57	10:10	84	115	LV	8	850			INSIDE	120	118	126	118	107	132	131	131	137	122	P	KL
									OUTSIDE	110	101	103	106	95							
TF-58	10:15	84	104	LP	8	850			INSIDE	113	103	96	105	95	121	124	122	125	120	P	KL
									OUTSIDE	94	92	92	100	92							
TF-59	14:50	92	115	LV	8	850			INSIDE	104	104	97	104	96	121	123	122	123	123	P	KL
									OUTSIDE	92	93	95	92	95							
TF-60	14:55	92	104	LP	9	850			INSIDE	109	98	107	111	109	124	126	123	120	121	P	KL
									OUTSIDE	99	100	109	101	114							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021 PAGE# 22

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-61	9:10	82	4	LV	18	800			INSIDE	102	98	94	102	101	121	126	126	129	126	P	KL
									OUTSIDE	110	107	109	120	92							
TF-62	9:15	82	104	LP	8	850			INSIDE	104	100	109	105	111	131	126	126	129	120	P	KL
									OUTSIDE	110	92	92	105	110							
TX-16	11:00	88	A-049	LV			520	520	INSIDE	124	129	135	127	110	136	132	134	133	134	P	KL
									OUTSIDE												
TX-17	11:10	88	A-041	AL			480	460	INSIDE	116	118	116	123	118	126	127	135	128	121	P	KL
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/23/2021 PAGE# 23

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX-18	800	78	A049	LV	..	..	540	540	INSIDE	124	119	124	143	116	152	150	152	149	142	P	KL
									OUTSIDE	..	..	..	..	..							
TX-19	1245	82	A049	LV	..	..	540	540	INSIDE	99	101	95	93	97	124	127	129	126	123	P	KL
									OUTSIDE	..	..	..	..	..							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021 PAGE# 24

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-63	1000	83	G004	LV	14	800	..	..	INSIDE	112	108	102	101	105	134	134	127	131	132	P	KL
									OUTSIDE	97	115	123	130	112							
TF-64	1010	83	G004	LV	18	800	..	..	INSIDE	100	110	94	129	93	130	127	131	132	127	P	KL
									OUTSIDE	119	118	106	104	117							
TF-65	1030	84	A104	LP	8.5	850	..	..	INSIDE	103	104	109	110	100	132	127	137	135	133	P	KL
									OUTSIDE	95	101	97	103	92							
TF-66	1045	84	G004	LV	14	800	..	..	INSIDE	125	117	122	129	129	135	131	130	129	124	P	KL
									OUTSIDE	113	100	105	113	117							
TX-20	1250	88	A041	ALS	..	..	480	460	INSIDE	112	115	102	105	104	131	129	124	127	132	P	KL
									OUTSIDE	..	..	..	..	..							
TX-21	1300	88	A049	LV	..	..	540	540	INSIDE	120	118	104	124	109	126	121	130	128	121	P	KL
									OUTSIDE	..	..	..	..	..							
TF-67	1500	91	G004	LV	18	800	..	..	INSIDE	112	98	97	94	99	124	125	121	126	127	P	KL
									OUTSIDE	97	101	95	101	105							
TF-68	1507	91	G104	LP	8.5	800	..	..	INSIDE	92	100	97	94	105	124	127	129	129	130	P	KL
									OUTSIDE	101	98	95	101	105							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/25/2021 PAGE# 25

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-69	800	80	4	LV	14	800	..	..	INSIDE	121	121	108	125	121	150	143	148	150	147	P	KL
									OUTSIDE	127	121	129	131	116							
TF-70	805	80	4	LV	18	800	..	..	INSIDE	114	112	116	104	98	126	128	128	133	131	P	KL
									OUTSIDE	98	101	116	115	108							
TF-71	1230	88	4	LV	18	850	..	..	INSIDE	95	92	105	95	93	120	121	123	126	125	P	KL
									OUTSIDE	108	100	95	93	109							
TF-72	1235	88	..	..	14	800	..	..	INSIDE	96	92	93	95	93	122	125	120	120	123	P	KL
									OUTSIDE	97	109	108	112	113							
TX-22	1450	92	49	LV	..	..	540	540	INSIDE	126	109	126	120	112	146	138	136	143	146	P	KL
									OUTSIDE	..	..	..	..	..							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/26/2021 PAGE# 26

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TX-23	1235	84	49	LV	..	..	540	540	INSIDE	126	109	126	120	112	146	138	136	143	146	P	KL
									OUTSIDE	..	..	..	..	..							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/2/2021 PAGE# 27

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-73	900	74	4	LV	14	840	..	..	INSIDE	136	125	135	139	128	134	144	148	146	137	P	KL
									OUTSIDE	121	130	132	129	120							
TX-24	1030	74	49	LV	..	..	540	540	INSIDE	126	137	136	139	138	131	129	140	133	136	P	KL
									OUTSIDE	..	..	..	..	..							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021 PAGE# 28

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-74	1450	90	4	LV	14	800	..	..	INSIDE	95	99	102	105	100	125	126	131	128	127	P	KL
									OUTSIDE	103	105	108	104	111							
TX-25	1520	90	41	CGC	..	..	460	480	INSIDE	128	126	124	125	124	128	124	131	125	128	P	KL
									OUTSIDE	..	..	..	..	..							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021 PAGE# 29

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX-26	730	80	41	CGC	..	..	460	480	INSIDE	101	111	100	110	101	129	131	130	136	124	P	KL
									OUTSIDE	..	..	..	..	..							
TF-75	1430	88	4	LV	14	800	..	..	INSIDE	105	113	100	108	104	127	129	125	126	128	P	KL
									OUTSIDE	111	106	105	103	107							
TX-27	1500	88	41	CGC	..	..	460	480	INSIDE	120	121	17	122	118	128	126	129	126	128	P	KL
									OUTSIDE	..	..	..	..	..							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021 PAGE# 30

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF-76	730	75	4	LV	14	800	..	..	INSIDE	125	128	125	132	124	142	140	134	142	135	P	KL
									OUTSIDE	119	134	134	139	111							
TX-28	800	75	49	LV	..	..	460	480	INSIDE	127	128	126	133	124	137	132	133	137	126	P	KL
									OUTSIDE	..	..	..	..	..							
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Passing Peel Fusion (91 lb/in): _____Passing Peel Extrusion (78 lb/in): _____Passing Shear Fusion (120 lb/in): _____Passing Shear Extrusion (120 lb/in): _____

Section 3
Geomembrane Fusion Seaming Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # - Mileage: -

MACHINE # A099

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S14/S15	EEOS WEOS	1255	90	CG	9	800	46	46	-	KL	-	7/23/2021	KL
S16/S17	WEOS EEOS	1304	90	CG	9	800	47	93	-	KL	-	7/23/2021	KL
S18/S19	WEOS EEOS	1310	90	CG	9	800	47	40	100	KL	DS-3	7/23/2021	KL
S20/S21	WEOS EEOS	1318	90	CG	9	800	47	87	-	KL	-	7/23/2021	KL
S21/S22	WEOS EEOS	1324	90	CG	9	800	49	136	-	KL	-	7/23/2021	KL
S23/S24	WEOS EEOS	1345	90	CG	9	800	48	184	-	KL	-	7/23/2021	KL
S25/S26	WEOS EEOS	1357	90	CG	9	800	19	203	-	KL	-	7/21/2021	KL
S27/S28	SEOS. NEOS	1408	90	CG	9	800	28	231	-	KL	-	7/21/2021	KL
S25/S28	WEOS EEOS	1418	90	CG	9	800	28	259	-	KL	-	7/21/2021	KL
S25/S27	WEOS EEOS	1421	90	CG	9	800	11	270	-	KL	-	7/21/2021	KL
S26/S27	WEOS EEOS	1423	90	CG	9	800	22	292	-	KL	-	7/21/2021	KL
S28/S29	SEOS NEOS	1618	90	CG	9	800	45	337	-	KL	-	7/23/2021	KL
S24/S29	SEOS NEOS	1621	90	CG	9	800	22	359	-	KL	-	7/23/2021	KL
S23/S29	SEOS NEOS	1624	90	CG	9	800	22	381	-	KL	-	7/23/2021	KL
S22/S29	SEOS NEOS	1626	90	CG	9	800	22	403	-	KL	-	7/23/2021	KL

PAGE TOTAL: 503

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 403

DAILY TOTAL WELDED (FT): -

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 403

MACHINE # A099

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S21/S29	SEOS NEOS	1629	90	CG	9	800	22	425	-	KL	-	7/23/2021	KL
S20/S29	SEOS NEOS	1631	90	CG	9	800	22	447	-	KL	-	7/23/2021	KL
S19/S29	SEOS NEOS	1633	90	CG	9	800	22	4	465	KL	DS-5	7/23/2021	KL
S18/S29	SEOS NEOS	1635	90	CG	9	800	22	26	-	KL	-	7/23/2021	KL
S17/S29	SEOS NEOS	1637	90	CG	9	800	22	48	-	KL	-	7/23/2021	KL
S16/S29	SEOS NEOS	1639	90	CG	9	800	22	70	-	KL	-	7/23/2021	KL
S15/S29	SEOS NEOS	1641	90	CG	9	800	22	92	-	KL	-	7/23/2021	KL
S14/S29	SEOS NEOS	1643	90	CG	9	800	12	104	-	KL	-	7/23/2021	KL
S13/S29	SEOS NEOS	1644	90	CG	9	800	22	126	-	KL	-	7/23/2021	KL
S12/S29	SEOS NEOS	1646	90	CG	9	800	22	148	-	KL	-	7/23/2021	KL
S11/S29	SEOS NEOS	1648	90	CG	9	800	22	170	-	KL	-	7/23/2021	KL
S10/S29	SEOS NEOS	1650	90	CG	9	800	22	192	-	KL	-	7/23/2021	KL
S9/S29	SEOS NEOS	1652	90	CG	9	800	22	214	-	KL	-	7/23/2021	KL
S8/S29	SEOS NEOS	1654	90	CG	9	800	22	236	-	KL	-	7/23/2021	KL
S7/S29	SEOS NEOS	1656	90	CG	9	800	22	258	-	KL	-	7/23/2021	KL

PAGE TOTAL: 320

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 258

DAILY TOTAL WELDED (FT): -

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 258

MACHINE # A099

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S6/S29	SEOS NEOS	1658	90	CG	9	800	22	280	-	KL		7/23/2021	KL
S5/S29	SEOS NEOS	1700	90	CG	9	800	22	302	-	KL		7/23/2021	KL
S1/S29	SEOS NEOS	1702	90	CG	9	800	22	324	-	KL		7/23/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 66
PAGE DESTRUCTIVE LENGTH CARRY-OVER 324
DAILY TOTAL WELDED (FT) 889

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # - Mileage: -

MACHINE # A104

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S15/S16	WEOS EEOS	1300	89	AR	7	850	49	49	-	KL	-	7/23/2021	KL
S17/S18	WEOS EEOS	1310	89	AR	7	850	48	97	-	KL	-	7/23/2021	KL
S19/S20	WEOS EEOS	1320	89	AR	7	850	47	40	104	KL	DS-4	7/23/2021	KL
S22/S23	WEOS EEOS	1335	89	AR	7	850	49	89	0	KL	-	7/23/2021	KL
S24/S25	WEOS EEOS	1350	89	AR	7	850	49	138	-	KL	-	7/23/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 242

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 138

DAILY TOTAL WELDED (FT): 242

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/22/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 138

MACHINE # A104

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S30/S31	SEOS NEOS	1110	89	AR	9	820	510	198	450	KL	DS-7	7/22/2021	KL
S32/S33	SEOS NEOS	1515	93	AR	9	820	510	258	450	KL	DS-9	7/22/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1020
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 258
DAILY TOTAL WELDED (FT): 1020

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/23/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER
FROM
Page # 2 Mileage: 258

MACHINE # A104

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S34/S35	SEOS	NEOS	1045	88	AR	9	820	508	281	485	KL	DS-11	7/23/2021	KL
S35 / R-66	SEOS	NEOS	1205	89	AR	9	820	3	284		KL		7/23/2021	KL
S36/S37	SEOS	NEOS	1255	90	AR	9	820	510	309	485	KL	DS-13	7/23/2021	KL
S38/S39	SEOS	NEOS	1505	93	AR	9	820	510	334	485	KL	DS-15	7/23/2021	KL
S36/R-66	EEOS-WEOS		1530	88	AR	9	820	22	356		KL		7/23/2021	KL
S37/R66	SEOS	NEOS	1545	88	AR	9	820	3	359		KL		7/23/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1556
PAGE DESTRUCTIVE LENGTH CARRY-OVER 359
DAILY TOTAL WELDED (FT) 1556

** DATA TO BE COMPLETED BY THE
DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/19/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER
FROM
Page # 3 Mileage: 359

MACHINE # A104

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S88/S89	SEOS	NEOS	1100	88	LP	8	850	516	375	500	KL	DS-68	8/19/2021	SMN
S90/S91	SEOS	NEOS	1500	96	LP	8	850	516	416	475	KL	DS-70	8/19/2021	SMN
S92/S93	SEOS	NEOS	1600	96	LP	8	850	516	457	475	KL	DS-72	8/19/2021	SMN

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1548
PAGE DESTRUCTIVE LENGTH CARRY-OVER 457
DAILY TOTAL WELDED (FT) 1548

** DATA TO BE COMPLETED BY THE
DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 457

MACHINE # A104

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S94/S95	SEOS-NEOS		950	87	LP	8.5	850	516	498	475	KL	DS-74	8/20/2021	KL
S94/S95	SEOS-NEOS		Continued	87	LP	8.5	850	0	23	475	KL	DS-75	8/20/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 516
PAGE DESTRUCTIVE LENGTH CARRY-OVER 23
DAILY TOTAL WELDED (FT) 516

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 5 Mileage: 23

MACHINE # A104

PAGE NUMBER: 6

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S98/S99	EEOS WEOS	1045	83	LP	8.5	850	58	81		KL		8/24/2021	KL
S99/S100	EEOS WEOS	1100	83	LP	8.5	850	58	139		KL		8/24/2021	KL
S100/S101	EEOS WEOS	1110	83	LP	8.5	850	61	200		KL		8/24/2021	KL
S107/S108	NEOS SEOS	1645	90	LP	8.5	850	10	210		KL		8/24/2021	KL
S107/S109	NEOS SEOS	1650	90	LP	8.5	850	17	227		KL		8/24/2021	KL
S107/S110	NEOS SEOS	1659	90	LP	8.5	850	14	241		KL		8/24/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 218

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 241

DAILY TOTAL WELDED (FT): 218

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/20/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # - Mileage: -

MACHINE # A-115

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S3/S4	WEOS EEOS	1609	93	LV	8	850	15	15	-	KL	-	7/21/2021	KL
S1/S2	SEOS NEOS	1707	93	LV	8	850	19	34	-	KL	-	7/21/2021	KL
S2/S3	NEOS SEOS	1716	93	LV	8	850	12	46	-	KL	-	7/21/2021	KL
S2/S4	NEOS SEOS	1718	93	LV	8	850	17	63	-	KL	-	7/21/2021	KL
S1/S4	NEOS SEOS	1720	93	LV	8	850	10	73	-	KL	-	7/21/2021	KL
S4/S5	EEOS WEOS	1741	93	LV	8	850	33	106	-	KL	-	7/21/2021	KL
S1/S5	EEOS WEOS	1748	93	LV	8	850	14	5	115	KL	DS-1	7/21/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 120

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 5

DAILY TOTAL WELDED (FT): 120

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/19/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 182

MACHINE # A-115

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S87/ S88	SEOS NEOS	1020	87	LV	8	850	516	223	475	KL	DS-67	8/19/2021	SMN
S89/S90	SEOS NEOS	1125	90	LV	8	850	516	264	475	KL	DS-69	8/19/2021	SMN
S91/S92	SEOS NEOS	1522	96	LV	8	850	516	305	475	KL	DS-71	8/19/2021	SMN

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1548
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 305
DAILY TOTAL WELDED (FT): 1548

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # G-004

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S93/S94	SEOS NEOS	930	86	LV	18	800	516	436	80	KL	DS-73	8/20/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 516

PAGE DESTRUCTIVE LENGTH CARRY-OVER 436

DAILY TOTAL WELDED (FT) 516

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 436

MACHINE # G-004

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S95/S96	SEOS	NEOS	1027	82	LV	14	800	215	176	475	KL	DS-76	8/24/2021	KL
S96/S97	SEOS	NEOS	1040	82	LV	18	800	215	391		KL		8/24/2021	KL
S101/S102	EEOS	WEOS	1100	82	LV	18	800	58	449		KL		8/24/2021	KL
S102/S103	EEOS	WEOS	1104	83	LV	18	800	59	33	475	KL	DS-77	8/24/2021	KL
S103/S104	EEOS	WEOS	1108	83	LV	18	800	59	92		KL		8/24/2021	KL
S104/S105	EEOS	WEOS	1112	84	LV	18	800	59	151		KL		8/24/2021	KL
S105/S106	EEOS	WEOS	1116	84	LV	18	800	60	211		KL		8/24/2021	KL
S97/S98	SEOS	NEOS	1133	85	LV	14	800	22	233		KL		8/24/2021	KL
S97/S99	SEOS	NEOS	1135	85	LV	14	800	22	255		KL		8/24/2021	KL
S97/S100	SEOS	NEOS	1137	85	LV	14	800	22	277		KL		8/24/2021	KL
S97/S101	SEOS	NEOS	1139	85	LV	14	800	22	299		KL		8/24/2021	KL
S97/S102	SEOS	NEOS	1141	85	LV	14	800	22	321		KL		8/24/2021	KL
S97/S103	SEOS	NEOS	1143	86	LV	14	800	22	343		KL		8/24/2021	KL
S97/S104	SEOS	NEOS	1145	86	LV	14	800	22	365		KL		8/24/2021	KL
S97/S105	SEOS	NEOS	1146	86	LV	14	800	22	387		KL		8/24/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 901

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 387

DAILY TOTAL WELDED (FT): 1662

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 387

MACHINE # G-004

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START POINT	*	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S97/S106	SEOS	*	NEOS	1149	89	LV	14	800	22	409		KL		8/24/2021	KL
S95/S107	SEOS	*	NEOS	1530	90	LV	14	800	86	20	475	KL	DS-78	8/24/2021	KL
S96/S107	EEOS	*	WEOS	1535	90	LV	14	800	20	40		KL		8/24/2021	KL
S107/S110	SEOS	*	NEOS	1537	90	LV	14	800	6	46		KL		8/24/2021	KL
S107/S109	SEOS	*	NEOS	1538	90	LV	14	800	20	66		KL		8/24/2021	KL
S107/S108	SEOS	*	NEOS	1540	90	LV	14	800	10	76		KL		8/24/2021	KL
S97/S108	EEOS	*	WEOS	1622	90	LV	14	800	15	91		KL		8/24/2021	KL
S106/S108	EEOS	*	WEOS	1624	90	LV	14	800	57	148		KL		8/24/2021	KL
S108/S109	EEOS	*	WEOS	1630	90	LV	14	800	70	218		KL		8/24/2021	KL
S109/S110	EEOS	*	WEOS	1635	90	LV	14	800	72	290		KL		8/24/2021	KL
S110/S111	WEOS	*	EEOS	1645	90	LV	14	800	81	371		KL		8/24/2021	KL
S111/S112	WEOS	*	EEOS	1658	90	LV	14	800	80	451		KL		8/24/2021	KL
S107/S111	NEOS	*	SEOS	1705	90	LV	14	800	15	466		KL		8/24/2021	KL
S107/S112	NEOS	*	SEOS	1708	90	LV	14	800	19	485		KL		8/24/2021	KL
S112/S113	WEOS	*	EEOS	1730	90	LV	14	800	73	58	500	KL	DS-79	8/24/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 646

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 58

DAILY TOTAL WELDED (FT): 1662

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 58

MACHINE # G-004

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S107/S113	WEOS	EEOS	1737	90	LV	14	800	22	80		KL		8/24/2021	KL
S113/S114	WEOS	EEOS	1739	90	LV	14	800	74	154		KL		8/24/2021	KL
S95/S114	SEOS	NEOS	1745	89	LV	14	800	22	176		KL		8/24/2021	KL
S95/S113	SEOS	NEOS	1747	89	LV	14	800	22	198		KL		8/24/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 140

PAGE DESTRUCTIVE LENGTH CARRY-OVER 198

DAILY TOTAL WELDED (FT) 1687

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/25/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 198

MACHINE # G-004

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START POINT	*	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S114/S115	WEOS	*	EEOS	1240	88	LV	18	800	87	285		KL		8/25/2021	KL
S115/S116	WEOS	*	EEOS	1248	88	LV	18	800	87	372		KL		8/25/2021	KL
S116/S117	WEOS	*	EEOS	1256	89	LV	18	800	88	460		KL		8/25/2021	KL
S117/S118	WEOS	*	EEOS	1305	89	LV	18	800	89	74	475	KL	DS-80	8/25/2021	KL
S118/S119	WEOS	*	EEOS	1313	89	LV	18	800	91	165		KL		8/25/2021	KL
S119/S120	WEOS	*	EEOS	1324	90	LV	18	800	93	258		KL		8/25/2021	KL
S120/S125	WEOS	*	EEOS	1337	90	LV	18	800	55	313		KL		8/25/2021	KL
S124/S125	WEOS	*	EEOS	1342	90	LV	18	800	33	346		KL		8/25/2021	KL
S122/S123	NEOS	*	SEOS	1347	90	LV	18	800	21	367		KL		8/25/2021	KL
S121/S122	SEOS	*	NEOS	1350	90	LV	18	800	32	399		KL		8/25/2021	KL
S120/S122	WEOS	*	EEOS	1354	90	LV	18	800	10	409		KL		8/25/2021	KL
S120/S121	WEOS	*	EEOS	1356	90	LV	18	800	22	431		KL		8/25/2021	KL
S122/S125	WEOS	*	EEOS	1402	90	LV	18	800	13	444		KL		8/25/2021	KL
S123/S125	EEOS	*	WEOS	1407	90	LV	18	800	16	460		KL		8/25/2021	KL
S123/S124	NEOS	*	SEOS	1409	90	LV	18	800	6	466		KL		8/25/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 743

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 466

DAILY TOTAL WELDED (FT): 1939

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/25/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 5 Mileage: 466

MACHINE # G-004

PAGE NUMBER: 6

SEAM NUMBER	SEAM SECTION START POINT	*	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S95/S121	NEOS	*	SEOS	1428	88	LV	18	800	32	23	475	KL	DS-81	8/25/2021	KL
S95/S120	NEOS	*	SEOS	1430	88	LV	18	800	22	45		KL		8/25/2021	KL
S95/S119	NEOS	*	SEOS	1432	89	LV	18	800	22	67		KL		8/25/2021	KL
S95/S118	NEOS	*	SEOS	1434	89	LV	18	800	22	89		KL		8/25/2021	KL
S95/S117	NEOS	*	SEOS	1436	89	LV	18	800	22	111		KL		8/25/2021	KL
S95/S116	NEOS	*	SEOS	1438	90	LV	18	800	22	133		KL		8/25/2021	KL
S95/S115	NEOS	*	SEOS	1440	90	LV	18	800	22	155		KL		8/25/2021	KL
S82/R-292	NEOS	*	SEOS	1500	90	LV	18	800	516	176	495	KL	DS-82	8/25/2021	KL
S83/R-292	NEOS	*	SEOS	1550	90	LV	18	800	516	197	495	KL	DS-83	8/25/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1196

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 197

DAILY TOTAL WELDED (FT): 1939

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/2/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 6 Mileage: 197

MACHINE # G-004

PAGE NUMBER: 7

SEAM NUMBER	SEAM SECTION START POINT	*	SEAM SECTION FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S126/S5	NEOS	*	SEOS	920	75	LV	14	840	22	219		KL		9/2/2021	KL
S126/S6	NEOS	*	SEOS	922	75	LV	14	840	22	241		KL		9/2/2021	KL
S126/S7	NEOS	*	SEOS	924	75	LV	14	840	22	263		KL		9/2/2021	KL
S126/S8	NEOS	*	SEOS	926	75	LV	14	840	22	285		KL		9/2/2021	KL
S126/S9	NEOS	*	SEOS	928	75	LV	14	840	22	307		KL		9/2/2021	KL
S126/S10	NEOS	*	SEOS	930	75	LV	14	840	22	329		KL		9/2/2021	KL
S126/S11	NEOS	*	SEOS	932	75	LV	14	840	22	351		KL		9/2/2021	KL
S126/S12	NEOS	*	SEOS	934	75	LV	14	840	22	373		KL		9/2/2021	KL
S126/S13	NEOS	*	SEOS	936	75	LV	14	840	22	395		KL		9/2/2021	KL
S126/S14	NEOS	*	SEOS	938	75	LV	14	840	12	407		KL		9/2/2021	KL
S126/S15	NEOS	*	SEOS	939	77	LV	14	840	22	429		KL		9/2/2021	KL
S126/S16	NEOS	*	SEOS	941	77	LV	14	840	22	451		KL		9/2/2021	KL
S126/S17	NEOS	*	SEOS	943	77	LV	14	840	22	473		KL		9/2/2021	KL
S126/S18	NEOS	*	SEOS	945	77	LV	14	840	22	20	475	KL	DS-84	9/2/2021	KL
S126/S19	NEOS	*	SEOS	947	77	LV	14	840	22	42		KL		9/2/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 320

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 42

DAILY TOTAL WELDED (FT): 466

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/2/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 7 Mileage: 42

MACHINE # G-004

PAGE NUMBER: 8

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S126/S20	NEOS	SEOS	949	77	LV	14	840	22	64		KL		9/2/2021	KL
S126/S21	NEOS	SEOS	951	77	LV	14	840	22	86		KL		9/2/2021	KL
S126/S22	NEOS	SEOS	953	77	LV	14	840	22	108		KL		9/2/2021	KL
S126/S23	NEOS	SEOS	955	77	LV	14	840	22	130		KL		9/2/2021	KL
S126/S24	NEOS	SEOS	957	77	LV	14	840	22	152		KL		9/2/2021	KL
S126/S25	NEOS	SEOS	959	77	LV	14	840	22	174		KL		9/2/2021	KL
S126/S26	NEOS	SEOS	1001	77	LV	14	840	14	188		KL		9/2/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 146

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 188

DAILY TOTAL WELDED (FT): 466

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 8 Mileage: 188

MACHINE # G-004

PAGE NUMBER: 9

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S127/S27	EEOS-WEOS	1510	90	LV	14	800	22	210		KL		9/7/2021	KL
S127/S28	EEOS-WEOS	1512	90	LV	14	800	22	232		KL		9/7/2021	KL
S127/S29	EEOS-WEOS	1514	90	LV	14	800	22	254		KL		9/7/2021	KL
S127/S30	EEOS-WEOS	1516	90	LV	14	800	22	276		KL		9/7/2021	KL
S127/S31	EEOS-WEOS	1518	90	LV	14	800	22	298		KL		9/7/2021	KL
S127/S32	EEOS-WEOS	1520	90	LV	14	800	22	320		KL		9/7/2021	KL
S127/S33	EEOS-WEOS	1522	90	LV	14	800	22	342		KL		9/7/2021	KL
S127/S34	EEOS-WEOS	1524	90	LV	14	800	22	364		KL		9/7/2021	KL
S127/S35	EEOS-WEOS	1526	90	LV	14	800	22	386		KL		9/7/2021	KL
S127/S36	EEOS-WEOS	1528	90	LV	14	800	22	408		KL		9/7/2021	KL
S127/S37	EEOS-WEOS	1530	90	LV	14	800	22	430		KL		9/7/2021	KL
S127/S38	EEOS-WEOS	1532	90	LV	14	800	22	452		KL		9/7/2021	KL
S127/S39	EEOS-WEOS	1534	90	LV	14	800	22	9	465	KL	DS-85	9/7/2021	KL
S127/S40	EEOS-WEOS	1536	90	LV	14	800	22	31		KL		9/7/2021	KL
S127/S41	EEOS-WEOS	1538	90	LV	14	800	22	53		KL		9/7/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 330

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 53

DAILY TOTAL WELDED (FT): 516

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 9 Mileage: 53

MACHINE # G-004

PAGE NUMBER: 10

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S127/S42	EEOS-WEOS	1540	90	LV	14	800	22	75		KL		9/7/2021	KL
S127/S43	EEOS-WEOS	1542	90	LV	14	800	22	97		KL		9/7/2021	KL
S127/S44	EEOS-WEOS	1544	90	LV	14	800	22	119		KL		9/7/2021	KL
S127/S45	EEOS-WEOS	1546	90	LV	14	800	22	141		KL		9/7/2021	KL
S127/S46	EEOS-WEOS	1548	90	LV	14	800	22	163		KL		9/7/2021	KL
S127/S47	EEOS-WEOS	1550	90	LV	14	800	22	185		KL		9/7/2021	KL
S127/S49	EEOS-WEOS	1552	90	LV	14	800	22	207		KL		9/7/2021	KL
S127/S50	EEOS-WEOS	1554	90	LV	14	800	22	229		KL		9/7/2021	KL
S127/S51	EEOS-WEOS	1556	90	LV	14	800	10	239		KL		9/7/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 186

PAGE DESTRUCTIVE LENGTH CARRY-OVER 239

DAILY TOTAL WELDED (FT) 516

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 10 Mileage: 239

MACHINE # G-004

PAGE NUMBER: 11

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S128/S51	EEOS-WEOS	1452	89	LV	14	800	12	251		KL		9/8/2021	KL
S128/S52	EEOS-WEOS	1453	89	LV	14	800	22	273		KL		9/8/2021	KL
S128/S53	EEOS-WEOS	1455	89	LV	14	800	22	295		KL		9/8/2021	KL
S128/S54	EEOS-WEOS	1457	89	LV	14	800	22	317		KL		9/8/2021	KL
S128/S55	EEOS-WEOS	1459	89	LV	14	800	22	339		KL		9/8/2021	KL
S128/S56	EEOS-WEOS	1501	89	LV	14	800	22	361		KL		9/8/2021	KL
S128/S57	EEOS-WEOS	1502	89	LV	14	800	22	383		KL		9/8/2021	KL
S128/S58	EEOS-WEOS	1504	89	LV	14	800	22	405		KL		9/8/2021	KL
S128/S59	EEOS-WEOS	1506	89	LV	14	800	22	427		KL		9/8/2021	KL
S128/S60	EEOS-WEOS	1508	89	LV	14	800	22	449		KL		9/8/2021	KL
S128/S61	EEOS-WEOS	1510	89	LV	14	800	22	471		KL		9/8/2021	KL
S128/S62	EEOS-WEOS	1512	89	LV	14	800	22	18	475	KL	DS-86	9/8/2021	KL
S128/S63	EEOS-WEOS	1514	89	LV	14	800	22	40		KL		9/8/2021	KL
S128/S64	EEOS-WEOS	1516	89	LV	14	800	22	62		KL		9/8/2021	KL
S128/S65	EEOS-WEOS	1518	89	LV	14	800	22	84		KL		9/8/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 320
PAGE DESTRUCTIVE LENGTH CARRY-OVER 84
DAILY TOTAL WELDED (FT) 1051

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021
Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 11 Mileage: 84

MACHINE # G-004

PAGE NUMBER: 12

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S128/S66	EEOS-WEOS	1520	90	LV	14	800	22	106		KL		9/8/2021	KL
S128/S67	EEOS-WEOS	1522	90	LV	14	800	22	128		KL		9/8/2021	KL
S128/S68	EEOS-WEOS	1524	91	LV	14	800	22	150		KL		9/8/2021	KL
S128/S69	EEOS-WEOS	1526	91	LV	14	800	22	172		KL		9/8/2021	KL
S128/S70	EEOS-WEOS	1528	91	LV	14	800	22	194		KL		9/8/2021	KL
S128/S71	EEOS-WEOS	1530	91	LV	14	800	22	216		KL		9/8/2021	KL
S128/S72	EEOS-WEOS	1532	91	LV	14	800	22	238		KL		9/8/2021	KL
S128/S73	EEOS-WEOS	1536	91	LV	14	800	22	260		KL		9/8/2021	KL
S128/S74	EEOS-WEOS	1538	91	LV	14	800	22	282		KL		9/8/2021	KL
S128/S129	NEOS-SEOS	1548	91	LV	14	800	7.5	289.5		KL		9/8/2021	KL
S129/S75	EEOS-WEOS	1550	91	LV	14	800	22	311.5		KL		9/8/2021	KL
S129/S76	EEOS-WEOS	1552	91	LV	14	800	22	333.5		KL		9/9/2021	KL
S129/S77	EEOS-WEOS	1554	91	LV	14	800	22	355.5		KL		9/9/2021	KL
S129/S78	EEOS-WEOS	1556	91	LV	14	800	22	377.5		KL		9/9/2021	KL
S129/S79	EEOS-WEOS	1558	91	LV	14	800	22	399.5		KL		9/9/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 315.5
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 399.5
DAILY TOTAL WELDED (FT): 1051

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD 9/30/2021
Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/2/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # - Mileage: -

MACHINE # G-018

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S50/S51	SEOS NEOS	1130	88	LP	19	770	515	415	100	KL	DS27	8/3/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 515

PAGE DESTRUCTIVE LENGTH CARRY-OVER 415

DAILY TOTAL WELDED (FT) 515

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/18/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 415

MACHINE # G-018

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S82/S83	SEOS NEOS	1130	88	LP	19	770	516	456	475	KL	DS62	8/18/2021	SMN

PAGE TOTAL: 516

PAGE DESTRUCTIVE LENGTH CARRY-OVER 456

DAILY TOTAL WELDED (FT) 516

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # - Mileage: -

MACHINE # 27

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S8/S9	EEOS WEOS	856	79	LV	18	760	43	43	-	KL	-	7/21/2021	KL
S9/S10	EEOS WEOS	902	80	LV	18	760	44	87	-	KL	-	7/21/2021	KL
S10/S11	EEOS WEOS	910	80	LV	18	760	44	11	120	KL	DS-2	7/21/2021	KL
S11/S12	EEOS WEOS	914	82	LV	18	760	45	56	-	KL	-	7/21/2021	KL
S12/S13	EEOS WEOS	922	82	LV	18	760	46	102	-	KL	-	7/21/2021	KL
S13/S14	EEOS WEOS	932	82	LV	18	760	46	148	-	KL	-	7/21/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 268

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 148

DAILY TOTAL WELDED (FT): 268

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/22/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 148

MACHINE # 27

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S29/S30	SEOS NEOS	1035	87	LV	17	720	510	208	450	KL	DS-6	7/22/2021	KL
S31/S32	SEOS NEOS	1134	90	LV	17	720	510	268	450	KL	DS-8	7/22/2021	KL
S33/S34	SEOS NEOS	1532	92	LV	17	720	512	330	450	KL	DS-10	7/22/2021	KL

PAGE TOTAL: 1532

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 330

DAILY TOTAL WELDED (FT): 1532

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/23/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 330

MACHINE # 27

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S35/S36	SEOS	NEOS	1107	90	LV	17	720	507	352	485	KL	DS-12	7/23/2021	KL
S36/ R-66	SEOS	NEOS	1147	90	LV	17	720	3	355		KL		7/23/2021	KL
S37/S38	SEOS	NEOS	1430	93	LV	17	720	510	380	485	KL	DS-14	7/23/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1020

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 380

DAILY TOTAL WELDED (FT): 1020

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/27/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 380

MACHINE # 27

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S39/S40	SEOS NEOS	1130	91	LV	18	740	514	409	485	KL	DS-16	7/23/2021	KL
S40/S41	SEOS NEOS	1210	94	LV	18	740	514	438	475	KL	DS-17	7/23/2021	KL
S41/S42	SEOS NEOS	1248	94	LV	18	740	513	466	468	KL	DS-18	7/23/2021	KL
S41/S42	SEOS NEOS	Continued	94	LV	18	740	0	8	485	KL	DS-19	7/28/2021	KL

PAGE TOTAL: 1541

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 8

DAILY TOTAL WELDED (FT): 1541

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/28/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 8

MACHINE # 27

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S42/S43	SEOS NEOS	1024	86	LV	18	740	512	35	485	KL	DS-20	7/28/2021	KL
S43/S44	SEOS NEOS	1057	88	LV	18	740	512	62	485	KL	DS-21	7/28/2021	KL
S44/S45	SEOS R75	1322	93	LV	18	740	195	257	-	KL	-	8/3/2021	KL

PAGE TOTAL: 1219

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 257

DAILY TOTAL WELDED (FT): 1219

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/29/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 5 Mileage: 257

MACHINE # 27

PAGE NUMBER: 6

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S44/S45	R75 NEOS	1038	86	LV	18	740	319	91	485	KL	DS-22	8/3/2021	KL
				`									

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 319
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 91
DAILY TOTAL WELDED (FT): 319

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/30/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 6 Mileage: 91

MACHINE # 27

PAGE NUMBER: 7

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S45/S46	SEOS NEOS	1125	90	LV	18	740	479	85	485	KL	DS-23	8/3/2021	KL
S46/S48	EEOS WEOS	1153	90	LV	18	740	22	107	-	KL	-	8/3/2021	KL
S45/S48	SEOS NEOS	1157	92	LV	18	740	35	142	-	KL	-	8/3/2021	KL
S46/S47	SEOS NEOS	1200	92	LV	18	740	479	136	485	KL	DS-24	8/3/2021	KL
S47/S48	SEOS NEOS	1232	94	LV	18	740	35	171	-	KL	-	8/3/2021	KL
S47/S49	SEOS NEOS	1345	96	LV	18	740	514	200	485	KL	DS-25	8/3/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1564

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 200

DAILY TOTAL WELDED (FT): 1564

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/2/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 7 Mileage: 200

MACHINE # 27

PAGE NUMBER: 8

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S49 / S50	SEOS NEOS	1120	87	LV	18	760	514	239	475	KL	DS-26	8/3/2021	KL
S51 / S52	SEOS NEOS	1405	93	LV	18	760	514	278	475	KL	DS-28	8/3/2021	KL
S52 / S53	SEOS NEOS	1510	94	LV	18	760	514	317	475	KL	DS-29	8/3/2021	KL

PAGE TOTAL: 1542

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 317

DAILY TOTAL WELDED (FT): 1542

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/3/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 8 Mileage: 317

MACHINE # 27

PAGE NUMBER: 9

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S53 / S54	SEOS	NEOS	915	78	LV	18	840	514	356	475	KL	DS-30	8/3/2021	KL
S54 / S55	SEOS	NEOS	1036	81	LV	18	840	514	395	475	KL	DS-31	8/3/2021	KL

PAGE TOTAL: 1028

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 395

DAILY TOTAL WELDED (FT): 1028

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/5/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 9 Mileage: 395

MACHINE # 27

PAGE NUMBER: 10

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S55 / S56	SEOS	NEOS	935	81	LV	18	800	515	435	475	KL	DS-32	8/5/2021	KL
S56 / S57	SEOS	NEOS	1030	84	LV	18	800	514	484	465	KL	DS-33	8/5/2021	KL
S56 / S57	SEOS	NEOS	1030	84	LV	18	800	0	9	475	KL	DS-34	8/5/2021	KL
S57 / S58	SEOS	NEOS	1120	88	LV	18	800	514	48	475	KL	DS-35	8/5/2021	KL
S58 / S59	SEOS	NEOS	1345	90	LV	18	800	514	87	475	KL	DS-36	8/5/2021	KL
S59 / S60	SEOS	NEOS	1425	92	LV	18	800	512	124	475	KL	DS-37	8/5/2021	KL
S60 / S61	SEOS	NEOS	1520	92	LV	18	800	513	162	475	KL	DS-38	8/5/2021	KL

PAGE TOTAL: 3082

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 162

DAILY TOTAL WELDED (FT): 3082

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/6/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 10 Mileage: 162

MACHINE # 27

PAGE NUMBER: 11

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S61 / S62	SEOS NEOS	1000	84	LV	18	800	516	203	475	KL	DS-39	8/6/2021	KL
S62 / S63	SEOS NEOS	1040	86	LV	18	800	516	244	475	KL	DS-40	8/6/2021	KL
S63 / S64	SEOS NEOS	1117	88	LV	18	800	515	284	475	KL	DS-41	8/6/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1547

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 284

DAILY TOTAL WELDED (FT): 1547

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/9/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 11 Mileage: 284

MACHINE # 27

PAGE NUMBER: 12

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S64 / S65	SEOS NEOS	1310	89	LV	18	800	515	324	475	KL	DS-42	8/9/2021	KL
S65 / S66	SEOS NEOS	1354	92	LV	18	800	516	365	475	KL	DS-43	8/9/2021	KL
S66 / S67	SEOS NEOS	1437	95	LV	18	800	515	405	475	KL	DS-44	8/9/2021	KL
S67 / S68	SEOS NEOS	1540	96	LV	18	800	515	445	475	KL	DS-45	8/9/2021	KL
S68 / S69	SEOS NEOS	1620	95	LV	18	800	515	485	475	KL	DS-46	8/9/2021	KL
S68 / S69	SEOS NEOS	1620	95	LV	18	800	0	10	475	KL	DS-47	8/9/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2576
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 10
DAILY TOTAL WELDED (FT): 2576

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/10/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 12 Mileage: 10

MACHINE # 27

PAGE NUMBER: 13

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S69 / S70	SEOS	NEOS	910	86	LV	18	800	517	52	475	KL	DS-48	8/10/2021	KL
S70 / S71	SEOS	NEOS	950	88	LV	18	800	517	94	475	KL	DS-49	8/10/2021	KL
S71 / S72	SEOS	NEOS	1115	91	LV	18	800	517	136	475	KL	DS-50	8/10/2021	KL
S72 / S73	SEOS	NEOS	1150	93	LV	18	800	517	178	475	KL	DS-51	8/10/2021	KL
S73 / S74	SEOS	NEOS	1640	86	LV	18	800	517	220	475	KL	DS-52	8/10/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2585
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 220
DAILY TOTAL WELDED (FT): 2585

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/11/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 13 Mileage: 220

MACHINE # G027

PAGE NUMBER: 14

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S74 / S75	SEOS NEOS	1040	88	LV	18	800	517	262	475	KL	DS-53	8/11/2021	KL
S75 / S76	SEOS NEOS	1120	88	LV	18	800	517	304	475	KL	DS-54	8/11/2021	KL
S76 / S77	SEOS NEOS	1153	89	LV	18	800	517	346	475	KL	DS-55	8/11/2021	KL
S77 / S78	SEOS NEOS	1225	89	LV	18	800	517	388	475	KL	DS-56	8/11/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2068

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 388

DAILY TOTAL WELDED (FT): 2068

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/12/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 14 Mileage: 388

MACHINE # G027

PAGE NUMBER: 15

SEAM NUMBER	SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
S78 / S79	SEOS NEOS	1508	84	LV	18	800	516	429	475	KL	DS-57	8/12/2021	KL
S79 / S80	SEOS NEOS	1540	84	LV	18	800	516	470	475	KL	DS-58	8/12/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1032
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 470
DAILY TOTAL WELDED (FT): 1032

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/18/2021

LAYER:

PRIMARY	
SECONDARY	X
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 15 Mileage: 470

MACHINE # G027

PAGE NUMBER: 16

SEAM NUMBER	SEAM SECTION START POINT *	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	QA MON.
S80 / S81	SEOS	NEOS	1120	90	LV	18	800	516	511	475	KL	DS-59	8/18/2021	SMN
S80 / S81	SEOS	NEOS	Continued	90	LV	18	800	0	36	475	KL	DS-60	8/18/2021	SMN
S81/S82	SEOS	NEOS	1150	92	LV	18	800	516	77	475	KL	DS-61	8/18/2021	SMN
S83/S84	SEOS	NEOS	1340	92	LV	18	800	516	118	475	KL	DS-63	8/18/2021	SMN
S84/S85	SEOS	NEOS	1502	93	LV	18	800	516	159	475	KL	DS-64	8/18/2021	SMN
S85/S86	SEOS	NEOS	1625	92	LV	18	800	516	200	475	KL	DS-65	8/18/2021	SMN

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2580
PAGE DESTRUCTIVE LENGTH CARRY-OVER: 200
DAILY TOTAL WELDED (FT): 2580

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 9/30/2021

Section 4
Geomembrane Extrusion Seaming Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/24/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 0 Mileage: 0

MACHINE # #041

PAGE NUMBER: 1

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S3 / EX	EEOS-WEOS	845	76	ALS	5	5		KL	7/26	MP	P	KL	
S2 / EX	EEOS-WEOS	847	77	ALS	21	26		KL	7/26	MP	P	KL	
S1/ EX	EEOS-WEOS	855	77	ALS	21	47		KL	7/26	MP	P	KL	
S29/ EX	EEOS-WEOS	930	78	ALS	21	68		KL	7/26	MP	P	KL	
S30/ EX	EEOS-WEOS	945	78	ALS	21	89		KL	7/26	MP	P	KL	
S31/EX	EEOS-WEOS	1025	78	ALS	21	110		KL	7/26	MP	P	KL	
S32/ EX	EEOS-WEOS	1048	84	ALS	22	12	120	KL	7/26	MP	P	KL	DX-1
S33/ EX	EEOS-WEOS	1057	84	ALS	22	34		KL	7/26	MP	P	KL	
S34/ EX	EEOS-WEOS	1119	85	ALS	22	56		KL	7/26	MP	P	KL	
S35/ EX	EEOS-WEOS	1133	87	ALS	22	78		KL	7/26	MP	P	KL	
R-66/ EX	EEOS-WEOS	1135	88	ALS	22	100		KL	7/26	MP	P	KL	
S37/ EX	EEOS-WEOS	1140	89	ALS	22	122		KL	7/26	MP	P	KL	
S38/ EX	EEOS-WEOS	1143	89	ALS	22	144		KL	7/26	MP	P	KL	
S39/ EX	EEOS-WEOS	1328	92	ALS	22	166		KL	7/26	MP	P	KL	

PAGE TOTAL: 286

PAGE DESTRUCTIVE LENGTH CARRY-OVER 166

DAILY TOTAL WELDED (FT) 286

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/29/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 1 Mileage: 166

MACHINE # #041

PAGE NUMBER: 2

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S40 / EX	EEOS-WEOS	1300	90	ALS	22	188		KL	8/13	LP	P	KL	
S41 / EX	EEOS-WEOS	1310	91	ALS	22	210		KL	8/13	LP	P	KL	
S42/ EX	EEOS-WEOS	1325	92	ALS	22	232		KL	8/13	LP	P	KL	
S43/ EX	EEOS-WEOS	1335	92	ALS	22	254		KL	8/13	LP	P	KL	
S44/ EX	EEOS-WEOS	1345	92	ALS	22	276		KL	8/13	LP	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 110

PAGE DESTRUCTIVE LENGTH CARRY-OVER 276

DAILY TOTAL WELDED (FT) 110

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/3/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 2 Mileage: 276

MACHINE # #041

PAGE NUMBER: 3

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S45 / EX	EEOS-WEOS	1315	90	ED	22	298		KL	8/13	LP	P	KL	
S48 / EX	EEOS-WEOS	1330	90	ED	22	320		KL	8/13	LP	P	KL	
S47/ EX	EEOS-WEOS	1413	90	ED	22	342		KL	8/13	LP	P	KL	
S49/ EX	EEOS-WEOS	1427	90	ED	22	364		KL	8/13	LP	P	KL	
S50/ EX	EEOS-WEOS	1449	90	ED	22	386		KL	8/13	LP	P	KL	
S51/ EX	EEOS-WEOS	1515	90	ED	22	408		KL	8/13	LP	P	KL	
S52/ EX	EEOS-WEOS	1524	90	ED	22	430		KL	8/13	LP	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 154

PAGE DESTRUCTIVE LENGTH CARRY-OVER 430

DAILY TOTAL WELDED (FT) 154

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/4/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 3 Mileage: 430

MACHINE # #041

PAGE NUMBER: 4

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S53 / EX	EEOS-WEOS	815	78	ED	22	452		KL	8/13	LP	P	KL	
S54 / EX	EEOS-WEOS	824	78	ED	22	6	468	KL	8/13	LP	P	KL	DX-02

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 44

PAGE DESTRUCTIVE LENGTH CARRY-OVER 6

DAILY TOTAL WELDED (FT) 44

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/12/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 4 Mileage: 6

MACHINE # #041

PAGE NUMBER: 5

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S56 / EX	EEOS-WEOS	835	78	ALS	22	28		KL	8/23	LP	P	KL	
S57 / EX	EEOS-WEOS	845	78	ALS	22	50		KL	8/23	LP	P	KL	
S58 / EX	EEOS-WEOS	852	80	ALS	22	72		KL	8/23	LP	P	KL	
S59 / EX	EEOS-WEOS	905	80	ALS	22	94		KL	8/23	LP	P	KL	
S60 / EX	EEOS-WEOS	920	80	ALS	22	116		KL	8/23	LP	P	KL	
S61 / EX	EEOS-WEOS	930	80	ALS	22	138		KL	8/23	LP	P	KL	
S62 / EX	EEOS-WEOS	950	80	ALS	22	160		KL	8/23	LP	P	KL	
S63 / EX	EEOS-WEOS	1000	80	ALS	22	182		KL	8/23	LP	P	KL	
S64 / EX	EEOS-WEOS	1050	87	ALS	22	204		KL	8/23	LP	P	KL	
S65 / EX	EEOS-WEOS	1100	87	ALS	22	226		KL	8/23	LP	P	KL	
S66 / EX	EEOS-WEOS	1112	87	ALS	22	248		KL	8/23	LP	P	KL	
S67 / EX	EEOS-WEOS	1124	87	ALS	4	252		KL	8/23	LP	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 246

PAGE DESTRUCTIVE LENGTH CARRY-OVER 252

DAILY TOTAL WELDED (FT) 246

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 5 Mileage: 252

MACHINE # #041

PAGE NUMBER: 6

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START * POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S80/EX	EEOS-WEOS	1130	87	ALS	22	274		KL	8/23	LP	P	KL	
S81/EX	EEOS-WEOS	1132	88	ALS	22	296		KL	8/23	LP	P	KL	
S82/EX	EEOS-WEOS	1141	88	ALS	22	318		KL	8/23	LP	P	KL	
S83/EX	EEOS-WEOS	1150	90	ALS	22	340		KL	8/23	LP	P	KL	
S84/EX	EEOS-WEOS	1159	92	ALS	22	362		KL	8/23	LP	P	KL	
S85/EX	EEOS-WEOS	1220	92	ALS	22	384		KL	8/23	LP	P	KL	
S86/EX	EEOS-WEOS	1230	92	ALS	22	406		KL	8/23	LP	P	KL	
S87/EX	EEOS-WEOS	1238	92	ALS	22	10	418	KL	8/23	LP	P	KL	DSX-6

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 176

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 10

DAILY TOTAL WELDED (FT): 246

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/23/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 6 Mileage: 10

MACHINE # #041

PAGE NUMBER: 7

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S94/EX	EEOS-WEOS	1525	90	ALS	22	32	..	KL	8/25	JL	P	KL	
S95/EX	EEOS - 12' WEOS	1530	89	ALS	12	44	..	KL	8/25	JL	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 34

PAGE DESTRUCTIVE LENGTH CARRY-OVER 44

DAILY TOTAL WELDED (FT) 34

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/23/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 7 Mileage: 44

MACHINE # #041

PAGE NUMBER: 8

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S95/EX	10'E-WEOS	1340	84	ALS	10	54	..	KL	8/25	JL	P	KL	
S96/EX	EEOS - WEOS	1350	84	ALS	22	76	..	KL	8/25	JL	P	KL	
S97/EX	EEOS - WEOS	1400	85	ALS	22	98	..	KL	8/25	JL	P	KL	
S98/EX	EEOS - WEOS	1408	85	ALS	57	155	..	KL	8/25	JL	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 111

PAGE DESTRUCTIVE LENGTH CARRY-OVER 155

DAILY TOTAL WELDED (FT) 111

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 8 Mileage: 155

MACHINE # #041

PAGE NUMBER: 9

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S127/S128	NEOS-SEOS	1530	81	CGC	7.5	162.5	..	KL	9/7	OV	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 7.5

PAGE DESTRUCTIVE LENGTH CARRY-OVER 162.5

DAILY TOTAL WELDED (FT) 7.5

REVIEWED BY : SN

DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/12/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 0 Mileage: 0

MACHINE # A049

PAGE NUMBER: 1

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S67 / EX	EEOS-WEOS	735	78	LV	18	18		KL	8/23	LP	P	KL	
S68 / EX	EEOS-WEOS	740	78	LV	22	40		KL	8/23	LP	P	KL	
S69 / EX	EEOS-WEOS	748	78	LV	22	62		KL	8/23	LP	P	KL	
S70 / EX	EEOS-WEOS	755	78	LV	22	84		KL	8/23	LP	P	KL	
S71 / EX	EEOS-WEOS	834	78	LV	22	106		KL	8/23	LP	P	KL	
S72 / EX	EEOS-WEOS	843	80	LV	22	128		KL	8/23	LP	P	KL	
S73 / EX	EEOS-WEOS	852	80	LV	22	150		KL	8/23	LP	P	KL	
S74 / EX	EEOS-WEOS	902	80	LV	22	172		KL	8/23	LP	P	KL	
S75 / EX	EEOS-WEOS	910	80	LV	22	194		KL	8/23	LP	P	KL	
S76 / EX	EEOS-WEOS	918	80	LV	22	216		KL	8/23	LP	P	KL	
S77 / EX	EEOS-WEOS	930	80	LV	22	238		KL	8/23	LP	P	KL	
S78 / EX	EEOS-WEOS	955	80	LV	22	260		KL	8/23	LP	P	KL	
S79/EX	EEOS-WEOS	1005	80	LV	22	282		KL	8/23	LP	P	KL	

PAGE TOTAL: 282

PAGE DESTRUCTIVE LENGTH CARRY-OVER 282

DAILY TOTAL WELDED (FT) 282

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

REVIEWED BY :_____SN_____
DATE :_____9/30/21_____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE EXTRUSION SEAM AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud Florida

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021

LAYER:	
PRIMARY	
SECONDARY	X
OTHER	

Brantley Engineering, LLC

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
PAGE # 1 Mileage: 282

MACHINE # A049

PAGE NUMBER: 2

EXTRUSION SEAMING									VACUUM TESTING				
SEAM NUMBER	* SEAM SECTION START POINT * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	NON DESTR. TEST DATE	TECH ID	P/F	QA MON.	REMARKS
S88/EX	EEOS-WEOS	735	78	LV	18	300		KL	8/25	LP	P	KL	
S89/EX	EEOS-WEOS	740	78	LV	22	322		KL	8/25	LP	P	KL	
S90/EX	EEOS-WEOS	748	78	LV	22	344		KL	8/25	LP	P	KL	
S91/EX	EEOS-WEOS	755	78	LV	22	366		KL	8/25	LP	P	KL	
S92/EX	EEOS-WEOS	834	78	LV	22	388		KL	8/25	LP	P	KL	
S93/EX	EEOS-WEOS	843	80	LV	22	410		KL	8/25	LP	P	KL	

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 128
PAGE DESTRUCTIVE LENGTH CARRY-OVER 388
DAILY TOTAL WELDED (FT) 128

REVIEWED BY :_____SN_____
DATE :_____9/30/21_____

Section 5
Geomembrane Defect, Repair, and Vacuum Test Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R1	1/4/5/29	INT + DF	DF	7/24/2021	DS-1	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R2	1/2/4	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R3	2/3/4	3 PANEL INT	T	7/24/2021	-	7/24	P	2X3	023	LV	KL	7/26	LP	P	SN
R4	51/55/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R5	5/6/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R6	6/7/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R7	7/8/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R8	8/9/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R9	8/9	10' W of EEOS	BO	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R10	9/10	EEOS	PT	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R11	9/10/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R12	10/11/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R13	10/11	33' W OF EEOS	DF	7/24/2021	DS-2	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R14	10/11	EEOS	PT	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R15	11/12/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R16	12/13/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R17	12/13	EEOS	PT	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R18	13/14/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R19	14/15/29	3 PANEL INT	T	7/24/2021	-	7/24	P	3X3	023	LV	KL	7/26	LP	P	SN
R20	15/16/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R21	16/17/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R22	17/18/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R23	18/19/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R24	19/20/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R25	20/21/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R26	21/22/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R27	22/23/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R28	23/24/29	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R29	24/25/28/29	4 PANEL INT	INT	7/24/2021	-	7/24	P	2X3	023	LV	KL	7/26	LP	P	SN
R30	25/27/28	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R31	25/26/27	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R32	26/27	EEOS	T	7/24/2021	Anchor Trench	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R33	18/19	7' W of EEOS	DF	7/24/2021	DS-3	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R34	19/20	6' E of WEOS	DF	7/24/2021	DS-4	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R35	19/29	18' N of SEOS	DF	7/24/2021	DS-5	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R36	29/30	202' N of SEOS	DF	7/24/2021	DS-6	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R37	30/31	312' N of SEOS	DF	7/24/2021	DS-7	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R38	31/32	242' N of SEOS	DF	7/24/2021	DS-8	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R39	31/32	18' N of SEOS	BO	7/24/2021	-	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R40	32/33	252' N of SEOS	DF	7/24/2021	DS-9	7/24	P	2x4	023	LV	KL	7/26	LP	P	SN
R41	33/34	282' S of NEOS	DF	7/24/2021	DS-10	7/24	P	2x4	023	LV	KL	7/26	LP	P	SN
R42	2/3	NEOS	PT	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R43	2/EX/EX	10' E of WEOS	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R44	1/2/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R45	1/EX/EX	10' E of WEOS	T	7/24/2021	-	7/24	P	3X3	023	LV	KL	7/26	LP	P	SN
R46	1/29/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R47	29/30/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R48	30/31/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R49	31/32/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X3	023	LV	KL	7/26	LP	P	SN
R50	32/33/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R51	33/34/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X3	023	LV	KL	7/26	LP	P	SN
R52	34/35/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN

DEFECTS TYPES
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CO - CHANGE OF OVERLAP
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OTHER

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P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R53	R66/35/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X3	023	LV	KL	7/26	LP	P	SN
R54	R66/35/36	3 PANEL INT	T	7/24/2021	-	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R55	R66/36/37	3 PANEL INT	T	7/24/2021	-	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R56	R66/37/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R57	37/38/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R58	38/39/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X2	023	LV	KL	7/26	LP	P	SN
R59	39/EX/EX	3 PANEL INT	T	7/24/2021	-	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R60	33/EX	4' WEST of EEOS	DX	7/24/2021	DSX-1	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R61	34/35	227' NORTH of SEOS	DF	7/24/2021	DS-11	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R62	35/36	155' NORTH of SEOS	DF	7/24/2021	DS-12	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R63	36/37	201' NORTH of SEOS	DF	7/24/2021	DS-13	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R64	37/38	130' NORTH of SEOS	DF	7/24/2021	DS-14	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R65	38/39	176' NORTH of SEOS	DF	7/24/2021	DS-15	7/24	P	2X4	023	LV	KL	7/26	LP	P	SN
R66	36	NEOP	EXT	7/23/2021	SEE FUSION LOG	7/23	SEAM	3X22	104	AR	KL	7/23	CL	P	KL
R67	39/40	78' NORTH of SEOS	DF	7/29/2021	DS-16	8/4	P	2X4	023	LV	KL	8/16	MP	P	KL
R68	40/41	SEOS @ TRENCH	PT	7/27/2021	-	8/4	P	2X2	023	LV	KL	8/16	MP	P	KL
R69	40/41	49' NORTH of SEOS	DF	7/29/2021	DS-17	8/4	P	2X4	023	LV	KL	8/16	MP	P	KL
R70	41/42	SEOS @ TRENCH	PT	7/27/2021	-	8/4	P	2X2	023	LV	KL	8/16	MP	P	KL
R71	41/42	20' NORTH of SEOS	DF	7/29/2021	DS-18	8/4	P	2X4	023	LV	KL	8/16	MP	P	KL
R72	41/42	115' NORTH fo SEOS	WS	7/27/2021	-	8/4	P	2X3	023	LV	KL	8/16	MP	P	KL
R73	42/43	255' NORTH of SEOS	WR	7/27/2021	-	7/29	P	3X3	041	ALS	KL	8/16	MP	P	KL
R74	44/45	117' NORTH of SEOS	BO	7/27/2021	-	8/3	P	2X2	023	LV	KL	8/16	MP	P	KL
R75	44/45	157' N OF SEOS	WR	7/27/2021	-	8/3	P	3X3	023	LV	KL	8/16	MP	P	KL
R76	42	13' W/76' S	D	7/27/2021	-	7/29	P	2X2	041	ALS	KL	8/16	MP	P	KL
R77	40/41	26' SOUTH OF NEOS	BO	7/27/2021	-	7/29	P	2X3	041	ALS	KL	8/13	MP	P	KL
R78	39/40/EX	WEOS	T	7/27/2021	-	7/29	P	2X4	041	ALS	KL	8/13	MP	P	KL

DEFECTS TYPES
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WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R79	40/41/EX	3 PANEL INT	T	7/27/2021		7/29	P	2X3	041	ALS	KL	8/13	MP	P	KL
R80	41/EX/EX	3 PANEL INT	T	7/27/2021		7/29	P	2X4	041	ALS	KL	8/13	MP	P	KL
R81	41/42/EX	3 PANEL INT	T	7/27/2021		7/29	P	2X2	041	ALS	KL	8/13	MP	P	KL
R82	42/43/EX	3 PANEL INT	T	7/27/2021		7/29	P	2X2	041	ALS	KL	8/13	MP	P	KL
R83	43/44/EX	3 PANEL INT	T	7/27/2021		7/29	P	2X2	041	ALS	KL	8/13	MP	P	KL
R84	44/45/EX	3 PANEL INT	T	7/27/2021		8/3	P	2X2	023	LV	KL	8/13	MP	P	KL
R85	41/42	8'S OF NEOS	DF	7/27/2021	DS-19	8/4	P	2X4	023	LV	KL	8/13	MP	P	KL
R86	42/43	39'S OF NEOS	DF	7/27/2021	DS-20	8/4	P	2X4	023	LV	KL	8/13	MP	P	KL
R87	43/44	65' SOF NEOS	DF	7/27/2021	DS-21	8/3	P	2X4	023	LV	KL	8/13	MP	P	KL
R88	44/45	96'S OF NEOS	DF	7/27/2021	DS-22	8/3	P	2X4	023	LV	KL	8/13	MP	P	KL
R89	45/46	121'S OF NEOS	DF	7/27/2021	DS-23	8/11	P	2X4	023	LV	KL	8/13	MP	P	KL
R90	45/46	@LCS	BO	7/27/2021		8/11	P	2X2	023	LV	KL	8/16	MP	P	KL
R91	45/46/48	3 PANEL INT	T	7/27/2021		8/11	P	2X2	023	LV	KL	8/16	MP	P	KL
R92	46/47/48	3 PANEL INT	T	7/27/2021		8/11	P	2X2	023	LV	KL	8/16	MP	P	KL
R93	46/47	162'S OF NEOS	DF	7/27/2021	DS-24	8/3	P	2X4	023	LV	KL	8/13	MP	P	KL
R94	47/49	227'S OF NEOS	DF	7/27/2021	DS-25	8/3	P	2X4	023	LV	KL	8/13	MP	P	KL
R95	49/50	249'S OF NEOS	WR	7/27/2021		8/3	P	2X3	023	LV	KL	8/16	MP	P	KL
R96	50/51	280'S OF NEOS	BO	8/3/2021		8/3	P	2X2	023	LV	KL	8/16	MP	P	KL
R97	50/51	SEOS @TRENCH	BO	8/3/2021		8/4	P	2X2	023	LV	KL	8/16	MP	P	KL
R98	51/52	21'N OF SEOS	BO	8/4/2021		8/4	P	2X4	023	LV	KL	8/16	MP	P	KL
R99	51/52	304'S OF NEOS	BO	8/3/2021		8/3	P	2X2	023	LV	KL	8/16	MP	P	KL
R100	51/52	110'S OF SEOS	BO	8/3/2021		8/3	P	2X3	023	LV	KL	8/13	MP	P	KL
R101	52/53	362'N OF SEOS	BO	8/3/2021		8/3	P	2X2	023	LV	KL	8/13	MP	P	KL
R102	52/53	278' N OF SEOS	BO	8/3/2021		8/3	P	2X2	023	LV	KL	8/16	MP	P	KL
R103	53/54	341'S OF NEOS	WS	8/3/2021		8/3	P	2X5	023	LV	KL	8/16	MP	P	KL
R104	49/50	269' S OF NEOS	DF	8/3/2021	DS-26	8/3	P	2X5	023	LV	KL	8/16	MP	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
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EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

						REPAIR						VACUUM TEST			
DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	DATE	TYPE	APPROX	MACH	WELD	QA	DATE	TECH	P/F	QA
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE					SIZE	ID #	TECH	MON.		ID		MON.
R105	50/51	100' N OF SEOS	DF	8/3/2021	DS-27	8/3	P	2X4	023	LV	KL	8/16	MP	P	KL
R106	51/52	311' SOF NEOS	DF	8/3/2021	DS-28	8/3	P	2X4	023	LV	KL	8/16	MP	P	KL
R107	52/53	359' S OF NEOS	DF	8/3/2021	DS-29	8/3	P	2X4	023	LV	KL	8/16	MP	P	KL
R108	45/EX	8' E OF WEOS	BO	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R109	45/48/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R110	47/48/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R111	47/EX	6'E OF WEOS	BO	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R112	47/49/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R113	49/EX	5'E OF WEOS	BO	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R114	49/50/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R115	50/51/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R116	51/52/EX	3 PANEL INT	T	8/3/2021		8/3	P	2X2	041	ED	KL	8/13	MP	P	KL
R117	52/53/EX	3 PANEL INT	T	8/3/2021		8/4	P	2X2	041	ED	KL	8/13	MP	P	KL
R118	53/54/EX	3 PANEL INT	T	8/4/2021		8/4	P	2X3	041	ED	KL	8/13	MP	P	KL
R119	54/EXT	8' W OF EEOS	BO	8/4/2021		8/4	P	2X3	041	ED	KL	8/13	MP	P	KL
R120	53/54	356' S OF NEOS	DF	8/11/2021	DS-30	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R121	54/55	395' SOF NEOS	DF	8/11/2021	DS-31	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R122	55/56	435' S OF NEOS	DF	8/11/2021	DS-32	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R123	56/57	484' S OF NEOS	DF	8/11/2021	DS-33	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R124	56/57	9' S OF NEOS	DF	8/11/2021	DS-34	8/11	P	2X4	049	ALS	KL	8/13	LP	P	KL
R125	57/58	48' S OF NEOS	DF	8/11/2021	DS-35	8/11	P	2X4	049	ALS	KL	8/13	LP	P	KL
R126	58/59	87' S OF NEOS	DF	8/11/2021	DS-36	8/11	P	2X4	049	ALS	KL	8/13	LP	P	KL
R127	59/60	124' S OF NEOS	DF	8/11/2021	DS-37	8/12	P	2X4	049	ALS	KL	8/13	LP	P	KL
R128	60/61	162' S OF NEOS	DF	8/11/2021	DS-38	8/12	P	2X4	049	ALS	KL	8/13	LP	P	KL
R129	61/62	203' S OF NEOS	DF	8/11/2021	DS-39	8/12	P	2X4	049	ALS	KL	8/13	LP	P	KL
R130	62/63	244' S OF NEOS	DF	8/11/2021	DS-40	8/11	P	2X4	049	ALS	KL	8/13	LP	P	KL

DEFECTS TYPES
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ED - EQUIP. DAMAGE
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REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R131	63/64	284' S OF NEOS	DF	8/11/2021	DS-41	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R132	64/65	324' S OF NEOS	DF	8/11/2021	DS-42	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R133	65/66	365' OF NEOS	DF	8/11/2021	DS-43	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R134	66/67	405' S OF NEOS	DF	8/9/2021	DS-44	8/11	P	2X4	014	LP	KL	8/16	MP	P	KL
R135	67/68	445' S OF NEOS	DF	8/9/2021	DS-45	8/11	P	2X4	014	LP	KL	8/16	LP	P	KL
R136	68/69	485' S OF NEOS	DF	8/9/2021	DS-46	8/11	P	2X4	014	LP	KL	8/16	LP	P	KL
R137	65/66	69' S OF NEOS	IO	8/9/2021		8/12	P	2X5	049	LV	KL	8/16	LP	P	KL
R138	68/69	10' S OF NEOS	DF	8/9/2021	DS-47	8/12	P	2X4	049	LV	KL	8/16	LP	P	KL
R139	69/70	52' S OF NEOS	DF	8/10/2021	DS-48	8/12	P	2X4	049	LV	KL	8/16	LP	P	KL
R140	70/71	94' S OF NEOS	DF	8/10/2021	DS-49	8/12	P	2X4	049	LV	KL	8/16	LP	P	KL
R141	71/72	136' S OF NEOS	DF	8/10/2021	DS-50	8/12	P	2X4	049	LV	KL	8/16	LP	P	KL
R142	72/73	178' S OF NEOS	DF	8/10/2021	DS-51	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R143	73/74	220' S OF NEOS	DF	8/10/2021	DS-52	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R144	74/75	262' S OF NEOS	DF	8/11/2021	DS-53	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R145	75/76	304' S OF NEOS	DF	8/11/2021	DS-54	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R146	76/77	346' S OF NEOS	DF	8/11/2021	DS-55	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R147	77/78	388' S OF NEOS	DF	8/11/2021	DS-56	8/13	P	2X4	049	LV	KL	8/16	LP	P	KL
R148	54/55/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X3	041	ALS	KL	8/13	LP	P	KL
R149	55/EX	CAP OVER TIE IN SEAM	IO	8/12/2021	CAPS OVER 55/EX	8/12	C	2X22	041	ALS	KL	8/13	LP	P	KL
R150	56/57/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X3	041	ALS	KL	8/13	LP	P	KL
R151	57/58/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/13	LP	P	KL
R152	58/59/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/13	LP	P	KL
R153	59/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X3	041	ALS	KL	8/13	LP	P	KL
R154	59/60/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X3	041	ALS	KL	8/13	LP	P	KL
R155	60/EXT/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/13	LP	P	KL
R156	60/61/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/13	LP	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

						REPAIR						VACUUM TEST			
DEFECT CODE	DEFECT LOCATION SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	DEFECT TYPE	DATE	REMARKS	DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R157	61/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R158	61/62/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R159	62/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R160	62/63/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R161	63/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R162	63/64/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R163	64/65/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X3	041	ALS	KL	8/23	JL	P	KL
R164	65/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R165	65/66/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R166	66/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	041	ALS	KL	8/23	JL	P	KL
R167	66/67/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X4	041	ALS	KL	8/23	JL	P	KL
R168	67/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R169	67/68/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R170	68/69/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R171	69/70/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R172	70/71/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R173	71/72/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R174	72/73/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R175	73/74/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R176	74/75/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R177	75/76/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R178	76/77/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R179	77/78/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R180	78/EX/EX	3 PANEL INT	T	8/12/2021		8/12	P	2X2	049	LV	KL	8/23	JL	P	KL
R181	54/EX	6'E OF WEOS	DX	8/13/2021	DSX-2	8/13	P	2X5	041	ALS	KL	8/23	JL	P	KL
R182	44	7'S /8'E	D	8/13/2021		8/23	P	2X2	049	LV	KL	8/23	JL	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
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INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
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WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

						REPAIR						VACUUM TEST			
DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	DATE	TYPE	APPROX	MACH	WELD	QA	DATE	TECH	P/F	QA
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE					SIZE	ID #	TECH	MON.		ID		MON.
R183	52/53	ON 52/R107	DX	8/13/2021	DSX-3	8/13	P	2X5	049	LV	KL	8/16	MP	P	KL
R184	53/54	ON 53/R120	DX	8/13/2021	DSX-4	8/13	P	2X6	049	LV	KL	8/16	MP	P	KL
R185	78/79	246'S OF NEOS	BO	8/13/2021		8/13	P	2X2	049	LV	KL	8/16	MP	P	KL
R186	71/72	250' NOF SEOS	BO	8/13/2021		8/13	P	3X3	049	LV	KL	8/16	MP	P	KL
R187	78/79/EX	3 PANEL INT	T	8/13/2021		8/13	P	2X2	041	ALS	KL	8/20	JL	P	KL
R188	79/EX/EX	3 PANEL INT	T	8/13/2021		8/13	P	2X2	041	ALS	KL	8/20	JL	P	KL
R189	79/80/EX	3 PANEL INT	T	8/13/2021		8/13	P	2X2	041	ALS	KL	8/20	JL	P	KL
R190	78/79	87' N OF SEOS	DF	8/13/2021	DS-57	8/13	P	2X4	049	LV	KL	8/16	MP	P	KL
R191	79/80	46' N OF SEOS	DF	8/13/2021	DS-58	8/13	P	2X4	049	LV	KL	8/16	MP	P	KL
R192	80/81	5' N OF SEOS	DF	8/18/2021	DS-59	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R193	80/81	36' S OF NEOS	DF	8/18/2021	DS-60	8/20	P	2X4	049	LV	KL	8/23	JL	P	KL
R194	81/82	77' S OF NEOS	DF	8/18/2021	DS-61	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R195	83/R-292	197' S OF NEOS	DF	8/18/2021	DS-83	8/26	P	2X5	049	LV	KL	8/26	CG	P	KL
R196	82/83	77' N OF SEOS	DF	8/18/2021	DS-62	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R197	83/84	118' S OF NEOS	DF	8/18/2021	DS-63	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R198	85	76' S OF NEOS	CR	8/18/2021		8/23	P	2X2	049	LV	KL	8/23	JL	P	KL
R199	85	81' S OF NEOS	CR	8/18/2021		8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R200	84/85	159' S OF NEOS	DF	8/18/2021	DS-64	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R201	85/86	201' S OF NEOS	DF	8/18/2021	DS-65	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R202	84/85	140' N OF SEOS	BO	8/18/2021		8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R203	85/86	114' N OF SEOS	BO	8/18/2021		8/23	P	2X2	049	LV	KL	8/23	JL	P	KL
R204	82/83	6'N OF SEOS	BO	8/18/2021		8/23	P	2X2	049	LV	KL	8/25	JL	P	KL
R205	86/87	182 S OF NEOS	DF	8/19/2021	DS-66	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R206	86/87	230' N OF SEOS	BO	8/19/2021		8/23	P	3X3	049	LV	KL	8/23	JL	P	KL
R207	87/88	223' S OF NEOS	DF	8/19/2021	DS-67	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R208	88/89	375' S OF NEOS	DF	8/19/2021	DS-68	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
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DF - FUSION DESTRUCTIVE
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ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
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VL - VACCUM LEAK
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WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R209	89/90	264' S OF NEOS	DF	8/19/2021	DS-69	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL
R210	90/91	416' S OF NEOS	DF	8/19/2021	DS-70	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL
R211	91/92	305' S OF NEOS	DF	8/19/2021	DS-71	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL
R212	92/93	59' N OF SEOS	DF	8/19/2021	DS-72	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL
R213	93/94	80' N OF SEOS	DF	8/20/2021	DS-73	8/23	P	2X4	049	LV	KL	8/25	JL	P	KL
R214	94/95	18'N OF SEOS	DF	8/20/2021	DS-74	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R215	94/95	23' S OF NEOS	DF	8/20/2021	DS-75	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R216	80/EX/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R217	80/81/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R218	81/EX/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R219	81/82/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R220	82/EX/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R221	82/83/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R222	83/84/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R223	84/EX/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R224	84/85/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/23	JL	P	KL
R225	85/EX/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/20	JL	P	KL
R226	85/86/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X2	041	ALS	KL	8/20	JL	P	KL
R227	86/87/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	041	ALS	KL	8/20	JL	P	KL
R228	87/88/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	041	ALS	KL	8/20	JL	P	KL
R229	88/89/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	049	LV	KL	8/20	JL	P	KL
R230	88	7'S /2'E	CUT	8/20/2021		8/20	P	2X2	049	LV	KL	8/20	JL	P	KL
R231	89/90/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	049	LV	KL	8/20	JL	P	KL
R232	90/91/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	049	LV	KL	8/20	JL	P	KL
R233	91/92/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	049	LV	KL	8/20	JL	P	KL
R234	92/93/EX	3 PANEL INT	T	8/20/2021		8/20	P	2X4	049	LV	KL	8/20	JL	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
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REPAIR TYPES
P - PATCH
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G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R235	65/66	4'N OF SEOS	BO	8/23/2021		8/23	P	2X2	049	LV	KL	8/23	JL	P	KL
R236	65/66	ON R-137	DX	8/23/2021	DSX-5	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R237	80/81	266'S OF NEOS	BO	8/23/2021		8/23	P	2X2	049	LV	KL	8/23	JL	P	KL
R238	87/EX	10'E OF WEOS	DX	8/23/2021	DSX-6	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R239	R-210/90	100' N OF SEOS	DX	8/23/2021	DSX-7	8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R240	95/96	39' N OF SEOS	DF	8/24/2021	DS-76	8/24	P	2X4	049	LV	KL	8/25	JL	P	KL
R241	93/94/EX	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R242	94/95/EX	3 PANEL INT	T	8/24/2021		8/23	P	2X3	049	LV	KL	8/23	JL	P	KL
R243	95/96/EX	3 PANEL INT	T	8/24/2021		8/23	P	2X4	049	LV	KL	8/23	JL	P	KL
R244	96/97/EX	3 PANEL INT	T	8/24/2021		8/24	P	2X3	041	ALS	KL	8/25	JL	P	KL
R245	97/98/EX	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/25	JL	P	KL
R246	98/EX	27' W OF EEOS	WR	8/24/2021		8/24	P	2X4	041	ALS	KL	8/25	JL	P	KL
R247	97/98/99	3 PANEL INT	T	8/24/2021		8/24	P	2X4	049	LV	KL	8/25	JL	P	KL
R248	97/99	10' N OF SEOS	BO	8/24/2021		8/24	P	2X3	049	LV	KL	8/25	JL	P	KL
R249	97/99/100	3 PANEL INT	T	8/24/2021		8/24	P	2X3	049	LV	KL	8/25	JL	P	KL
R250	97/100/101	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R251	97/101/102	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R252	97/102/103	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R253	97/103/104	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R254	97/104/105	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R255	97/105/106	3 PANEL INT	T	8/24/2021		8/24	P	2X2	049	LV	KL	8/25	JL	P	KL
R256	105/106	40'W OF EEOS	BO	8/24/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R257	97/106/108	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R258	96/97/107/108	4 PANEL INT	INT	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R259	95/96/107	3 PANEL INT	T	8/24/2021		8/24	P	2X4	041	ALS	KL	8/24	JL	P	KL
R260	95/107	75' N OF SEOS	BO	8/24/2021		8/24	P	2X5	041	ALS	KL	8/24	JL	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R261	95/107	52'N OR SEOS	BO	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R262	95/107	42'N OF SEOS	BO	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R263	107/108/109	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R264	107/109/110	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R265	107/110	4'S OF NEOS	BO	8/24/2021		8/24	P	2X4	041	ALS	KL	8/24	JL	P	KL
R266	107/110	10'S OF NEOS	FM	8/24/2021		8/24	P	2X4	041	ALS	KL	8/24	JL	P	KL
R267	107/110/111	SUMP	T	8/24/2021		8/24	P	2X4	041	ALS	KL	8/24	JL	P	KL
R268	107/111	SUMP	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R269	107/111/112	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/24	JL	P	KL
R270	107/112/113	3 PANEL INT	T	8/24/2021		8/24	P	6X6	041	ALS	KL	8/25	JL	P	KL
R271	95/107/113	3 PANEL INT	T	8/24/2021		8/24	P	2X2	041	ALS	KL	8/25	JL	P	KL
R272	95/113/114	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R273	114/115	42'W OF EEOS	BO	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R274	114/115	22'W OF EEOS	BO	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R275	114	13'W 18'S	D	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R276	114/115	12'W OF EEOS	BO	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R277	95/114/115	3 PANEL INT	T	8/25/2021		8/25	P	3X4	049	LV	KL	8/25	JL	P	KL
R278	95/115	6'S OF NEOS	BO	8/25/2021		8/25	P	2X5	049	LV	KL	8/25	JL	P	KL
R279	95/115/116	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R280	95/116/117	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R281	95/117/118	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/25	JL	P	KL
R282	95/118/119	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/26	JL	P	KL
R283	95/119/120	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/26	JL	P	KL
R284	95/120/121	3 PANEL INT	T	8/25/2021		8/25	P	2X4	049	LV	KL	8/26	JL	P	KL
R285	120/121/122	3 PANEL INT	T	8/25/2021		8/25	P	2X2	049	LV	KL	8/26	JL	P	KL
R286	120/122/125	3 PANEL INT	T	8/25/2021		8/25	P	5X6	049	LV	KL	8/26	JL	P	KL

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OTHER

REPAIR TYPES
P - PATCH
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R287	122/123/125	3 PANEL INT	T	8/26/2021		8/26	P	2X2	049	LV	KL	8/26	CG	P	KL
R288	123/124/125	3 PANEL INT	T	8/26/2021		8/26	P	2X2	049	LV	KL	8/26	CG	P	KL
R289	102/103	33'E OF WEOS	DF	8/26/2021	DS-77	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R290	95/107	20'S OF NEOS	DF	8/26/2021	DS-78	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R291	112/113	58'W OF EEOS	DF	8/26/2021	DS-79	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R292	82/83	518' CAPPED SEAM	FS	8/26/2021		8/26	C	4X518	G004	LV	KL	AIR TESTED			
R293	83/R-292	217' S OF NEOS	BO	8/26/2021		8/26	P	2X5	049	LV	KL	8/26	CG	P	KL
R294	82/R-292	156'S OF NEOS	DF	8/26/2021	DS-82	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R295	95/121	23'S OF NEOS	DF	8/26/2021	DS-81	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R296	117/118	15' W OF EEOS	DF	8/26/2021	DS-80	8/26	P	2X4	049	LV	KL	8/26	CG	P	KL
R297	4/5/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R298	5/6/126	3 PANEL INT	T	9/2/2021		9/2	P	2X7	049	LV	KL	9/2	CG	P	KL
R299	6/7/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R300	7/8/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R301	8/9/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R302	9/10/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R303	10/11/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R304	11/12/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R305	12/13/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R306	13/14/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R307	14/15/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R308	15/16/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R309	16/17/126	2'S OF NEOS &T	DF,T	9/2/2021	DS-84	9/2	P	2X7	049	LV	KL	9/2	CG	P	KL
R310	17/18/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R311	18/19/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL
R312	19/20/126	3 PANEL INT	T	9/2/2021		9/2	P	2X2	049	LV	KL	9/2	CG	P	KL

DEFECTS TYPES
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P - PATCH
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R313	20/21/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R314	21/22/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R315	22/23/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R316	23/24/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R317	24/25/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R318	25/26/126	3 PANEL INT	T	9/2/2021		9/2	P	2X4	049	LV	KL	9/2	CG	P	KL
R319	126/R-309	ON R-309	DX	9/2/2021	DSX-8	9/2	P	2X7	049	LV	KL	9/2	CG	P	KL
R320	26/27/126/127	4 PANEL INT	INT	9/7/2021		9/7	P	2X5	041	CGC	KL	9/7	OV	P	KL
R321	27/28/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R322	28/29/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R323	29/30/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R324	30/31/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R325	31/32/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R326	32/33/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R327	33/34/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R328	34/35/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R329	35/36/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R330	36/37/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R331	37/38/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R332	38/39/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R333	39/40/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R334	40/41/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R335	41/42/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R336	42/43/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R337	43/44/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R338	44/45/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
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CUT - CUT
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OTHER

REPAIR TYPES
P - PATCH
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R339	45/46/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R340	46/47/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R341	47/49/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R342	49/50/127	3 PANEL INT	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R343	50/127	8'E OF WEOS	T	9/7/2021		9/7	P	2X2	041	CGC	KL	9/7	OV	P	KL
R344	50/51/127	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R345	127	26'W,3'S	D	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R346	39/127	6'E OF WEOS	DF	9/8/2021	DS-85	9/8	P	3X6	041	CGC	KL	9/8	OV	P	KL
R347	51/127/128	3 PANEL INT	T	9/8/2021		9/8	P	2X3	041	CGC	KL	9/8	OV	P	KL
R348	128	2'W,3'S	D	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R349	51/52/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R350	52/53/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R351	53/54/128	3 PANEL INT	T	9/8/2021		9/8	P	3X6	041	CGC	KL	9/8	OV	P	KL
R352	54	4'E,26'N	D	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R353	54	4'E,27'N	D	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R354	54/55/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R355	55/56/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R356	56/57/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R357	57/58/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/8	OV	P	KL
R358	58/59/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R359	59/60/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R360	60/61/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R361	61/62/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R362	62/63/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R363	63/64/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL
R364	64/65/128	3 PANEL INT	T	9/8/2021		9/8	P	2X2	041	CGC	KL	9/9	OV	P	KL

DEFECTS TYPES
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REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R365	65/66/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R366	66/67/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R367	67/68/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R368	68/69/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R369	69/70/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R370	70/128	13'W OF EEOS	D	9/9/2021		9/9	P	2X3	041	CGC	KL	9/9	OV	P	KL
R371	70/71/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R372	71/72/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R373	72/73/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R374	73/74/128	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R375	74/75/128/129	4 PANEL INT	INT	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R376	75/76/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R377	76/77/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R378	77/78/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R379	78/79/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R380	79/80/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R381	80/81/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R382	81/82/129	3 PANEL INT	T	9/9/2021		9/9	P	2X6	041	CGC	KL	9/9	OV	P	KL
R383	82/83/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R384	83/129	15'W OF EEOS	DF	9/9/2021	DS-87	9/9	P	2X5	041	CGC	KL	9/9	OV	P	KL
R385	83/84/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R386	84/85/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R387	85/86/129	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R388	86/87/129/130	4 PANEL INT	INT	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R389	87/88/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R390	88/89/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY
SECONDARY X

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R391	89/90/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R392	90	7'W,2'N	D	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R393	90/91/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R394	91/92/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R395	92/93/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R396	93/94/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R397	94/95/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R398	95/121/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R399	121/122/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R400	122/123/130	3 PANEL INT	T	9/9/2021		9/9	P	2X2	041	CGC	KL	9/9	OV	P	KL
R401	124/130/131	3 PANEL INT	T	9/9/2021		9/9	P	3X3	041	CGC	KL	9/9	OV	P	KL
R402	124/131	WEOS/CORNER EXT	EXT	9/9/2021		9/9	P	5X10	004	LV	KL	FUSION SEAM			
R403	62/128	10'W OF EEOS	DF	9/9/2021	DS-86	9/9	P	2X5	041	CGC	KL	9/9	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DF - FUSION DESTRUCTIVE
DX - EXTRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXTENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
IO - INSUFFICIENT OVERLAP
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
EX- EXISTING
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 9/30/21

Section 6
Geomembrane Non-Destructive Pressure Test Log

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/21/2021
PAGE# 1

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S5/S6	WEOS	EEOS	CL	800	805	30	29	PASS	Y	KL	
S6/S7	WEOS	EEOS	CL	801	806	30	29	PASS	Y	KL	
S7/S8	WEOS	EEOS	CL	805	810	30	30	PASS	Y	KL	
S8/S9	R9	EEOS	CL	813	818	30	28	PASS	N	KL	
S2/S3	WEOS	EEOS	CL	920	925	30	30	PASS	Y	KL	
S3/S4	WEOS	EEOS	CL	920	925	30	30	PASS	Y	KL	
S1/S2	WEOS	EEOS	CL	921	926	30	29	PASS	Y	KL	
S2/S4	WEOS	EEOS	CL	921	926	30	30	PASS	Y	KL	
S1/S5	WEOS	EEOS	CL	922	927	30	30	PASS	Y	KL	
S1/S4	WEOS	EEOS	CL	922	927	30	29	PASS	Y	KL	
S4/S5	WEOS	EEOS	CL	922	927	30	29	PASS	Y	KL	
S8/S9	WEOS	R9	CL	925	930	30	29	PASS	Y	KL	
S9/S10	WEOS	EEOS	CL	926	931	30	29	PASS	Y	KL	
S10/S11	WEOS	EEOS	CL	927	932	30	30	PASS	Y	KL	
S11/S12	WEOS	EEOS	CL	928	933	30	30	PASS	Y	KL	
S12/S13	WEOS	EEOS	CL	939	944	30	30	PASS	Y	KL	
S13/S14	WEOS	EEOS	CL	940	945	30	30	PASS	Y	KL	
S25/S26	WEOS	EEOS	CL	1543	1548	30	30	PASS	Y	KL	
S25/S27	WEOS	EEOS	CL	1543	1548	30	30	PASS	Y	KL	
S25/S28	NEOS	SEOS	CL	1543	1548	30	30	PASS	Y	KL	
S26/S27	NEOS	SEOS	CL	1543	1548	30	30	PASS	Y	KL	
S27/S28	NEOS	SEOS	CL	1544	1549	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/22/2021
PAGE# 2

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S31/S32	NEOS	SEOS	CL	1346	1351	30	30	PASS	Y	KL	
S30/S31	NEOS	SEOS	CL	1349	1354	30	30	PASS	Y	KL	
S29/S30	NEOS	SEOS	CL	1349	1354	30	28	PASS	Y	KL	
S32/S33	NEOS	SEOS	CL	1650	1655	30	30	PASS	Y	KL	
S33/S34	NEOS	SEOS	CL	1651	1656	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/23/2021
PAGE# 3

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S1/S29	SEOS	NEOS	CL	858	863	30	30	PASS	Y	KL	
S29/S5	EEOS	WEOS	CL	858	863	30	30	PASS	Y	KL	
S29/S6	NEOS	SEOS	CL	858	863	30	30	PASS	Y	KL	
S29/S7	NEOS	SEOS	CL	858	863	30	28	PASS	Y	KL	
S29/S9	EEOS	WEOS	CL	902	907	30	30	PASS	Y	KL	
S8/S29	NEOS	SEOS	CL	902	907	30	30	PASS	Y	KL	
S10/S29	NEOS	SEOS	CL	902	907	30	30	PASS	Y	KL	
S12/S29	NEOS	SEOS	CL	903	908	30	30	PASS	Y	KL	
S29/S11	NEOS	SEOS	CL	903	908	30	30	PASS	Y	KL	
S29/S13	EEOS	WEOS	CL	903	908	30	30	PASS	Y	KL	
S29/S14	EEOS	WEOS	CL	904	909	30	30	PASS	Y	KL	
S15/S16	WEOS	EEOS	CL	1028	1033	30	30	PASS	Y	KL	
S14/S15	WEOS	EEOS	CL	1028	1033	30	30	PASS	Y	KL	
S29/S15	EEOS	WEOS	CL	1028	1033	30	30	PASS	Y	KL	
S16/S17	WEOS	EEOS	CL	1029	1034	30	30	PASS	Y	KL	
S29/S16	EEOS	WEOS	CL	1029	1034	30	30	PASS	Y	KL	
S17/S18	WEOS	EEOS	CL	1030	1035	30	30	PASS	Y	KL	
S29/S17	EEOS	WEOS	CL	1030	1035	30	30	PASS	Y	KL	
S18/S19	EEOS	WEOS	CL	1031	1036	30	30	PASS	Y	KL	
S19/S20	EEOS	WEOS	CL	1031	1036	30	30	PASS	Y	KL	
S29/S18	NEOS	SEOS	CL	1031	1036	30	30	PASS	Y	KL	
S29/S19	NEOS	SEOS	CL	1031	1036	30	30	PASS	Y	KL	
S20/S29	NEOS	SEOS	CL	1032	1037	30	30	PASS	Y	KL	
S20/S21	NEOS	SEOS	CL	1032	1037	30	30	PASS	Y	KL	
S29/S21	NEOS	SEOS	CL	1035	1040	30	30	PASS	Y	KL	
S21/S22	NEOS	SEOS	CL	1035	1040	30	30	PASS	Y	KL	
S29/S22	NEOS	SEOS	CL	1035	1040	30	30	PASS	Y	KL	
S22/S23	NEOS	SEOS	CL	1044	1049	30	30	PASS	Y	KL	
S23/S29	NEOS	SEOS	CL	1045	1050	30	30	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/23/2021
PAGE# 4

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S24/S29	NEOS	SEOS	CL	1051	1056	30	30	PASS	Y	KL	
S28/S29	NEOS	SEOS	CL	1051	1056	30	30	PASS	Y	KL	
S34/S35	SEOS	NEOS	CL	1408	1413	30	30	PASS	Y	KL	
S35/S36	SEOS	NEOS	CL	1404	1409	30	30	PASS	Y	KL	
S36/S37	SEOS	NEOS	CL	1405	1410	30	30	PASS	Y	KL	
S37/R66	SEOS	NEOS	CL	1510	1515	30	30	PASS	Y	KL	
S36/R66	EEOS	WEOS	CL	1510	1515	30	30	PASS	Y	KL	
S39/S40	SEOS	NEOS	CL	1511	1516	30	30	PASS	Y	KL	
S40/S41	SEOS	NEOS	CL	1512	1517	30	30	PASS	Y	KL	
S35/R66	SEOS	NEOS	CL	1515	1520	30	30	PASS	Y	KL	
S37/S38	SEOS	NEOS	CL	1552	1557	30	28	PASS	Y	KL	
S38/S39	SEOS	NEOS	CL	1553	1558	30	30	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 7/28/2021
PAGE# 5

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S41/S42	SEOS	R72	CL	1100	1105	30	30	PASS	N	KL	
S41/S42	R72	NEOS	CL	1100	1105	30	30	PASS	Y	KL	
S42/S43	SEOS	R73	CL	1112	1117	30	30	PASS	N	KL	
S42/S43	R73	NEOS	CL	1112	1117	30	28	PASS	Y	KL	
S43/S44	SEOS	NEOS	CL	1318	1323	30	30	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/3/2021
PAGE# 6

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S44/S45	SEOS	R75	CL	1057	1102	30	30	PASS	N	KL	
S44/S45	R75	NEOS	CL	1057	1102	30	30	PASS	Y	KL	
S45/S46	SEOS	NEOS	CL	1025	1030	30	30	PASS	N	KL	
S46/S47	SEOS	NEOS	CL	955	1000	30	28	PASS	Y	KL	
S47/S49	SEOS	NEOS	CL	958	1003	30	30	PASS	Y	KL	
S50/S51	R96	NEOS	CL	1047	1052	30	30	PASS	Y	KL	
S50/S51	SEOS	R96	CL	1058	1103	30	30	PASS	Y	KL	
S49/S50	R95	NEOS	CL	1115	1120	30	30	PASS	N	KL	
S49/S50	SEOS	R95	CL	1115	1120	30	30	PASS	Y	KL	
S51/S52	R99	NEOS	CL	1123	1128	30	30	PASS	N	KL	
S51/S52	SEOS	R99	CL	1133	1138	30	30	PASS	Y	KL	
S47/S48	SEOS	NEOS	CL	1142	1147	30	30	PASS	Y	KL	
S45/S48	SEOS	NEOS	CL	1143	1148	30	30	PASS	Y	KL	
S46/S48	WEOS	EEOS	CL	1147	1152	30	30	PASS	Y	KL	
S52/S53	R101	SEOS	CL	1319	1324	30	30	PASS	N	KL	
S53/S54	SEOS	R103	CL	1319	1324	30	30	PASS	N	KL	
S53/S54	R103	NEOS	CL	1327	1332	30	30	PASS	Y	KL	
S54/S55	SEOS	NEOS	CL	1327	1332	30	30	PASS	Y	KL	
S52/S53	NEOS	R101	CL	1330	1335	30	29	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/5/2021
PAGE# 7

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S55/S56	SEOS	NEOS	CL	1259	1304	30	30	PASS	Y	KL	
S56/S57	SEOS	NEOS	CL	1300	1305	30	30	PASS	Y	KL	
S57/S58	SEOS	NEOS	CL	1301	1306	30	30	PASS	Y	KL	
S58/S59	SEOS	NEOS	CL	1550	1555	30	28	PASS	Y	KL	
S59/S60	SEOS	NEOS	CL	1551	1556	30	30	PASS	Y	KL	
S60/S61	SEOS	NEOS	CL	1623	1628	30	30	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/6/2021
PAGE# 8

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S61/S62	SEOS	NEOS	CL	1254	1259	30	30	PASS	Y	KL	
S62/S63	SEOS	NEOS	CL	1255	1300	30	30	PASS	Y	KL	
S63/S64	SEOS	NEOS	CL	1256	1301	30	30	PASS	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/9/2021
PAGE# 9

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S64 / S65	SEOS	NEOS	5	CL	1422	1427	30	30	PASS	Y	KL
S65 / S66	SEOS	NEOS	7	CL	1425	1430	30	30	PASS	Y	KL
S66 / S67	SEOS	NEOS	7	CL	1540	1545	30	30	PASS	Y	KL
S67 / S68	SEOS	NEOS	7	CL	1633	1638	30	30	PASS	Y	KL
S68 / S69	SEOS	NEOS	5	CL	1655	1700	30	30	PASS	Y	KL

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/10/2021
PAGE# 10

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S69 / S70	SEOS	NEOS	6	CL	1436	1441	30	29	PASS	Y	KL
S70 / S71	SEOS	NEOS	8	CL	1437	1442	30	30	PASS	Y	KL
S71 / S72	SEOS	NEOS	7	CL	1438	1443	30	30	PASS	Y	KL
S72 / S73	SEOS	NEOS	5	CL	1439	1444	30	30	PASS	Y	KL
S73 / S74	SEOS	NEOS	8	CL	1708	1713	30	30	PASS	Y	KL

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/11/2021
PAGE# 11

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S74 / S75	SEOS	NEOS	8	CL	1137	1142	30	30	PASS	Y	KL
S75 / S76	SEOS	NEOS	8	CL	1204	1209	30	30	PASS	Y	KL
S76 / S77	SEOS	NEOS	8	CL	1322	1327	30	30	PASS	Y	KL
S77 / S78	SEOS	NEOS	9	CL	1323	1328	30	30	PASS	Y	KL

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/12/2021
PAGE# 12

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S78 / S79	SEOS	NEOS	8	CL	1611	1616	30	30	PASS	Y	KL
S79 / S80	SEOS	NEOS	9	CL	1612	1617	30	30	PASS	Y	KL

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/18/2021
PAGE# 13

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S80/S81	SEOS	NEOS	CL	1339	1344	30	30	P	Y	SMN	
S81/S82	SEOS	NEOS	CL	1340	1345	30	30	P	Y	SMN	
S82/S83	SEOS	NEOS	CL	1420	1425	30	28	P	Y	SMN	
S83/S84	SEOS	NEOS	CL	1452	1457	30	30	P	Y	SMN	
S84/S85	SEOS	R-202	CL	1642	1647	30	30	P	N	SMN	
S84/S85	R-202	NEOS	CL	1642	1647	30	30	P	Y	SMN	
S85/S86	SEOS	NEOS	CL	1700	1705	30	28	P	Y	SMN	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/19/2021
PAGE# 14

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S86/S87	SEOS	R206	CL	1130	1135	30	29	P	N	SMN	
S86/S87	R-206	NEOS	CL	1130	1135	30	30	P	Y	SMN	
S87/S88	SEOS	NEOS	CL	1127	1132	30	30	P	Y	SMN	
S88/S89	SEOS	NEOS	CL	1436	1441	30	30	P	Y	SMN	
S89/S90	SEOS	R-202	CL	1437	1442	30	30	P	Y	SMN	
S90/S91	SEOS	NEOS	CL	1612	1617	30	30	P	Y	SMN	
S91/S92	SEOS	NEOS	CL	1613	1618	30	30	P	Y	SMN	
S92/S93	SEOS	NEOS	CL	1650	1655	30	30	P	Y	SMN	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/20/2021
PAGE# 15

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S93/S94	SEOS	NEOS	CG	1040	1045	30	30	P	Y	KL	
S94/S95	SEOS	NEOS	CG	1045	1050	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021
PAGE# 16

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S95/S96	NEOS	SEOS	CG	1056	1101	30	30	P	Y	KL	
S96/S97	NEOS	SEOS	CG	1057	1102	30	30	P	Y	KL	
S98/S99	EEOS	WEOS	CG	1108	1113	30	30	P	Y	KL	
S99/S100	EEOS	WEOS	CG	1109	1114	30	30	P	Y	KL	
S101/S102	EEOS	WEOS	CG	1110	1115	30	30	P	Y	KL	
S102/S103	EEOS	WEOS	CG	1111	1116	30	30	P	Y	KL	
S100/S101	EEOS	WEOS	CG	1120	1125	30	30	P	Y	KL	
S103/S104	EEOS	WEOS	CG	1121	1126	30	30	P	Y	KL	
S104/S105	EEOS	WEOS	CG	1122	1127	30	30	P	Y	KL	
S105/S106	EEOS	R-256	CG	1123	1128	30	29	P	N	KL	
S97/S106	SEOS	NEOS	CG	1123	1128	30	30	P	Y	KL	
S105/S106	R-256	WEOS	CG	1129	1134	30	30	P	Y	KL	
S97/S98	SEOS	NEOS	CG	1145	1150	30	30	P	Y	KL	
S97/S99	SEOS	NEOS	CG	1146	1151	30	30	P	Y	KL	
S97/S100	SEOS	NEOS	CG	1147	1152	30	29	P	Y	KL	
S97/S101	SEOS	NEOS	CG	1148	1153	30	30	P	Y	KL	
S97/S102	SEOS	NEOS	CG	1248	1253	30	30	P	Y	KL	
S97/S103	SEOS	NEOS	CG	1249	1254	30	30	P	Y	KL	
S97/S104	SEOS	NEOS	CG	1255	1300	30	30	P	Y	KL	
S97/S105	SEOS	NEOS	CG	1255	1300	30	29	P	Y	KL	
S95/S107	SEOS	R-261	CG	1547	1552	30	30	P	N	KL	
S95/S107	R-261	NEOS	CG	1550	1555	30	30	P	Y	KL	
S95/S113	SEOS	NEOS	CG	729	734	30	30	P	Y	KL	
S95/S114	SEOS	NEOS	CG	729	734	30	30	P	Y	KL	
S96/S107	SEOS	NEOS	CG	1545	1550	30	30	P	Y	KL	
S97/S108	SEOS	NEOS	CG	1633	1638	30	30	P	Y	KL	
S97/S106	SEOS	NEOS	CG	1303	1308	30	30	P	Y	KL	
S107/S108	EEOS	WEOS	CG	1657	1702	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/24/2021
PAGE# 17

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S106/S108	EEOS	WEOS	CG	1633	1338	30	30	P	Y	KL	
S107/S108	NEOS	SEOS	CG	1657	1702	30	30	P	Y	KL	
S107/S109	NEOS	SEOS	CG	1657	1702	30	30	P	Y	KL	
S107/S110	NEOS	SEOS	CG	1639	1644	30	29	P	Y	KL	
S107/S111	NEOS	SEOS	CG	1712	1717	30	30	P	Y	KL	
S107/S112	NEOS	SEOS	CG	1712	1717	30	30	P	Y	KL	
S107/S113	NEOS	SEOS	CG	737	742	30	30	P	Y	KL	
S113/S114	EEOS	WEOS	CG	729	734	30	30	P	Y	KL	
S108/S109	EEOS	WEOS	CG	1657	1702	30	29	P	Y	KL	
S109/S110	EEOS	WEOS	CG	1645	1650	30	29	P	Y	KL	
S110/S111	EEOS	WEOS	CG	1650	1655	30	30	P	Y	KL	
S111/S112	EEOS	WEOS	CG	1712	1717	30	29	P	Y	KL	
S112/S113	EEOS	WEOS	CG	730	735	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 8/25/2021
PAGE# 18

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S95/S115	NEOS	SEOS	CG	1445	1450	30	29	P	Y	KL	
S95/S116	NEOS	SEOS	CG	1445	1450	30	30	P	Y	KL	
S95/S117	NEOS	SEOS	CG	1444	1449	30	30	P	Y	KL	
S95/S118	NEOS	SEOS	CG	1438	1443	30	30	P	Y	KL	
S95/S119	NEOS	SEOS	CG	1438	1443	30	30	P	Y	KL	
S95/S120	NEOS	SEOS	CG	1437	1442	30	30	P	Y	KL	
S95/S121	NEOS	SEOS	CG	1437	1442	30	30	P	Y	KL	
S114/S115	EEOS	WEOS	CG	1300	1305	30	30	P	Y	KL	
S115/S116	EEOS	WEOS	CG	1300	1305	30	30	P	Y	KL	
S116/S117	EEOS	WEOS	CG	1301	1306	30	30	P	Y	KL	
S117/S118	EEOS	WEOS	CG	1302	1307	30	30	P	Y	KL	
S118/S119	EEOS	WEOS	CG	1319	1324	30	30	P	Y	KL	
S119/S120	EEOS	WEOS	CG	1320	1325	30	29	P	Y	KL	
S120/S121	EEOS	WEOS	CG	1340	1345	30	29	P	Y	KL	
S120/S122	EEOS	WEOS	CG	1422	1427	30	30	P	Y	KL	
S122/S123	NEOS	SEOS	CG	1422	1427	30	29	P	Y	KL	
S122/S125	NEOS	SEOS	CG	1341	1346	30	28	P	Y	KL	
S123/S124	EEOS	WEOS	CG	1416	1421	30	30	P	Y	KL	
S123/S125	NEOS	SEOS	CG	1350	1355	30	30	P	Y	KL	
S124/S125	EEOS	WEOS	CG	1351	1356	30	28	P	Y	KL	
S82/R-292	NEOS	SEOS	CG	1630	1635	30	30	P	Y	KL	
S83/R-292	NEOS	SEOS	CG	1630	1635	30	30	P	Y	KL	
S120/S125	EEOS	WEOS	CG	1341	1346	30	30	P	Y	KL	
S121/S122	NEOS	SEOS	CG	1416	1421	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/2/2021
PAGE# 19

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S126/S5	NEOS	SEOS	OB	927	932	30	30	P	Y	KL	
S126/S6	SEOS	NEOS	OB	927	932	30	30	P	Y	KL	
S126/S7	NEOS	SEOS	OB	932	937	30	30	P	Y	KL	
S126/S8	SEOS	NEOS	OB	932	937	30	30	P	Y	KL	
S126/S9	NEOS	SEOS	OB	936	941	30	30	P	Y	KL	
S126/S10	SEOS	NEOS	OB	936	941	30	30	P	Y	KL	
S126/S11	NEOS	SEOS	OB	941	946	30	30	P	Y	KL	
S126/S12	SEOS	NEOS	OB	941	946	30	30	P	Y	KL	
S126/S13	NEOS	SEOS	OB	946	951	30	29	P	Y	KL	
S126/S14	SEOS	NEOS	OB	946	951	30	30	P	Y	KL	
S126/S15	NEOS	SEOS	OB	950	955	30	30	P	Y	KL	
S126/S16	SEOS	NEOS	OB	950	955	30	30	P	Y	KL	
S126/S17	NEOS	SEOS	OB	954	959	30	30	P	Y	KL	
S126/S18	SEOS	NEOS	OB	954	959	30	30	P	Y	KL	
S126/S19	NEOS	SEOS	OB	1000	1005	30	30	P	Y	KL	
S126/S20	SEOS	NEOS	OB	1000	1005	30	30	P	Y	KL	
S126/S21	NEOS	SEOS	OB	1006	1011	30	30	P	Y	KL	
S126/S22	SEOS	NEOS	OB	1006	1011	30	30	P	Y	KL	
S126/S23	NEOS	SEOS	OB	1010	1015	30	30	P	Y	KL	
S126/S24	SEOS	NEOS	OB	1010	1015	30	30	P	Y	KL	
S126/S25	NEOS	SEOS	OB	1015	1020	30	30	P	Y	KL	
S126/S26	SEOS	NEOS	OB	1015	1020	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021
PAGE# 20

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S127/S27	WEOS	EEOS	CG	1516	1521	30	30	P	Y	KL	
S127/S28	EEOS	WEOS	CG	1516	1521	30	30	P	Y	KL	
S127/S29	WEOS	EEOS	CG	1520	1525	30	30	P	Y	KL	
S127/S30	EEOS	WEOS	CG	1520	1525	30	30	P	Y	KL	
S127/S31	WEOS	EEOS	CG	1526	1531	30	29	P	Y	KL	
S127/S32	EEOS	WEOS	CG	1526	1531	30	30	P	Y	KL	
S127/S33	WEOS	EEOS	CG	1532	1537	30	30	P	Y	KL	
S127/S34	EEOS	WEOS	CG	1532	1537	30	30	P	Y	KL	
S127/S35	WEOS	EEOS	CG	1538	1543	30	30	P	Y	KL	
S127/S36	EEOS	WEOS	CG	1538	1543	30	30	P	Y	KL	
S127/S37	WEOS	EEOS	CG	1542	1547	30	30	P	Y	KL	
S127/S38	EEOS	WEOS	CG	1542	1547	30	30	P	Y	KL	
S127/S39	WEOS	EEOS	CG	1546	1551	30	30	P	Y	KL	
S127/S40	EEOS	WEOS	CG	1550	1555	30	30	P	Y	KL	
S127/S41	WEOS	EEOS	CG	1550	1555	30	30	P	Y	KL	
S127/S42	EEOS	WEOS	CG	1555	1600	30	30	P	Y	KL	
S127/S43	WEOS	EEOS	CG	1555	1600	30	30	P	Y	KL	
S127/S44	EEOS	WEOS	CG	1604	1609	30	30	P	Y	KL	
S127/S45	WEOS	EEOS	CG	1604	1609	30	30	P	Y	KL	
S127/S46	EEOS	WEOS	CG	1612	1617	30	30	P	Y	KL	
S127/S47	WEOS	EEOS	CG	1612	1617	30	30	P	Y	KL	
S127/S49	EEOS	WEOS	CG	1622	1627	30	30	P	Y	KL	
S127/S50	WEOS	EEOS	CG	1622	1627	30	30	P	Y	KL	
S127/S51	EEOS	WEOS	CG	1622	1627	30	30	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021
PAGE# 21

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S128/S51	EEOS	WEOS	CG	1503	1508	30	30	P	Y	KL	
S128/S52	WEOS	EEOS	CG	1503	1508	30	30	P	Y	KL	
S128/S53	EEOS	WEOS	CG	1509	1514	30	30	P	Y	KL	
S128/S54	WEOS	EEOS	CG	1509	1514	30	30	P	Y	KL	
S128/S55	WEOS	EEOS	CG	1512	1517	30	30	P	Y	KL	
S128/S56	EEOS	WEOS	CG	1512	1517	30	30	P	Y	KL	
S128/S57	WEOS	EEOS	CG	1517	1522	30	30	P	Y	KL	
S128/S58	EEOS	WEOS	CG	1517	1522	30	30	P	Y	KL	
S128/S59	WEOS	EEOS	CG	1524	1529	30	30	P	Y	KL	
S128/S60	EEOS	WEOS	CG	1524	1529	30	30	P	Y	KL	
S128/S61	WEOS	EEOS	CG	1528	1533	30	30	P	Y	KL	
S128/S62	EEOS	WEOS	CG	1528	1533	30	30	P	Y	KL	
S128/S63	WEOS	EEOS	CG	1536	1541	30	29	P	Y	KL	
S128/S64	EEOS	WEOS	CG	1536	1541	30	30	P	Y	KL	
S128/S65	WEOS	EEOS	CG	1542	1547	30	30	P	Y	KL	
S128/S66	EEOS	WEOS	CG	1542	1600	30	30	P	Y	KL	
S128/S67	WEOS	EEOS	CG	1547	1600	30	30	P	Y	KL	
S128/S68	EEOS	WEOS	CG	1547	1552	30	30	P	Y	KL	
S128/S69	WEOS	EEOS	CG	1602	1607	30	30	P	Y	KL	
S128/S70	EEOS	R-370	CG	1602	1607	30	30	P	N	KL	
S128/S70	R-370	WEOS	CG	1607	1612	30	30	P	Y	KL	
S128/S71	WEOS	EEOS	CG	1607	1612	30	29	P	Y	KL	
S128/S72	EEOS	WEOS	CG	1611	1616	30	30	P	Y	KL	
S128/S73	EEOS	WEOS	CG	1611	1616	30	29	P	Y	KL	
S128/S74	WEOS	EEOS	CG	1620	1625	30	30	P	Y	KL	
S128/S75	EEOS	WEOS	CG	1620	1625	30	29	P	Y	KL	
S128/S129	NEOS	SEOS	CG	1620	1625	30	29	P	Y	KL	

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY:
SECONDARY: X OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021
PAGE# 22

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
S129/S76	WEOS	EEOS	CG	720	725	30	30	P	Y	KL	
S129/S77	EEOS	WEOS	CG	720	725	30	30	P	Y	KL	
S129/S78	WEOS	EEOS	CG	720	725	30	30	P	Y	KL	
S129/S79	EEOS	WEOS	CG	720	725	30	30	P	Y	KL	
S129/S80	WEOS	EEOS	CG	734	739	30	30	P	Y	KL	
S129/S81	EEOS	WEOS	CG	734	739	30	30	P	Y	KL	
S129/S82	WEOS	EEOS	CG	740	745	30	30	P	Y	KL	
S129/S83	EEOS	WEOS	CG	740	745	30	30	P	Y	KL	
S129/S84	WEOS	EEOS	CG	749	754	30	29	P	Y	KL	
S129/S85	EEOS	WEOS	CG	749	754	30	29	P	Y	KL	
S129/S86	WEOS	EEOS	CG	754	759	30	30	P	Y	KL	
S129/S130	NEOS	SEOS	CG	754	759	30	30	P	Y	KL	
S130/S87	WEOS	EEOS	CG	800	805	30	29	P	Y	KL	
S130/S88	EEOS	WEOS	CG	800	805	30	30	P	Y	KL	
S130/S89	WEOS	EEOS	CG	806	811	30	30	P	Y	KL	
S130/S90	EEOS	WEOS	CG	806	811	30	30	P	Y	KL	
S130/S91	WEOS	EEOS	CG	812	817	30	30	P	Y	KL	
S130/S92	EEOS	WEOS	CG	812	817	30	29	P	Y	KL	
S130/S93	WEOS	EEOS	CG	824	829	30	30	P	Y	KL	
S130/S94	EEOS	WEOS	CG	824	829	30	30	P	Y	KL	
S130/S95	WEOS	EEOS	CG	828	833	30	30	P	Y	KL	
S130/S121	EEOS	WEOS	CG	828	1500	30	30	P	Y	KL	
S130/S122	WEOS	EEOS	CG	835	840	30	30	P	Y	KL	
S130/S123	EEOS	WEOS	CG	835	840	30	30	P	Y	KL	
S130/S131	WEOS	EEOS	CG	841	846	30	30	P	Y	KL	
S131/S124	EEOS	WEOS	CG	841	846	30	30	P	Y	KL	
S131/R-402	WEOS	EEOS	CG	845	850	30	30	P	Y	KL	

Section 7
Geomembrane Destructive Samples Laboratory Results

GAI-LAP
Initial: evz #:0.13
DATE: 07/28/2021

July 28, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of eleven (11) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **July 28, 2021**

REFERENCE TRI JOB NO.: G210693

DATE RECEIVED: July 28, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DS-1 P1/ P5	157398	DS-7 P30/ P31	157404
DS-2 P10/ P11	157399	DS-8 P31/ P32	157405
DS-3 P18/ P19	157400	DS-9 P32/ P33	157406
DS-4 P19/ P20	157401	DS-10 P33/ P34	157407
DS-5 P19/ P29	157402	DS-11 P34/ P35	157408
DS-6 P29/ P30	157403		

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 6.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance
Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

7 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-1	**157398**	159	>50%	BRK		1 Outside	131	0	SE1	
P1/ P5		157	>50%	BRK		2 Outside	131	0	SE1	
		160	>50%	BRK		3 Outside	127	0	SE1	
		161	>50%	BRK		4 Outside	127	0	SE1	
		161	>50%	BRK		5 Outside	130	0	SE1	
						AVG:	**129**			91
						STD. DEV.	**2**			
						1 Inside	130	0	SE1	
						2 Inside	129	0	SE1	
						3 Inside	123	0	SE1	
						4 Inside	121	0	SE1	
						5 Inside	132	0	SE1	
	AVG.	**160**			120	**AVG:**	**127**			91
	STD. DEV.	**1**				STD. DEV.	**5**			
DS-2	**157399**	152	>50%	BRK		1 Outside	114	0	SE1	
P10/ P11		154	>50%	BRK		2 Outside	115	0	SE1	
		154	>50%	BRK		3 Outside	106	0	SE1	
		152	>50%	BRK		4 Outside	105	0	SE1	
		152	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**5**			
						1 Inside	108	0	SE1	
						2 Inside	113	0	SE1	
						3 Inside	112	0	SE1	
						4 Inside	115	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**153**			120	**AVG:**	**111**			91
	STD. DEV.	**1**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-3	**157400**	150	>50%	BRK		1 Outside	101	0	SE1	
P18/ P19		150	>50%	BRK		2 Outside	106	0	SE1	
		151	>50%	BRK		3 Outside	103	0	SE1	
		153	>50%	BRK		4 Outside	103	0	SE1	
		155	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**2**			
						1 Inside	115	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	107	0	SE1	
	AVG.	**152**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**5**			
DS-4	**157401**	150	>50%	BRK		1 Outside	112	0	SE1	
P19/ P20		156	>50%	BRK		2 Outside	108	0	SE1	
		156	>50%	BRK		3 Outside	113	0	SE1	
		152	>50%	BRK		4 Outside	117	0	SE1	
		153	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**113**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	123	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	121	0	SE1	
	AVG:	**154**			120	**AVG:**	**117**			91
	STD. DEV.	**3**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-5	**157402**	168	>50%	BRK		1 Outside	134	0	SE1	
P19/ P29		167	>50%	BRK		2 Outside	139	0	SE1	
		165	>50%	BRK		3 Outside	131	0	SE1	
		169	>50%	BRK		4 Outside	139	0	SE1	
		166	>50%	BRK		5 Outside	131	0	SE1	
						AVG:	**135**			91
						STD. DEV.	**4**			
						1 Inside	124	0	SE1	
						2 Inside	132	0	SE1	
						3 Inside	130	0	SE1	
						4 Inside	121	0	SE1	
						5 Inside	129	0	SE1	
	AVG.	**167**			120	**AVG:**	**127**			91
	STD. DEV.	**2**				STD. DEV.	**5**			
DS-6	**157403**	150	>50%	BRK		1 Outside	109	0	SE1	
P29/ P30		150	>50%	BRK		2 Outside	116	0	SE1	
		153	>50%	BRK		3 Outside	121	0	SE1	
		151	>50%	BRK		4 Outside	121	0	SE1	
		150	>50%	BRK		5 Outside	118	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**5**			
						1 Inside	116	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	120	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**151**			120	**AVG:**	**115**			91
	STD. DEV.	**1**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-7	**157404**	155	>50%	BRK		1 Outside	112	0	SE1	
P30/ P31		159	>50%	BRK		2 Outside	109	0	SE1	
		155	>50%	BRK		3 Outside	121	0	SE1	
		156	>50%	BRK		4 Outside	122	0	SE1	
		154	>50%	BRK		5 Outside	123	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**6**			
						1 Inside	103	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**156**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**6**			
DS-8	**157405**	149	>50%	BRK		1 Outside	136	0	SE1	
P31/ P32		151	>50%	BRK		2 Outside	126	0	SE1	
		151	>50%	BRK		3 Outside	134	0	SE1	
		150	>50%	BRK		4 Outside	119	0	SE1	
		150	>50%	BRK		5 Outside	125	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**7**			
						1 Inside	110	0	SE1	
						2 Inside	117	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	114	0	SE1	
	AVG:	**150**			120	**AVG:**	**112**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-9	**157406**	146	>50%	BRK		1 Outside	97	0	SE1	
P32/ P33		148	>50%	BRK		2 Outside	100	0	SE1	
		148	>50%	BRK		3 Outside	106	0	SE1	
		147	>50%	BRK		4 Outside	92	0	SE1	
		147	>50%	BRK		5 Outside	100	0	SE1	
						AVG:	**99**			91
						STD. DEV.	**5**			
						1 Inside	100	0	SE1	
						2 Inside	131	0	SE1	
						3 Inside	98	0	SE1	
						4 Inside	97	0	SE1	
						5 Inside	101	0	SE1	
	AVG.	**147**			120	**AVG:**	**105**			91
	STD. DEV.	**1**				STD. DEV.	**14**			
DS-10	**157407**	148	>50%	BRK		1 Outside	128	0	SE1	
P33/ P34		154	>50%	BRK		2 Outside	114	0	SE1	
		147	>50%	BRK		3 Outside	126	0	SE1	
		153	>50%	BRK		4 Outside	100	0	SE1	
		152	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**12**			
						1 Inside	114	0	SE1	
						2 Inside	123	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	116	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**151**			120	**AVG:**	**113**			91
	STD. DEV.	**3**				STD. DEV.	**8**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **28-Jul-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210693**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 28-Jul-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-11	**157408**	148	>50%	BRK		1 Outside	104	0	SE1	
P34/ P35		150	>50%	BRK		2 Outside	102	0	SE1	
		151	>50%	BRK		3 Outside	100	0	SE1	
		148	>50%	BRK		4 Outside	99	0	SE1	
		148	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**2**			
						1 Inside	102	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	98	0	SE1	
	AVG.	**149**			120	**AVG:**	**104**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

GAI-LAP
Initial: eVZ #:0.13
DATE: 08/03/2021

August 3, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of five (5) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **August 3, 2021**

REFERENCE TRI JOB NO.: G210724

DATE RECEIVED: August 3, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DS-12 P35/ P36	157528	DS-15 P38/ P39	157531
DS-13 P36/ P37	157529	DSX-1 P33/ EXIST	157532
DS-14 P37/ P38	157530		

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 3.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance
Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

4 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **3-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210724**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 3-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-12	**157528**	148	>50%	BRK		1 Outside	131	0	SE1	
P35/ P36		152	>50%	BRK		2 Outside	129	0	SE1	
		152	>50%	BRK		3 Outside	131	0	SE1	
		148	>50%	BRK		4 Outside	132	0	SE1	
		149	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**130**			91
						STD. DEV.	**2**			
						1 Inside	118	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	112	0	SE1	
						4 Inside	123	0	SE1	
						5 Inside	119	0	SE1	
	AVG.	**150**			120	**AVG:**	**115**			91
	STD. DEV.	**2**				STD. DEV.	**9**			
DS-13	**157529**	144	>50%	BRK		1 Outside	105	0	SE1	
P36/ P37		143	>50%	BRK		2 Outside	107	0	SE1	
		149	>50%	BRK		3 Outside	113	0	SE1	
		142	>50%	BRK		4 Outside	108	0	SE1	
		144	>50%	BRK		5 Outside	119	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**6**			
						1 Inside	105	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	99	0	SE1	
						5 Inside	100	0	SE1	
	AVG:	**144**			120	**AVG:**	**103**			91
	STD. DEV.	**3**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **3-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210724**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 3-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-14	**157530**	150	>50%	BRK		1 Outside	126	0	SE1	
P37/ P38		151	>50%	BRK		2 Outside	132	0	SE1	
		149	>50%	BRK		3 Outside	130	0	SE1	
		149	>50%	BRK		4 Outside	130	0	SE1	
		144	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**127**			91
						STD. DEV.	**7**			
						1 Inside	107	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**148**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DS-15	**157531**	142	>50%	BRK		1 Outside	105	0	SE1	
P38/ P39		141	>50%	BRK		2 Outside	103	0	SE1	
		136	>50%	BRK		3 Outside	107	0	SE1	
		139	>50%	BRK		4 Outside	106	0	SE1	
		138	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**2**			
						1 Inside	105	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	98	0	SE1	
	AVG:	**139**			120	**AVG:**	**103**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **3-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion Weld**
TRI JOB #: **G210724**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 3-Aug-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSX-1	**157532**	143	>50%	BRK		1 Outside	119	0	SE3	
P33/ Exist		142	>50%	BRK		2 Outside	121	0	SE3	
		141	>50%	BRK		3 Outside	130	0	SE3	
		143	>50%	BRK		4 Outside	127	0	SE3	
		143	>50%	BRK		5 Outside	133	0	SE3	
						AVG:	**126**			78
						STD. DEV.	**6**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**142**			120	**AVG:**				
	STD. DEV.	**1**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

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GAI-LAP
Initial: evz #:0.13
DATE: 08/06/2021

August 6, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of fourteen (14) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **August 6, 2021**

REFERENCE TRI JOB NO.: G210742

DATE RECEIVED: August 6, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DS-16 P39/ P40	157651	DS-23 P45/ P46	157658
DS-17 P40/ P41	157652	DS-24 P46/ P47	157659
DS-18 P41/ P42	157653	DS-25 P47/ P49	157660
DS-19 P41/ P42	157654	DS-26 P49/ P50	157661
DS-20 P42/ P43	157655	DS-27 P50/ P51	157662
DS-21 P43/ P44	157656	DS-28 P51/ P52	157663
DS-22 P44/ P45	157657	DS-29 P52/ P53	157664

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 7.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

8 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-16	**157651**	147	>50%	BRK		1 Outside	105	0	SE1	
P39/ P40		148	>50%	BRK		2 Outside	111	0	SE1	
		148	>50%	BRK		3 Outside	103	0	SE1	
		143	>50%	BRK		4 Outside	112	0	SE1	
		150	>50%	BRK		5 Outside	109	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**4**			
						1 Inside	93	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	98	0	SE1	
						5 Inside	97	0	SE1	
	AVG.	**147**			120	**AVG:**	**100**			91
	STD. DEV.	**3**				STD. DEV.	**5**			
DS-17	**157652**	137	>50%	BRK		1 Outside	123	0	SE1	
P40/ P41		148	>50%	BRK		2 Outside	123	0	SE1	
		148	>50%	BRK		3 Outside	118	0	SE1	
		149	>50%	BRK		4 Outside	128	0	SE1	
		147	>50%	BRK		5 Outside	121	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**4**			
						1 Inside	116	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	119	0	SE1	
						4 Inside	120	0	SE1	
						5 Inside	111	0	SE1	
	AVG:	**146**			120	**AVG:**	**116**			91
	STD. DEV.	**5**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-18	**157653**	135	>50%	BRK		1 Outside	126	0	SE1	
P41/ P42		141	>50%	BRK		2 Outside	118	0	SE1	
		145	>50%	BRK		3 Outside	128	0	SE1	
		130	>50%	BRK		4 Outside	122	0	SE1	
		146	>50%	BRK		5 Outside	125	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**4**			
						1 Inside	105	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	100	0	SE1	
	AVG.	**139**			120	**AVG:**	**103**			91
	STD. DEV.	**7**				STD. DEV.	**3**			
DS-19	**157654**	160	>50%	BRK		1 Outside	103	0	SE1	
P41/ P42		163	>50%	BRK		2 Outside	111	0	SE1	
		152	>50%	BRK		3 Outside	112	0	SE1	
		160	>50%	BRK		4 Outside	109	0	SE1	
		158	>50%	BRK		5 Outside	98	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**6**			
						1 Inside	121	0	SE1	
						2 Inside	96	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	119	0	SE1	
	AVG:	**159**			120	**AVG:**	**113**			91
	STD. DEV.	**4**				STD. DEV.	**10**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-20	**157655**	153	>50%	BRK		1 Outside	113	0	SE1	
P42/ P43		154	>50%	BRK		2 Outside	142	0	SE1	
		154	>50%	BRK		3 Outside	141	0	SE1	
		150	>50%	BRK		4 Outside	116	0	SE1	
		151	>50%	BRK		5 Outside	135	0	SE1	
						AVG:	**130**			91
						STD. DEV.	**14**			
						1 Inside	113	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	120	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	101	0	SE1	
	AVG.	**152**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**7**			
DS-21	**157656**	151	>50%	BRK		1 Outside	114	0	SE1	
P43/ P44		153	>50%	BRK		2 Outside	120	0	SE1	
		152	>50%	BRK		3 Outside	119	0	SE1	
		155	>50%	BRK		4 Outside	126	0	SE1	
		147	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**6**			
						1 Inside	100	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	96	0	SE1	
	AVG:	**152**			120	**AVG:**	**99**			91
	STD. DEV.	**3**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-22	**157657**	144	>50%	BRK		1 Outside	106	0	SE1	
P44/ P45		151	>50%	BRK		2 Outside	104	0	SE1	
		155	>50%	BRK		3 Outside	106	0	SE1	
		146	>50%	BRK		4 Outside	110	0	SE1	
		145	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	98	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	93	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**148**			120	**AVG:**	**102**			91
	STD. DEV.	**5**				STD. DEV.	**7**			
DS-23	**157658**	143	>50%	BRK		1 Outside	112	0	SE1	
P45/ P46		142	>50%	BRK		2 Outside	110	0	SE1	
		141	>50%	BRK		3 Outside	118	0	SE1	
		142	>50%	BRK		4 Outside	109	0	SE1	
		142	>50%	BRK		5 Outside	107	0	SE1	
						AVG:	**111**			91
						STD. DEV.	**4**			
						1 Inside	107	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**142**			120	**AVG:**	**106**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-24	**157659**	140	>50%	BRK		1 Outside	129	0	SE1	
P46/ P47		142	>50%	BRK		2 Outside	115	0	SE1	
		141	>50%	BRK		3 Outside	128	0	SE1	
		143	>50%	BRK		4 Outside	109	0	SE1	
		143	>50%	BRK		5 Outside	127	0	SE1	
						AVG:	**122**			91
						STD. DEV.	**9**			
						1 Inside	117	0	SE1	
						2 Inside	118	0	SE1	
						3 Inside	125	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**142**			120	**AVG:**	**115**			91
	STD. DEV.	**1**				STD. DEV.	**9**			
DS-25	**157660**	141	>50%	BRK		1 Outside	116	0	SE1	
P47/ P49		140	>50%	BRK		2 Outside	122	0	SE1	
		140	>50%	BRK		3 Outside	131	0	SE1	
		138	>50%	BRK		4 Outside	136	0	SE1	
		138	>50%	BRK		5 Outside	137	0	SE1	
						AVG:	**129**			91
						STD. DEV.	**9**			
						1 Inside	102	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	97	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	117	0	SE1	
	AVG:	**139**			120	**AVG:**	**110**			91
	STD. DEV.	**1**				STD. DEV.	**9**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-26	**157661**	143	>50%	BRK		1 Outside	108	0	SE1	
P49/ P50		146	>50%	BRK		2 Outside	109	0	SE1	
		143	>50%	BRK		3 Outside	106	0	SE1	
		144	>50%	BRK		4 Outside	110	0	SE1	
		143	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**3**			
						1 Inside	110	0	SE1	
						2 Inside	93	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	118	0	SE1	
						5 Inside	121	0	SE1	
	AVG.	**144**			120	**AVG:**	**109**			91
	STD. DEV.	**1**				STD. DEV.	**11**			
DS-27	**157662**	138	>50%	BRK		1 Outside	133	0	SE1	
P50/ P51		151	>50%	BRK		2 Outside	132	0	SE1	
		149	>50%	BRK		3 Outside	128	0	SE1	
		146	>50%	BRK		4 Outside	132	0	SE1	
		141	>50%	BRK		5 Outside	127	0	SE1	
						AVG:	**130**			91
						STD. DEV.	**3**			
						1 Inside	115	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	113	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**145**			120	**AVG:**	**113**			91
	STD. DEV.	**6**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **6-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210742**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 6-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-28	**157663**	140	>50%	BRK		1 Outside	127	0	SE1	
P51/ P52		143	>50%	BRK		2 Outside	124	0	SE1	
		138	>50%	BRK		3 Outside	128	0	SE1	
		138	>50%	BRK		4 Outside	128	0	SE1	
		144	>50%	BRK		5 Outside	131	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**2**			
						1 Inside	108	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	101	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	125	0	SE1	
	AVG.	**141**			120	**AVG:**	**112**			91
	STD. DEV.	**3**				STD. DEV.	**10**			
DS-29	**157664**	152	>50%	BRK		1 Outside	118	0	SE1	
P52/ P53		157	>50%	BRK		2 Outside	125	0	SE1	
		156	>50%	BRK		3 Outside	120	0	SE1	
		151	>50%	BRK		4 Outside	128	0	SE1	
		153	>50%	BRK		5 Outside	129	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**5**			
						1 Inside	119	0	SE1	
						2 Inside	120	0	SE1	
						3 Inside	114	0	SE1	
						4 Inside	120	0	SE1	
						5 Inside	112	0	SE1	
	AVG:	**154**			120	**AVG:**	**117**			91
	STD. DEV.	**3**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

August 17, 2021

GAI-LAP
Initial: eVZ #:0.13
DATE: 08/17/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of twenty nine (29) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **August 17, 2021**

REFERENCE TRI JOB NO.: G210786

DATE RECEIVED: August 17, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DS-30 P53/ P54	157865	DS-45 P67/ P68	157880
DS-31 P54/ P55	157866	DS-46 P68/ P69	157881
DS-32 P55/ P56	157867	DS-47 P68/ P69	157882
DS-33 P56/ P57	157868	DS-48 P69/ P70	157883
DS-34 P56/ P57	157869	DS-49 P70/ P71	157884
DS-35 P57/ P58	157870	DS-50 P71/ P72	157885
DS-36 P58/ P59	157871	DS-51 P72/ P73	157886
DS-37 P59/ P60	157872	DS-52 P73/ P74	157887
DS-38 P60/ P61	157873	DS-53 P74/ P75	157888
DS-39 P61/ P62	157874	DS-54 P75/ P76	157889
DS-40 P62/ P63	157875	DS-55 P76/ P77	157890
DS-41 P63/ P64	157876	DS-56 P77/ P78	157891
DS-42 P64/ P65	157877	DS-57 P78/ P79	157892
DS-43 P65/ P66	157878	DS-58 P79/ P80	157893
DS-44 P66/ P67	157879		

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 15.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance

Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

16 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 30	**157865**	157	>50%	BRK		1 Outside	99	0	SE1	
P53/ P54		156	>50%	BRK		2 Outside	103	0	SE1	
		153	>50%	BRK		3 Outside	99	0	SE1	
		155	>50%	BRK		4 Outside	95	0	SE1	
		158	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**100**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	117	0	SE1	
	AVG.	**156**			120	**AVG:**	**113**			91
	STD. DEV.	**2**				STD. DEV.	**3**			
DS- 31	**157866**	147	>50%	BRK		1 Outside	129	0	SE1	
P54/ P55		152	>50%	BRK		2 Outside	130	0	SE1	
		146	>50%	BRK		3 Outside	122	0	SE1	
		145	>50%	BRK		4 Outside	124	0	SE1	
		149	>50%	BRK		5 Outside	132	0	SE1	
						AVG:	**127**			91
						STD. DEV.	**4**			
						1 Inside	107	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	112	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	102	0	SE1	
	AVG:	**148**			120	**AVG:**	**107**			91
	STD. DEV.	**3**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 32	**157867**	150	>50%	BRK		1 Outside	100	0	SE1	
P55/ P56		151	>50%	BRK		2 Outside	99	0	SE1	
		150	>50%	BRK		3 Outside	100	0	SE1	
		149	>50%	BRK		4 Outside	101	0	SE1	
		148	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**100**			91
						STD. DEV.	**1**			
						1 Inside	114	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	114	0	SE1	
						4 Inside	115	0	SE1	
						5 Inside	115	0	SE1	
	AVG.	**150**			120	**AVG:**	**114**			91
	STD. DEV.	**1**				STD. DEV.	**2**			
DS- 33	**157868**	144	>50%	BRK		1 Outside	116	0	SE1	
P56/ P57		147	>50%	BRK		2 Outside	128	0	SE1	
		141	>50%	BRK		3 Outside	124	0	SE1	
		138	>50%	BRK		4 Outside	121	0	SE1	
		145	>50%	BRK		5 Outside	120	0	SE1	
						AVG:	**122**			91
						STD. DEV.	**4**			
						1 Inside	103	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	107	0	SE1	
	AVG:	**143**			120	**AVG:**	**105**			91
	STD. DEV.	**4**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 34	**157869**	146	>50%	BRK		1 Outside	130	0	SE1	
P56/ P57		145	>50%	BRK		2 Outside	107	0	SE1	
		144	>50%	BRK		3 Outside	121	0	SE1	
		149	>50%	BRK		4 Outside	123	0	SE1	
		147	>50%	BRK		5 Outside	124	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**9**			
						1 Inside	125	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**146**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**9**			
DS- 35	**157870**	151	>50%	BRK		1 Outside	121	0	SE1	
P57/ P58		158	>50%	BRK		2 Outside	112	0	SE1	
		156	>50%	BRK		3 Outside	128	0	SE1	
		152	>50%	BRK		4 Outside	130	0	SE1	
		158	>50%	BRK		5 Outside	132	0	SE1	
						AVG:	**125**			91
						STD. DEV.	**8**			
						1 Inside	109	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	114	0	SE1	
	AVG:	**155**			120	**AVG:**	**109**			91
	STD. DEV.	**3**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 36	**157871**	146	>50%	BRK		1 Outside	125	0	SE1	
P58/ P59		149	>50%	BRK		2 Outside	116	0	SE1	
		148	>50%	BRK		3 Outside	112	0	SE1	
		142	>50%	BRK		4 Outside	138	0	SE1	
		146	>50%	BRK		5 Outside	137	0	SE1	
						AVG:	**126**			91
						STD. DEV.	**12**			
						1 Inside	107	0	SE1	
						2 Inside	113	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**146**			120	**AVG:**	**109**			91
	STD. DEV.	**3**				STD. DEV.	**3**			
DS- 37	**157872**	140	>50%	BRK		1 Outside	121	0	SE1	
P59/ P60		142	>50%	BRK		2 Outside	125	0	SE1	
		138	>50%	BRK		3 Outside	122	0	SE1	
		143	>50%	BRK		4 Outside	127	0	SE1	
		138	>50%	BRK		5 Outside	127	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**3**			
						1 Inside	107	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	116	0	SE1	
						5 Inside	114	0	SE1	
	AVG:	**140**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 38	**157873**	144	>50%	BRK		1 Outside	121	0	SE1	
P60/ P61		143	>50%	BRK		2 Outside	100	0	SE1	
		145	>50%	BRK		3 Outside	127	0	SE1	
		137	>50%	BRK		4 Outside	121	0	SE1	
		143	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**120**			91
						STD. DEV.	**11**			
						1 Inside	113	0	SE1	
						2 Inside	119	0	SE1	
						3 Inside	117	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	99	0	SE1	
	AVG.	**143**			120	**AVG:**	**113**			91
	STD. DEV.	**3**				STD. DEV.	**8**			
DS- 39	**157874**	143	>50%	BRK		1 Outside	116	0	SE1	
P61/ P62		145	>50%	BRK		2 Outside	122	0	SE1	
		139	>50%	BRK		3 Outside	111	0	SE1	
		140	>50%	BRK		4 Outside	115	0	SE1	
		140	>50%	BRK		5 Outside	118	0	SE1	
						AVG:	**116**			91
						STD. DEV.	**4**			
						1 Inside	100	0	SE1	
						2 Inside	119	0	SE1	
						3 Inside	124	0	SE1	
						4 Inside	97	0	SE1	
						5 Inside	122	0	SE1	
	AVG:	**141**			120	**AVG:**	**112**			91
	STD. DEV.	**3**				STD. DEV.	**13**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 40	**157875**	153	>50%	BRK		1 Outside	118	0	SE1	
P62/ P63		156	>50%	BRK		2 Outside	115	0	SE1	
		155	>50%	BRK		3 Outside	118	0	SE1	
		156	>50%	BRK		4 Outside	119	0	SE1	
		147	>50%	BRK		5 Outside	124	0	SE1	
						AVG:	**119**			91
						STD. DEV.	**3**			
						1 Inside	116	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	115	0	SE1	
						5 Inside	113	0	SE1	
	AVG.	**153**			120	**AVG:**	**115**			91
	STD. DEV.	**4**				STD. DEV.	**2**			
DS- 41	**157876**	141	>50%	BRK		1 Outside	134	0	SE1	
P63/ P64		147	>50%	BRK		2 Outside	119	0	SE1	
		141	>50%	BRK		3 Outside	111	0	SE1	
		142	>50%	BRK		4 Outside	140	0	SE1	
		145	>50%	BRK		5 Outside	120	0	SE1	
						AVG:	**125**			91
						STD. DEV.	**12**			
						1 Inside	122	0	SE1	
						2 Inside	119	0	SE1	
						3 Inside	121	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	123	0	SE1	
	AVG:	**143**			120	**AVG:**	**118**			91
	STD. DEV.	**3**				STD. DEV.	**7**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 42	**157877**	146	>50%	BRK		1 Outside	121	0	SE1	
P64/ P65		158	>50%	BRK		2 Outside	100	0	SE1	
		153	>50%	BRK		3 Outside	120	0	SE1	
		153	>50%	BRK		4 Outside	116	0	SE1	
		151	>50%	BRK		5 Outside	108	0	SE1	
						AVG:	**113**			91
						STD. DEV.	**9**			
						1 Inside	108	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	102	0	SE1	
						5 Inside	114	0	SE1	
	AVG.	**152**			120	**AVG:**	**107**			91
	STD. DEV.	**4**				STD. DEV.	**5**			
DS- 43	**157878**	148	>50%	BRK		1 Outside	128	0	SE1	
P65/ P66		154	>50%	BRK		2 Outside	126	0	SE1	
		152	>50%	BRK		3 Outside	104	0	SE1	
		151	>50%	BRK		4 Outside	133	0	SE1	
		143	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**119**			91
						STD. DEV.	**13**			
						1 Inside	101	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**150**			120	**AVG:**	**107**			91
	STD. DEV.	**4**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 8.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-44	**157879**	153	>50%	BRK		1 Outside	130	0	SE1	
P66/ P67		155	>50%	BRK		2 Outside	132	0	SE1	
		154	>50%	BRK		3 Outside	127	0	SE1	
		152	>50%	BRK		4 Outside	126	0	SE1	
		156	>50%	BRK		5 Outside	125	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**3**			
						1 Inside	103	0	SE1	
						2 Inside	129	0	SE1	
						3 Inside	122	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	115	0	SE1	
	AVG.	**154**			120	**AVG:**	**115**			91
	STD. DEV.	**2**				STD. DEV.	**12**			
DS- 45	**157880**	147	>50%	BRK		1 Outside	116	0	SE1	
P67/ P68		148	>50%	BRK		2 Outside	130	0	SE1	
		149	>50%	BRK		3 Outside	134	0	SE1	
		151	>50%	BRK		4 Outside	118	0	SE1	
		148	>50%	BRK		5 Outside	120	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**8**			
						1 Inside	98	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	98	0	SE1	
	AVG:	**149**			120	**AVG:**	**102**			91
	STD. DEV.	**1**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 8)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 9.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 46	**157881**	146	>50%	BRK		1 Outside	105	0	SE1	
P68/ P69		151	>50%	BRK		2 Outside	98	0	SE1	
		147	>50%	BRK		3 Outside	103	0	SE1	
		147	>50%	BRK		4 Outside	101	0	SE1	
		145	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**5**			
						1 Inside	104	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**147**			120	**AVG:**	**106**			91
	STD. DEV.	**3**				STD. DEV.	**2**			
DS- 47	**157882**	139	>50%	BRK		1 Outside	118	0	SE1	
P68/ P69		143	>50%	BRK		2 Outside	112	0	SE1	
		141	>50%	BRK		3 Outside	108	0	SE1	
		141	>50%	BRK		4 Outside	102	0	SE1	
		139	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**111**			91
						STD. DEV.	**6**			
						1 Inside	120	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	113	0	SE1	
						5 Inside	113	0	SE1	
	AVG:	**141**			120	**AVG:**	**115**			91
	STD. DEV.	**1**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 9)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 10.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 48	**157883**	139	>50%	BRK		1 Outside	99	0	SE1	
P69/ P70		138	>50%	BRK		2 Outside	100	0	SE1	
		139	>50%	BRK		3 Outside	101	0	SE1	
		140	>50%	BRK		4 Outside	102	0	SE1	
		142	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**102**			91
						STD. DEV.	**2**			
						1 Inside	101	0	SE1	
						2 Inside	99	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	92	0	SE1	
						5 Inside	96	0	SE1	
	AVG.	**140**			120	**AVG:**	**98**			91
	STD. DEV.	**1**				STD. DEV.	**4**			
DS- 49	**157884**	144	>50%	BRK		1 Outside	124	0	SE1	
P70/ P71		144	>50%	BRK		2 Outside	127	0	SE1	
		145	>50%	BRK		3 Outside	114	0	SE1	
		142	>50%	BRK		4 Outside	122	0	SE1	
		144	>50%	BRK		5 Outside	126	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**5**			
						1 Inside	101	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	95	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**144**			120	**AVG:**	**103**			91
	STD. DEV.	**1**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 11.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 50	**157885**	150	>50%	BRK		1 Outside	110	0	SE1	
P71/ P72		153	>50%	BRK		2 Outside	115	0	SE1	
		151	>50%	BRK		3 Outside	108	0	SE1	
		153	>50%	BRK		4 Outside	109	0	SE1	
		153	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**112**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	114	0	SE1	
						5 Inside	107	0	SE1	
	AVG.	**152**			120	**AVG:**	**108**			91
	STD. DEV.	**1**				STD. DEV.	**5**			
DS- 51	**157886**	144	>50%	BRK		1 Outside	104	0	SE1	
P72/ P73		149	>50%	BRK		2 Outside	109	0	SE1	
		150	>50%	BRK		3 Outside	112	0	SE1	
		151	>50%	BRK		4 Outside	111	0	SE1	
		151	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**4**			
						1 Inside	102	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**149**			120	**AVG:**	**105**			91
	STD. DEV.	**3**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 11)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 12.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 52	**157887**	149	>50%	BRK		1 Outside	111	0	SE1	
P73/ P74		153	>50%	BRK		2 Outside	113	0	SE1	
		144	>50%	BRK		3 Outside	111	0	SE1	
		144	>50%	BRK		4 Outside	132	0	SE1	
		146	>50%	BRK		5 Outside	117	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**9**			
						1 Inside	111	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	99	0	SE1	
	AVG.	**147**			120	**AVG:**	**103**			91
	STD. DEV.	**4**				STD. DEV.	**5**			
DS- 53	**157888**	153	>50%	BRK		1 Outside	119	0	SE1	
P74/ P75		156	>50%	BRK		2 Outside	134	0	SE1	
		152	>50%	BRK		3 Outside	134	0	SE1	
		156	>50%	BRK		4 Outside	126	0	SE1	
		157	>50%	BRK		5 Outside	132	0	SE1	
						AVG:	**129**			91
						STD. DEV.	**6**			
						1 Inside	126	0	SE1	
						2 Inside	113	0	SE1	
						3 Inside	123	0	SE1	
						4 Inside	119	0	SE1	
						5 Inside	118	0	SE1	
	AVG:	**155**			120	**AVG:**	**120**			91
	STD. DEV.	**2**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 12)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 13.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 54	**157889**	153	>50%	BRK		1 Outside	100	0	SE1	
P75/ P76		151	>50%	BRK		2 Outside	138	0	SE1	
		147	>50%	BRK		3 Outside	139	0	SE1	
		147	>50%	BRK		4 Outside	121	0	SE1	
		149	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**18**			
						1 Inside	105	0	SE1	
						2 Inside	119	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**149**			120	**AVG:**	**112**			91
	STD. DEV.	**3**				STD. DEV.	**5**			
DS- 55	**157890**	155	>50%	BRK		1 Outside	128	0	SE1	
P76/ P77		153	>50%	BRK		2 Outside	131	0	SE1	
		155	>50%	BRK		3 Outside	137	0	SE1	
		155	>50%	BRK		4 Outside	122	0	SE1	
		154	>50%	BRK		5 Outside	120	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**7**			
						1 Inside	110	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	107	0	SE1	
	AVG:	**155**			120	**AVG:**	**108**			91
	STD. DEV.	**1**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 13)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 14.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 56	**157891**	149	>50%	BRK		1 Outside	132	0	SE1	
P77/ P78		153	>50%	BRK		2 Outside	141	0	SE1	
		150	>50%	BRK		3 Outside	118	0	SE1	
		147	>50%	BRK		4 Outside	135	0	SE1	
		152	>50%	BRK		5 Outside	133	0	SE1	
						AVG:	**132**			91
						STD. DEV.	**8**			
						1 Inside	111	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	112	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	112	0	SE1	
	AVG.	**150**			120	**AVG:**	**111**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DS- 57	**157892**	146	>50%	BRK		1 Outside	133	0	SE1	
P78/ P79		145	>50%	BRK		2 Outside	133	0	SE1	
		146	>50%	BRK		3 Outside	130	0	SE1	
		147	>50%	BRK		4 Outside	132	0	SE1	
		144	>50%	BRK		5 Outside	130	0	SE1	
						AVG:	**131**			91
						STD. DEV.	**1**			
						1 Inside	105	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**146**			120	**AVG:**	**107**			91
	STD. DEV.	**1**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 14)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 15.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210786**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 58	**157893**	149	>50%	BRK		1 Outside	124	0	SE1	
P79/ P80		154	>50%	BRK		2 Outside	110	0	SE1	
		149	>50%	BRK		3 Outside	121	0	SE1	
		150	>50%	BRK		4 Outside	122	0	SE1	
		150	>50%	BRK		5 Outside	125	0	SE1	
						AVG:	**120**			91
						STD. DEV.	**6**			
						1 Inside	112	0	SE1	
						2 Inside	106	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	96	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**150**			120	**AVG:**	**106**			91
	STD. DEV.	**2**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 15)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

August 17, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 08/17/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of three (3) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **August 17, 2021**

REFERENCE TRI JOB NO.: G210787

DATE RECEIVED: August 17, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DSX-2 P54/ EX	157894
DSX-3 R107/ P52	157895
DSX-4 R120/ P53	157896

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 2.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance

Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion Weld**
TRI JOB #: **G210787**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSX-2	**157894**	146	>50%	BRK		1 Outside	132	0	SE3	
P54/ EX		149	>50%	BRK		2 Outside	134	0	SE3	
		149	>50%	BRK		3 Outside	135	0	SE3	
		138	>50%	BRK		4 Outside	131	0	SE3	
		146	>50%	BRK		5 Outside	132	0	SE3	
						AVG:	**133**			78
						STD. DEV.	**2**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**146**			120	**AVG:**				
	STD. DEV.	**4**				STD. DEV.				
DSX-3	**157895**	184	>50%	BRK		1 Outside	142	0	SE3	
R107/ P52		182	>50%	BRK		2 Outside	130	0	SE3	
		181	>50%	BRK		3 Outside	135	0	SE3	
		186	>50%	BRK		4 Outside	118	0	SE3	
		185	>50%	BRK		5 Outside	130	0	SE3	
						AVG:	**131**			78
						STD. DEV.	**8**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**184**			120	**AVG:**				
	STD. DEV.	**2**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **17-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion Weld**
TRI JOB #: **G210787**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 17-Aug-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSX-4	**157896**	180	>50%	BRK		1 Outside	147	0	SE3	
R120/ P53		183	>50%	BRK		2 Outside	133	0	SE3	
		181	>50%	BRK		3 Outside	118	0	SE3	
		184	>50%	BRK		4 Outside	134	0	SE3	
		183	>50%	BRK		5 Outside	136	0	SE3	
						AVG:	**134**			78
						STD. DEV.	**10**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**182**			120	**AVG:**				
	STD. DEV.	**1**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

August 31, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 08/31/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of twenty-seven (27) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **August 31, 2021**

REFERENCE TRI JOB NO.: G210851

DATE RECEIVED: August 31, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DS-59 P80/P81	158268	DS-74 P94/P95	158282
DS-60 P80/P81	158269	DS-75 P94/P96	158283
DS-61 P81/P82	158270	DS-76 P95/P96	158284
DS-63 P83/P84	158271	DS-77 P102/P103	158285
DS-64 P84/P85	158272	DS-78 P95/P107	158286
DS-65 P85/P86	158273	DS-79 P112/P113	158287
DS-66 P86/P87	158274	DS-80 P117/P118	158288
DS-67 P87/P88	158275	DS-81 P95/P121	158289
DS-68 P88/P89	158276	DS-82 P82/ CAP	158290
DS-69 P89/P90	158277	DS-83 P83/ CAP	158291
DS-70 P90/P91	158278	DSX5 P65/P66	158292
DS-71 P91/P92	158279	DSX6 P87/ EXT	158293
DS-72 P92/P93	158280	DSX7 P90/P91	158294
DS-73 P93/P94	158281		

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 14.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. - California

Maria Espitia — Quality Assurance
Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

15 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 59	**158268**	149	>50%	BRK		1 Outside	109	0	SE1	
P80/P81		151	>50%	BRK		2 Outside	111	0	SE1	
		152	>50%	BRK		3 Outside	112	0	SE1	
		151	>50%	BRK		4 Outside	126	0	SE1	
		148	>50%	BRK		5 Outside	132	0	SE1	
						AVG:	**118**			91
						STD. DEV.	**10**			
						1 Inside	101	0	SE1	
						2 Inside	99	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	106	0	SE1	
	AVG.	**150**			120	**AVG:**	**106**			91
	STD. DEV.	**2**				STD. DEV.	**6**			
DS- 60	**158269**	150	>50%	BRK		1 Outside	105	0	SE1	
P80/P81		151	>50%	BRK		2 Outside	109	0	SE1	
		154	>50%	BRK		3 Outside	98	0	SE1	
		153	>50%	BRK		4 Outside	106	0	SE1	
		155	>50%	BRK		5 Outside	99	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**5**			
						1 Inside	102	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	101	0	SE1	
	AVG:	**153**			120	**AVG:**	**103**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 61	**158270**	152	>50%	BRK		1 Outside	119	0	SE1	
P81/P82		152	>50%	BRK		2 Outside	110	0	SE1	
		150	>50%	BRK		3 Outside	111	0	SE1	
		155	>50%	BRK		4 Outside	112	0	SE1	
		150	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**113**			91
						STD. DEV.	**4**			
						1 Inside	118	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	114	0	SE1	
						4 Inside	102	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**152**			120	**AVG:**	**109**			91
	STD. DEV.	**2**				STD. DEV.	**7**			
DS- 63	**158271**	148	>50%	BRK		1 Outside	114	0	SE1	
P83/P84		150	>50%	BRK		2 Outside	125	0	SE1	
		147	>50%	BRK		3 Outside	122	0	SE1	
		148	>50%	BRK		4 Outside	120	0	SE1	
		148	>50%	BRK		5 Outside	127	0	SE1	
						AVG:	**122**			91
						STD. DEV.	**5**			
						1 Inside	114	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**148**			120	**AVG:**	**110**			91
	STD. DEV.	**1**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 64	**158272**	140	>50%	BRK		1 Outside	110	0	SE1	
P84/P85		146	>50%	BRK		2 Outside	106	0	SE1	
		140	>50%	BRK		3 Outside	112	0	SE1	
		148	>50%	BRK		4 Outside	109	0	SE1	
		144	>50%	BRK		5 Outside	107	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**2**			
						1 Inside	107	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	111	0	SE1	
	AVG.	**144**			120	**AVG:**	**109**			91
	STD. DEV.	**3**				STD. DEV.	**2**			
DS- 65	**158273**	155	>50%	BRK		1 Outside	136	0	SE1	
P85/P86		153	>50%	BRK		2 Outside	126	0	SE1	
		150	>50%	BRK		3 Outside	132	0	SE1	
		151	>50%	BRK		4 Outside	120	0	SE1	
		155	>50%	BRK		5 Outside	132	0	SE1	
						AVG:	**129**			91
						STD. DEV.	**6**			
						1 Inside	106	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	119	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**152**			120	**AVG:**	**111**			91
	STD. DEV.	**2**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 66	**158274**	151	>50%	BRK		1 Outside	106	0	SE1	
P86/P87		149	>50%	BRK		2 Outside	105	0	SE1	
		152	>50%	BRK		3 Outside	110	0	SE1	
		152	>50%	BRK		4 Outside	106	0	SE1	
		154	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	102	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**152**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**1**			
DS- 67	**158275**	155	>50%	BRK		1 Outside	112	0	SE1	
P87/P88		156	>50%	BRK		2 Outside	112	0	SE1	
		156	>50%	BRK		3 Outside	110	0	SE1	
		151	>50%	BRK		4 Outside	110	0	SE1	
		150	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**111**			91
						STD. DEV.	**1**			
						1 Inside	109	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	123	0	SE1	
						5 Inside	117	0	SE1	
	AVG:	**153**			120	**AVG:**	**114**			91
	STD. DEV.	**3**				STD. DEV.	**8**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 68	**158276**	154	>50%	BRK		1 Outside	114	0	SE1	
P88/P89		156	>50%	BRK		2 Outside	118	0	SE1	
		151	>50%	BRK		3 Outside	110	0	SE1	
		156	>50%	BRK		4 Outside	115	0	SE1	
		158	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**114**			91
						STD. DEV.	**3**			
						1 Inside	109	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	116	0	SE1	
						5 Inside	111	0	SE1	
	AVG.	**155**			120	**AVG:**	**112**			91
	STD. DEV.	**3**				STD. DEV.	**4**			
DS- 69	**158277**	141	>50%	BRK		1 Outside	100	0	SE1	
P89/P90		142	>50%	BRK		2 Outside	102	0	SE1	
		142	>50%	BRK		3 Outside	101	0	SE1	
		141	>50%	BRK		4 Outside	101	0	SE1	
		141	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**1**			
						1 Inside	114	0	SE1	
						2 Inside	124	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	118	0	SE1	
						5 Inside	130	0	SE1	
	AVG:	**141**			120	**AVG:**	**120**			91
	STD. DEV.	**1**				STD. DEV.	**7**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

(Sheet 1 of 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 70	**158278**	150	>50%	BRK		1 Outside	105	0	SE1	
P90/P91		150	>50%	BRK		2 Outside	110	0	SE1	
		149	>50%	BRK		3 Outside	107	0	SE1	
		148	>50%	BRK		4 Outside	102	0	SE1	
		152	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**3**			
						1 Inside	105	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	116	0	SE1	
	AVG.	**150**			120	**AVG:**	**110**			91
	STD. DEV.	**1**				STD. DEV.	**5**			
DS- 71	**158279**	150	>50%	BRK		1 Outside	101	0	SE1	
P91/P92		145	>50%	BRK		2 Outside	103	0	SE1	
		149	>50%	BRK		3 Outside	101	0	SE1	
		152	>50%	BRK		4 Outside	106	0	SE1	
		148	>50%	BRK		5 Outside	109	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**3**			
						1 Inside	106	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**149**			120	**AVG:**	**107**			91
	STD. DEV.	**3**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 72	**158280**	146	>50%	BRK		1 Outside	100	0	SE1	
P92/P93		147	>50%	BRK		2 Outside	102	0	SE1	
		146	>50%	BRK		3 Outside	104	0	SE1	
		145	>50%	BRK		4 Outside	102	0	SE1	
		146	>50%	BRK		5 Outside	100	0	SE1	
						AVG:	**102**			91
						STD. DEV.	**2**			
						1 Inside	116	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	121	0	SE1	
						5 Inside	114	0	SE1	
	AVG.	**146**			120	**AVG:**	**115**			91
	STD. DEV.	**1**				STD. DEV.	**6**			
DS- 73	**158281**	141	>50%	BRK		1 Outside	128	0	SE1	
P93/P94		143	>50%	BRK		2 Outside	134	0	SE1	
		138	>50%	BRK		3 Outside	123	0	SE1	
		144	>50%	BRK		4 Outside	129	0	SE1	
		141	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**4**			
						1 Inside	99	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**141**			120	**AVG:**	**106**			91
	STD. DEV.	**2**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 8.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 74	**158282**	145	>50%	BRK		1 Outside	105	0	SE1	
P94/P95		152	>50%	BRK		2 Outside	108	0	SE1	
		149	>50%	BRK		3 Outside	102	0	SE1	
		149	>50%	BRK		4 Outside	105	0	SE1	
		146	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**2**			
						1 Inside	100	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	97	0	SE1	
						5 Inside	100	0	SE1	
	AVG.	**148**			120	**AVG:**	**101**			91
	STD. DEV.	**3**				STD. DEV.	**3**			
DS- 75	**158283**	154	>50%	BRK		1 Outside	105	0	SE1	
P94/P96		148	>50%	BRK		2 Outside	107	0	SE1	
		148	>50%	BRK		3 Outside	108	0	SE1	
		150	>50%	BRK		4 Outside	108	0	SE1	
		149	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**2**			
						1 Inside	102	0	SE1	
						2 Inside	99	0	SE1	
						3 Inside	97	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	119	0	SE1	
	AVG:	**150**			120	**AVG:**	**105**			91
	STD. DEV.	**2**				STD. DEV.	**9**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 8)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 9.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 76	**158284**	137	>50%	BRK		1 Outside	107	0	SE1	
P95/96		139	>50%	BRK		2 Outside	106	0	SE1	
		137	>50%	BRK		3 Outside	96	0	SE1	
		137	>50%	BRK		4 Outside	100	0	SE1	
		139	>50%	BRK		5 Outside	98	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**5**			
						1 Inside	130	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	126	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	120	0	SE1	
	AVG.	**138**			120	**AVG:**	**123**			91
	STD. DEV.	**1**				STD. DEV.	**5**			
DS- 77	**158285**	149	>50%	BRK		1 Outside	109	0	SE1	
P102/P103		148	>50%	BRK		2 Outside	122	0	SE1	
		145	>50%	BRK		3 Outside	105	0	SE1	
		148	>50%	BRK		4 Outside	109	0	SE1	
		150	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**112**			91
						STD. DEV.	**7**			
						1 Inside	106	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**148**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 9)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 10.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 78	**158286**	146	>50%	BRK		1 Outside	115	0	SE1	
P95/P107		148	>50%	BRK		2 Outside	120	0	SE1	
		150	>50%	BRK		3 Outside	138	0	SE1	
		147	>50%	BRK		4 Outside	119	0	SE1	
		148	>50%	BRK		5 Outside	138	0	SE1	
						AVG:	**126**			91
						STD. DEV.	**11**			
						1 Inside	122	0	SE1	
						2 Inside	122	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	132	0	SE1	
						5 Inside	126	0	SE1	
	AVG.	**148**			120	**AVG:**	**123**			91
	STD. DEV.	**1**				STD. DEV.	**6**			
DS- 79	**158287**	150	>50%	BRK		1 Outside	121	0	SE1	
P112/P113		151	>50%	BRK		2 Outside	124	0	SE1	
		145	>50%	BRK		3 Outside	115	0	SE1	
		148	>50%	BRK		4 Outside	119	0	SE1	
		146	>50%	BRK		5 Outside	118	0	SE1	
						AVG:	**119**			91
						STD. DEV.	**3**			
						1 Inside	97	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	98	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**148**			120	**AVG:**	**103**			91
	STD. DEV.	**3**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 11.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 80	**158288**	147	>50%	BRK		1 Outside	108	0	SE1	
P117/118		149	>50%	BRK		2 Outside	129	0	SE1	
		146	>50%	BRK		3 Outside	122	0	SE1	
		148	>50%	BRK		4 Outside	135	0	SE1	
		145	>50%	BRK		5 Outside	126	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**10**			
						1 Inside	95	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	91	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	93	0	SE1	
	AVG.	**147**			120	**AVG:**	**96**			91
	STD. DEV.	**2**				STD. DEV.	**4**			
DS- 81	**158289**	142	>50%	BRK		1 Outside	122	0	SE1	
P95/P121		143	>50%	BRK		2 Outside	136	0	SE1	
		141	>50%	BRK		3 Outside	126	0	SE1	
		145	>50%	BRK		4 Outside	121	0	SE1	
		145	>50%	BRK		5 Outside	133	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**7**			
						1 Inside	110	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**143**			120	**AVG:**	**104**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 12.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 82	**158290**	147	>50%	BRK		1 Outside	119	0	SE1	
P82/ CAP		145	>50%	BRK		2 Outside	127	0	SE1	
		147	>50%	BRK		3 Outside	119	0	SE1	
		146	>50%	BRK		4 Outside	128	0	SE1	
		146	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**6**			
						1 Inside	131	0	SE1	
						2 Inside	134	0	SE1	
						3 Inside	129	0	SE1	
						4 Inside	120	0	SE1	
						5 Inside	112	0	SE1	
	AVG.	**146**			120	**AVG:**	**125**			91
	STD. DEV.	**1**				STD. DEV.	**9**			
DS- 83	**158291**	162	>50%	BRK		1 Outside	136	0	SE1	
P83/ CAP		164	>50%	BRK		2 Outside	135	0	SE1	
		161	>50%	BRK		3 Outside	119	0	SE1	
		163	>50%	BRK		4 Outside	123	0	SE1	
		160	>50%	BRK		5 Outside	138	0	SE1	
						AVG:	**130**			91
						STD. DEV.	**9**			
						1 Inside	141	0	SE1	
						2 Inside	142	0	SE1	
						3 Inside	141	0	SE1	
						4 Inside	133	0	SE1	
						5 Inside	138	0	SE1	
	AVG:	**162**			120	**AVG:**	**139**			91
	STD. DEV.	**1**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 13.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSX-5	**158292**	168	>50%	BRK		1 Outside	146	0	SE3	
P65/P66		172	>50%	BRK		2 Outside	142	0	SE3	
		162	>50%	BRK		3 Outside	143	0	SE3	
		167	>50%	BRK		4 Outside	144	0	SE3	
		165	>50%	BRK		5 Outside	144	0	SE3	
						AVG:	**144**			78
						STD. DEV.	**2**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**167**			120	**AVG:**				
	STD. DEV.	**4**				STD. DEV.				
DSX-6	**158293**	161	>50%	BRK		1 Outside	151	0	SE3	
P87/ EXT		165	>50%	BRK		2 Outside	146	0	SE3	
		157	>50%	BRK		3 Outside	123	0	SE3	
		155	>50%	BRK		4 Outside	146	0	SE3	
		163	>50%	BRK		5 Outside	143	0	SE3	
						AVG:	**142**			78
						STD. DEV.	**11**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**160**			120	**AVG:**				
	STD. DEV.	**4**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 14.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **31-Aug-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion Weld**
TRI JOB #: **G210851**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 31-Aug-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSX-7	**158294**	179	>50%	BRK		1 Outside	126	0	SE3	
P90/P91		176	>50%	BRK		2 Outside	156	0	SE3	
		172	>50%	BRK		3 Outside	138	0	SE3	
		177	>50%	BRK		4 Outside	131	0	SE3	
		178	>50%	BRK		5 Outside	132	0	SE3	
						AVG:	**136**			78
						STD. DEV.	**11**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**176**			120	**AVG:**				
	STD. DEV.	**3**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

GAI-LAP
Initial: EVZ #:0.13
DATE: 09/08/2021

September 8, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of two (2) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **September 8, 2021**

REFERENCE TRI JOB NO.: G210886

DATE RECEIVED: September 8, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DS-84 P17/ P126	158494
DSX-8 R309/ P126	158495

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **8-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion/ Extrusion Weld**
TRI JOB #: **G210886**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-84	**158494**	149	>50%	BRK		1 Outside	100	0	SE1	
P17/ P126		144	>50%	BRK		2 Outside	106	0	SE1	
		149	>50%	BRK		3 Outside	100	0	SE1	
		150	>50%	BRK		4 Outside	111	0	SE1	
		149	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**4**			
						1 Inside	126	0	SE1	
						2 Inside	117	0	SE1	
						3 Inside	141	0	SE1	
						4 Inside	140	0	SE1	
						5 Inside	140	0	SE1	
	AVG.	**149**			120	**AVG:**	**133**			91
	STD. DEV.	**3**				STD. DEV.	**11**			
DX-8	**158495**	160	>50%	BRK		1 Outside	134	0	SE3	
R309/ P126		157	>50%	BRK		2 Outside	130	0	SE3	
		158	>50%	BRK		3 Outside	137	0	SE3	
		159	>50%	BRK		4 Outside	138	0	SE3	
		159	>50%	BRK		5 Outside	134	0	SE3	
						AVG:	**135**			78
						STD. DEV.	**3**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**159**			120	**AVG:**				
	STD. DEV.	**1**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

GAI-LAP
Initial: CVZ #:0.13
DATE: 09/14/2021

September 14, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of three (3) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **September 14, 2021**

REFERENCE TRI JOB NO.: G210923

DATE RECEIVED: September 14, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DS-85 P39/ P127	158648
DS-86 P62/ P128	158649
DS-87 P83/ P129	158650

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 2.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **14-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210923**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 14-Sep-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 85	**158648**	140	>50%	BRK		1 Outside	112	0	SE1	
P39/P127		144	>50%	BRK		2 Outside	127	0	SE1	
		144	>50%	BRK		3 Outside	138	0	SE1	
		144	>50%	BRK		4 Outside	133	0	SE1	
		146	>50%	BRK		5 Outside	130	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**10**			
						1 Inside	112	0	SE1	
						2 Inside	118	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	128	0	SE1	
						5 Inside	115	0	SE1	
	AVG.	**144**			120	**AVG:**	**117**			91
	STD. DEV.	**2**				STD. DEV.	**7**			
DS- 86	**158649**	143	>50%	BRK		1 Outside	130	0	SE1	
P62/P128		141	>50%	BRK		2 Outside	136	0	SE1	
		141	>50%	BRK		3 Outside	135	0	SE1	
		141	>50%	BRK		4 Outside	118	0	SE1	
		145	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**127**			91
						STD. DEV.	**10**			
						1 Inside	139	0	SE1	
						2 Inside	133	0	SE1	
						3 Inside	137	0	SE1	
						4 Inside	136	0	SE1	
						5 Inside	137	0	SE1	
	AVG:	**142**			120	**AVG:**	**136**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **14-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210923**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 14-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 87	**158650**	160	>50%	BRK		1 Outside	131	0	SE1	
P83/P129		161	>50%	BRK		2 Outside	124	0	SE1	
		159	>50%	BRK		3 Outside	123	0	SE1	
		161	>50%	BRK		4 Outside	122	0	SE1	
		160	>50%	BRK		5 Outside	136	0	SE1	
						AVG:	**127**			91
						STD. DEV.	**6**			
						1 Inside	120	0	SE1	
						2 Inside	120	0	SE1	
						3 Inside	124	0	SE1	
						4 Inside	123	0	SE1	
						5 Inside	124	0	SE1	
	AVG.	**160**			120	**AVG:**	**122**			91
	STD. DEV.	**1**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

APPENDIX H
Geomembrane Installation
(Primary Layer)

Section 1
Geomembrane Panel Deployment Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021
PAGE# 1

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P1	10011	80	29	22.5	652.5	60	KL	
P2	10011	80	30	22.5	675	60	KL	
P3	10011	81	50	22.5	1125	60	KL	
P4	10011	82	50	22.5	1125	60	KL	
P5	10011	83	52	22.5	1170	60	KL	
P6	10011	83	52	22.5	1170	60	KL	
P7	10011	83	53	22.5	1192.5	60	KL	
P8	10011	85	53	22.5	1192.5	60	KL	
P9	10011	86	53	22.5	1192.5	60	KL	
P10	10011	88	53	22.5	1192.5	60	KL	
P11	10063	88	54	22.5	1215	60	KL	
P12	10063	88	54	22.5	1215	60	KL	
P13	10063	88	54	22.5	1215	60	KL	
P14	10063	89	56	22.5	1260	60	KL	

PAGE APPROX. TOTAL (SQ FT): 15592.5

DAILY TOTAL (SQ FT): 25875

ACCUMULATED TOTAL (SQ FT): 25875

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021
PAGE# 2

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P15	10063	89	56	22.5	1260	60	KL	
P16	10063	89	57	22.5	1282.5	60	KL	
P17	10022	90	57	22.5	1282.5	60	KL	
P18	10022	92	58	22.5	1305	60	KL	
P19	10022	92	58	22.5	1305	60	KL	
P20	10022	94	59	22.5	1327.5	60	KL	
P21	10022	94	56	22.5	1260	60	KL	
P22	10022	94	56	22.5	1260	60	KL	

PAGE APPROX. TOTAL (SQ FT): 10282.5

DAILY TOTAL (SQ FT): 25875

ACCUMULATED TOTAL (SQ FT): 25875

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021
PAGE# 3

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P23	30075	84	253	22.5	5692.5	60	KL	
P24	30075	86	253	22.5	5692.5	60	KL	
P25	30127	87	252	22.5	5670	60	KL	
P26	30127	88	252	22.5	5670	60	KL	
P27	30108	89	254	22.5	5715	60	KL	
P28	30108	90	254	22.5	5715	60	KL	
P29	30027	92	254	22.5	5715	60	KL	

PAGE APPROX. TOTAL (SQ FT): 39870

DAILY TOTAL (SQ FT): 39870

ACCUMULATED TOTAL (SQ FT): 65745

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021
PAGE# 4

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P30	30022	88	59	15.5	914.5	60	KL	
P31	30022	88	23	16	368	60	KL	
P32	30022	88	29	22.5	652.5	60	KL	
P33	30022	89	36	22.5	810	60	KL	
P34	30136	89	275	22.5	6187.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 8932.5

DAILY TOTAL (SQ FT): 8932.5

ACCUMULATED TOTAL (SQ FT): 74677.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/10/2021
PAGE# 5

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P35	30136	77	247	22.5	5557.5	60	KL	
P36	30105	78	32	22.5	720	60	KL	
P37	30105	79	276	22.5	6210	60	KL	
P38	30105	79	211	22.5	4747.5	60	KL	
P39	30133	81	65	22.5	1462.5	60	KL	
P40	30133	82	283	22.5	6367.5	60	KL	
P41	30133	84	186	22.5	4185	60	KL	
P42	30066	87	94	22.5	2115	60	KL	
P43	30066	90	281	22.5	6322.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 37687.5

DAILY TOTAL (SQ FT): 38610

ACCUMULATED TOTAL (SQ FT): 112365

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021
PAGE# 6

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P44	30001	80	262	22.5	5895	60	KL	
P45	30001	80	260	22.5	5850	60	KL	
P46	30117	82	262	22.5	5895	60	KL	
P47	30117	82	257	22.5	5782.5	60	KL	
P48	30008	88	262	22.5	5895	60	KL	
P49	30008	88	262	22.5	5895	60	KL	
P50	30132	90	261	22.5	5872.5	60	KL	
P51	30132	91	260	22.5	5850	60	KL	
P52	30074	91	262	22.5	5895	60	KL	
P53	30074	85	260	22.5	5850	60	KL	
P54	30021	80	261	22.5	5872.5	60	KL	
P55	30021	80	257	22.5	5782.5	60	KL	
P56	30080	80	260	22.5	5850	60	KL	
P57	30080	80	257	22.5	5782.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 81967.5

DAILY TOTAL (SQ FT): 105300

ACCUMULATED TOTAL (SQ FT): 217665

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021
PAGE# 7

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P58	30120	80	260	22.5	5850	60	KL	
P59	30120	80	258	22.5	5805	60	KL	
P60	30124	80	261	22.5	5872.5	60	KL	
P61	30124	80	258	22.5	5805	60	KL	

PAGE APPROX. TOTAL (SQ FT): 23332.5

DAILY TOTAL (SQ FT): 105300

ACCUMULATED TOTAL (SQ FT): 217665

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021
PAGE# 8

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P62	30130	85	262	22.5	5895	60	JP	
P63	30130	85	263	22.5	5917.5	60	JP	
P64	30102	86	265	22.5	5962.5	60	JP	
P65	30102	86	259	22.5	5827.5	60	JP	
P66	30097	87	263	22.5	5917.5	60	JP	
P67	30097	87	260	22.5	5850	60	JP	
P68	30067	88	261	22.5	5872.5	60	JP	
P69	30067	89	260	22.5	5850	60	JP	
P70	30051	89	260	22.5	5850	60	JP	
P71	30051	90	257	22.5	5782.5	60	JP	
P72	30031	90	260	22.5	5850	60	JP	
P73	30031	90	259	22.5	5827.5	60	JP	
P74	30039	90	261	22.5	5872.5	60	JP	
P75	30039	90	258	22.5	5805	60	JP	

PAGE APPROX. TOTAL (SQ FT): 82080

DAILY TOTAL (SQ FT): 117067.5

ACCUMULATED TOTAL (SQ FT): 334732.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY ____ OTHER ____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021
PAGE# 9

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P76	30114	90	261	22.5	5872.5	60	JP	
P77	30114	90	258	22.5	5805	60	JP	
P78	30119	90	261	22.5	5872.5	60	JP	
P79	30119	90	257	22.5	5782.5	60	JP	
P80	30081	90	260	22.5	5850	60	JP	
P81	30081	90	258	22.5	5805	60	JP	

PAGE APPROX. TOTAL (SQ FT): 34987.5

DAILY TOTAL (SQ FT): 117067.5

ACCUMULATED TOTAL (SQ FT): 334732.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021
PAGE# 10

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P82	30116	80	259	22.5	5827.5	60	KL	
P83	30116	81	264	22.5	5940	60	KL	
P84	30057	82	263	22.5	5917.5	60	KL	
P85	30057	82	265	22.5	5962.5	60	KL	
P86	30054	85	268	22.5	6030	60	KL	
P87	30054	85	264	22.5	5940	60	KL	
P88	30129	85	266	22.5	5985	60	KL	
P89	30129	86	264	22.5	5940	60	KL	
P90	30118	86	267	22.5	6007.5	60	KL	
P91	30118	86	265	22.5	5962.5	60	KL	
P92	30112	86	267	22.5	6007.5	60	KL	
P93	30112	87	264	22.5	5940	60	KL	
P94	30007	86	268	22.5	6030	60	KL	
P95	30007	86	265	22.5	5962.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 83452.5

DAILY TOTAL (SQ FT): 95400

ACCUMULATED TOTAL (SQ FT): 430132.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021
PAGE# 11

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P96	30056	86	267	22.5	6007.5	60	KL	
P97	30056	86	264	22.5	5940	60	KL	

PAGE APPROX. TOTAL (SQ FT): 11947.5

DAILY TOTAL (SQ FT): 95400

ACCUMULATED TOTAL (SQ FT): 430132.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021
PAGE# 12

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P98	30113	85	262	22.5	5895	60	KL	
P99	30113	85	260	22.5	5850	60	KL	
P100	30134	85	261	22.5	5872.5	60	KL	
P101	30134	85	260	22.5	5850	60	KL	
P102	30103	85	263	22.5	5917.5	60	KL	
P103	30103	85	260	22.5	5850	60	KL	
P104	30070	85	263	22.5	5917.5	60	KL	
P105	30070	85	260	22.5	5850	60	KL	
P106	30047	85	262	22.5	5895	60	KL	
P107	30047	85	260	22.5	5850	60	KL	
P108	30037	85	263	22.5	5917.5	60	KL	
P109	30037	85	260	22.5	5850	60	KL	
P110	30121	85	262	22.5	5895	60	KL	
P111	30121	85	260	22.5	5850	60	KL	

PAGE APPROX. TOTAL (SQ FT): 82260

DAILY TOTAL (SQ FT): 152932.5

ACCUMULATED TOTAL (SQ FT): 583065

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021
PAGE# 13

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P112	10013	85	262	22.5	5895	60	KL	
P113	10013	85	260	22.5	5850	60	KL	
P114	30106	85	262	22.5	5895	60	KL	
P115	30106	85	261	22.5	5872.5	60	KL	
P116	30088	85	263	22.5	5917.5	60	KL	
P117	30088	85	261	22.5	5872.5	60	KL	
P118	30060	85	263	22.5	5917.5	60	KL	
P119	30060	85	260	22.5	5850	60	KL	
P120	30104	85	263	22.5	5917.5	60	KL	
P121	30104	85	261	22.5	5872.5	60	KL	
P122	30089	85	262	22.5	5895	60	KL	
P123	30089	85	263	22.5	5917.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 70672.5

DAILY TOTAL (SQ FT): 152932.5

ACCUMULATED TOTAL (SQ FT): 583065

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021
PAGE# 14

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P124	10008	76	263	22.5	5917.5	60	KL	
P125	10008	76	263	22.5	5917.5	60	KL	
P126	10014	77	261	22.5	5872.5	60	KL	
P127	10014	78	262	22.5	5895	60	KL	
P128	10018	78	263	22.5	5917.5	60	KL	
P129	10018	78	262	22.5	5895	60	KL	
P130	30128	79	264	22.5	5940	60	KL	
P131	30128	79	261	22.5	5872.5	60	KL	
P132	30115	81	263	22.5	5917.5	60	KL	
P133	30115	82	262	22.5	5895	60	KL	
P134	10017	89	262	22.5	5895	60	KL	
P135	10017	88	263	22.5	5917.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 70852.5

DAILY TOTAL (SQ FT): 70852.5

ACCUMULATED TOTAL (SQ FT): 653917.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021
PAGE# 15

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P136	30083	76	35	3	105	60	KL	
P137	30083	76	45	3	135	60	KL	

PAGE APPROX. TOTAL (SQ FT): 240

DAILY TOTAL (SQ FT): 240

ACCUMULATED TOTAL (SQ FT): 654157.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021
PAGE# 16

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P138	10016	72	267	22.5	6007.5	60	KL	
P139	10016	73	259	22.5	5827.5	60	KL	
P140	10010	74	267	22.5	6007.5	60	KL	
P141	10010	75	259	22.5	5827.5	60	KL	
P142	10009	78	265	22.5	5962.5	60	KL	
P143	10009	79	265	22.5	5962.5	60	KL	
P144	10012	81	269	22.5	6052.5	60	KL	
P145	10012	82	259	22.5	5827.5	60	KL	
P146	30053	84	269	22.5	6052.5	60	KL	
P147	30053	84	259	22.5	5827.5	60	KL	
P148	30041	84	269	22.5	6052.5	60	KL	
P149	30041	87	258	22.5	5805	60	KL	
P150	10007	89	268	22.5	6030	60	KL	
P151	10007	91	257	22.5	5782.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 83025

DAILY TOTAL (SQ FT): 131085

ACCUMULATED TOTAL (SQ FT): 785242.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021
PAGE# 17

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P152	30055	92	270	22.5	6075	60	KL	
P153	30055	92	264	22.5	5940	60	KL	
P154	10015	90	269	22.5	6052.5	60	KL	
P155	10015	90	264	22.5	5940	60	KL	
P156	30125	89	270	22.5	6075	60	KL	
P157	30125	89	265	22.5	5962.5	60	KL	
P158	30003	88	269	22.5	6052.5	60	KL	
P159	30003	87	265	22.5	5962.5	60	KL	

PAGE APPROX. TOTAL (SQ FT): 48060

DAILY TOTAL (SQ FT): 131085

ACCUMULATED TOTAL (SQ FT): 785242.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021
PAGE# 18

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P160	30038	72	268	22.5	6030	60	KL	
P161	30038	72	264	22.5	5940	60	KL	
P162	30043	72	268	22.5	6030	60	KL	
P163	30043	72	264	22.5	5940	60	KL	
P164	30016	77	47	22.5	1057.5	60	KL	
P165	30016	77	64	22.5	1440	60	KL	
P166	30016	77	63	22.5	1417.5	60	KL	
P167	30016	77	85	22.5	1912.5	60	KL	
P168	30016	77	85	22.5	1912.5	60	KL	
P169	30016	77	86	22.5	1935	60	KL	
P170	30050	78	86	22.5	1935	60	KL	
P171	30050	78	86	22.5	1935	60	KL	
P172	30050	82	86	22.5	1935	60	KL	
P173	30050	82	86	22.5	1935	60	KL	

PAGE APPROX. TOTAL (SQ FT): 41355

DAILY TOTAL (SQ FT): 67095

ACCUMULATED TOTAL (SQ FT): 852337.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021
PAGE# 19

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P174	30050	86	86	22.5	1935	60	KL	
P175	30050	86	88	22.5	1980	60	KL	
P176	30082	86	86	22.5	1935	60	KL	
P177	30082	86	86	22.5	1935	60	KL	
P178	30082	86	86	22.5	1935	60	KL	
P179	30082	86	86	22.5	1935	60	KL	
P180	30082	88	86	22.5	1935	60	KL	
P181	30082	88	87	22.5	1957.5	60	KL	
P182	10022	88	87	22.5	1957.5	60	KL	
P183	10022	88	87	22.5	1957.5	60	KL	
P184	10022	94	86	22.5	1935	60	KL	
P185	10022	94	69	22.5	1552.5	60	KL	
P186	10022	94	70	22.5	1575	60	KL	
P187	10022	94	54	22.5	1215	60	KL	

PAGE APPROX. TOTAL (SQ FT): 25740

DAILY TOTAL (SQ FT): 67095

ACCUMULATED TOTAL (SQ FT): 852337.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021
PAGE# 20

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P188	30083	74	220	4	880	60	KL	
P189	30083	76	44	4	176	60	KL	

PAGE APPROX. TOTAL (SQ FT): 1056

DAILY TOTAL (SQ FT): 1056

ACCUMULATED TOTAL (SQ FT): 853393.5

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY _____ OTHER _____

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 11/3/2021
PAGE# 21

PANEL #	ROLL #	AMB TEMP	LENGTH APPROX.	WIDTH APPROX.	AREA APPROX.	AVG. THICKNESS (mil)	QA MON.	COMMENTS/PANEL LOCATION SPECIAL SHAPE
P190	30066	80	85	22.5	1912.5	60	KL	
P191	30066	84	20	2	40	60	KL	

PAGE APPROX. TOTAL (SQ FT): 1952.5

DAILY TOTAL (SQ FT): 1952.5

ACCUMULATED TOTAL (SQ FT): 855346

REVIEWED BY : SAM NEJAD

DATE: 12-1-21

Section 2
Geomembrane Trial Seam Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021 PAGE# 1

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF1	9:30	86	G004	LV	18	800	-	-	INSIDE	112	110	100	108	106	139	137	139	138	137	P	KL
									OUTSIDE	130	121	121	122	120							
TF2	9:34	86	G004	LV	14	800	-	-	INSIDE	100	121	129	128	120	133	128	136	132	135	P	KL
									OUTSIDE	125	121	127	129	128							
TF3	9:38	86	A104	LP	9	850	-	-	INSIDE	107	99	94	103	99	133	126	131	130	128	P	KL
									OUTSIDE	99	99	100	94	96							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021 PAGE# 2

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF4	8:40	84	G004	LV	18	800	-	-	INSIDE	113	102	123	119	106	135	130	129	132	123	P	KL
									OUTSIDE	95	99	107	104	98							
TF5	8:45	84	G004	LV	14	800	-	-	INSIDE	121	113	138	117	95	131	129	130	135	129	P	KL
									OUTSIDE	126	117	115	117	111							
TF6	8:50	84	A104	LP	8.5	850	-	-	INSIDE	102	104	99	98	97	131	133	134	134	125	P	KL
									OUTSIDE	97	97	98	100	92							
TF7	8:55	84	A104	LP	5	850	-	-	INSIDE	125	121	123	118	116	143	137	140	143	130	P	KL
									OUTSIDE	132	135	127	130	122							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021 PAGE# 3

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF8	8:40	84	G005	LV	18	800	-	-	INSIDE	126	103	111	120	105	129	124	120	132	124	P	KL
									OUTSIDE	117	104	103	114	109							
TF9	8:45	84	G005	LV	14	800	-	-	INSIDE	133	126	152	133	142	162	149	151	146	143	P	KL
									OUTSIDE	152	128	116	118	130							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/10/2021 PAGE# 4

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF10	8:00	74	G005	LV	18	800	-	-	INSIDE	96	95	103	99	95	129	125	125	131	131	P	KL
									OUTSIDE	109	104	113	115	103							
TF11	8:04	74	A104	LV	14	800	-	-	INSIDE	105	116	100	116	100	141	130	137	138	134	P	KL
									OUTSIDE	115	104	103	106	105							
TX1	8:30	77	A041	CC	-	-	480	460	INSIDE	139	131	124	129	131	146	141	138	137	139	P	KL
									OUTSIDE	-	-	-	-	-							
TF12	8:35	77	G005	LV	14	800	-	-	INSIDE	99	105	110	108	95	124	126	128	125	122	P	KL
									OUTSIDE	102	101	102	111	103							
TX2	12:39	84	A041	CC	-	-	480	460	INSIDE	106	108	103	110	114	125	132	128	136	129	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/13/2021 PAGE# 5

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX3	8:20	77	A041	CC	-	-	480	460	INSIDE	140	139	129	145	131	134	136	138	142	139	P	KL
									OUTSIDE	-	-	-	-	-							
TX4	12:45	84	A041	CC	-	-	480	460	INSIDE	102	108	112	103	105	129	132	137	135	133	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021 PAGE# 6

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF13	8:00	80	G005	LV	18	800	-	-	INSIDE	116	105	115	108	109	128	126	131	131	133	P	KL
									OUTSIDE	112	108	101	108	100							
TF14	8:04	80	A104	AS	8	850	-	-	INSIDE	105	104	97	109	100	126	121	126	134	125	P	KL
									OUTSIDE	107	105	103	101	95							
TF15	13:00	84	G005	LV	18	800	-	-	INSIDE	102	105	113	108	104	132	125	128	132	120	P	KL
									OUTSIDE	110	100	104	102	112							
TF16	13:05	84	A104	AS	8	850	-	-	INSIDE	112	110	106	104	107	124	129	135	130	124	P	KL
									OUTSIDE	112	104	109	99	111							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021 PAGE# 7

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF17	8:00	72	G005	LV	18	800	-	-	INSIDE	103	107	101	107	104	138	132	138	135	134	P	KL
									OUTSIDE	106	108	112	109	102							
TF18	8:04	72	A104	AS	8	850	-	-	INSIDE	105	112	108	103	109	138	135	141	140	132	P	KL
									OUTSIDE	112	114	113	106	103							
TF19	13:00	88	G005	LV	18	800	-	-	INSIDE	102	106	100	108	107	124	128	130	127	129	P	KL
									OUTSIDE	102	105	98	106	101							
TF20	13:05	88	A104	AS	8	850	-	-	INSIDE	104	107	101	103	105	130	135	129	126	124	P	KL
									OUTSIDE	100	103	108	107	109							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/16/2021 PAGE# 8

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX5	7:20	78	A041	CC	-	-	480	460	INSIDE	102	104	108	103	109	124	128	127	122	126		
									OUTSIDE	-	-	-	-	-							
TX6	12:45	88	A041	CC	-	-	480	460	INSIDE	101	105	107	104	110	124	127	126	130	128		
									OUTSIDE	-	-	-	-	-							
TF21	14:30	88	G005	LV	14	800	-	-	INSIDE	104	108	110	103	108	122	121	123	123	125		
									OUTSIDE	108	103	99	101	100							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/17/2021 PAGE# 9

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX7	7:35	76	A041	CC	-	-	480	460	INSIDE	118	122	100	123	114	144	138	145	149	149	P	KL
									OUTSIDE	-	-	-	-	-							
TX8	7:45	76	A049	LV	-	-	540	540	INSIDE	131	124	129	140	125	146	136	136	137	134	P	KL
									OUTSIDE	-	-	-	-	-							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/20/2021 PAGE# 10

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX9	8:10	76	A041	CC	-	-	480	460	INSIDE	100	101	98	103	97	130	132	135	129	128	P	KL
									OUTSIDE	-	-	-	-	-							
TX10	8:15	76	A049	LV	-	-	540	540	INSIDE	102	111	106	103	105	135	131	129	132	137	P	KL
									OUTSIDE	-	-	-	-	-							
TX11	12:45	88	A041	CC	-	-	480	460	INSIDE	117	101	113	106	108	126	131	128	135	133	P	KL
									OUTSIDE	-	-	-	-	-							
TX12	12:50	88	A049	LV	-	-	540	540	INSIDE	105	99	103	108	110	128	129	135	133	132	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/22/2021 PAGE# 11

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX13	11:00	84	A041	CC	-	-	480	460	INSIDE	102	105	107	106	108	132	130	129	125	126	P	KL
									OUTSIDE	-	-	-	-	-							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021 PAGE# 12

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF22	10:20	84	G005	LV	18	800	-	-	INSIDE	113	113	111	115	105	134	137	136	139	133	P	KL
									OUTSIDE	114	110	105	114	115							
TF23	10:23	84	A120	AS	8	850	-	-	INSIDE	114	111	113	109	120	140	142	144	146	136	P	KL
									OUTSIDE	111	110	117	112	113							
TF24	14:05	88	G005	LV	18	800	-	-	INSIDE	98	105	113	106	112	135	129	133	139	137	P	KL
									OUTSIDE	102	107	100	103	107							
TF25	14:10	88	A120	AS	8	850	-	-	INSIDE	101	107	105	113	104	132	135	129	133	134	P	KL
									OUTSIDE	110	104	101	103	107							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021 PAGE# 13

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF26	8:30	78	G005	LV	18	840	-	-	INSIDE	109	101	119	99	106	140	143	141	141	142	P	KL
									OUTSIDE	100	96	110	97	101							
TF27	8:35	78	A120	AS	8	850	-	-	INSIDE	110	98	109	110	96	139	137	140	139	136	P	KL
									OUTSIDE	106	103	105	101	98							
TF28	12:40	88	A115	AS	9	850	-	-	INSIDE	124	101	107	112	117	127	219	132	131	124	P	KL
									OUTSIDE	105	99	111	105	105							
TF29	12:45	88	G05	LV	18	840	-	-	INSIDE	105	112	107	109	104	135	129	124	131	132	P	KL
									OUTSIDE	102	108	103	106	107							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021 PAGE# 14

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF30	8:00	78	A115	AS	8	850	-	-	INSIDE	121	113	117	108	112	142	138	140	142	136	P	KL
									OUTSIDE	110	106	101	101	92							
TF31	8:05	78	G005	LV	18	840	-	-	INSIDE	109	109	111	114	101	142	137	140	142	132	P	KL
									OUTSIDE	106	100	101	105	99							
TX14	8:30	78	A049	CC	-	-	480	460	INSIDE	136	156	137	139	151	147	142	143	148	140	P	KL
									OUTSIDE	-	-	-	-	-							
TF32	12:50	84	G005	LV	14	840	-	-	INSIDE	118	135	138	129	126	135	130	137	143	137	P	KL
									OUTSIDE	131	138	128	133	132							
TX15	12:56	84	A014	LP	-	-	520	520	INSIDE	135	134	142	138	115	138	130	141	139	137	P	KL
									OUTSIDE	-	-	-	-	-							
TX16	13:00	84	A049	CC	-	-	480	460	INSIDE	110	108	100	104	112	130	129	138	132	133	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021 PAGE# 15

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX17	8:00	76	A049	CC	-	-	480	460	INSIDE	130	132	129	128	126	136	132	129	128	126	P	KL
									OUTSIDE	-	-	-	-	-							
TF33	8:40	78	A115	AS	7	850	-	-	INSIDE	138	113	132	138	119	132	131	139	140	124	P	KL
									OUTSIDE	133	112	136	143	131							
TF34	8:45	78	G005	LV	14	840	-	-	INSIDE	110	104	109	106	114	140	132	141	137	131	P	KL
									OUTSIDE	121	114	122	120	113							
TX18	11:00	86	A014	LV	-	-	540	540	INSIDE	119	115	116	113	123	139	136	134	140	130	P	KL
									OUTSIDE	-	-	-	-	-							
TX19	12:45	84	A049	CC	-	-	480	460	INSIDE	100	103	104	107	103	128	130	132	134	137	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/1/2021 PAGE# 16

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF35	8:00	76	G005	LV	14	840	-	-	INSIDE	100	111	113	108	107	125	128	130	135	138	P	KL
									OUTSIDE	115	104	115	110	112							
TX20	9:02	80	A049	CC	-	-	480	460	INSIDE	112	115	118	116	119	132	138	130	135	137	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/4/2021 PAGE# 17

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX21	11:00	78	A049	AS	-	-	480	460	INSIDE	108	113	105	111	116	124	127	131	128	133	P	KL
									OUTSIDE	-	-	-	-	-							
TX22	11:05	78	A014	LV	-	-	540	540	INSIDE	117	114	119	115	110	129	135	133	132	136	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021 PAGE# 18

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF36	8:10	70	A115	AS	8	850	-	-	INSIDE	106	103	100	98	99	136	130	131	132	137	P	KL
									OUTSIDE	92	104	101	92	92							
TF37	8:15	70	G005	LV	18	840	-	-	INSIDE	108	111	101	96	100	144	127	132	128	128	P	KL
									OUTSIDE	100	99	96	99	100							
TF38	12:45	82	A115	AS	8	850	-	-	INSIDE	105	100	104	109	111	124	128	130	132	127	P	KL
									OUTSIDE	103	105	106	110	109							
TF39	12:50	82	G005	LV	18	840	-	-	INSIDE	102	104	101	109	111	124	129	133	128	132	P	KL
									OUTSIDE	104	101	115	106	109							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/6/2021 PAGE# 19

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF40	8:00	72	G005	LV	14	840	-	-	INSIDE	103	108	111	113	115	125	134	130	135	137	P	KL
									OUTSIDE	108	112	117	114	105							
TX23	9:20	74	A041	LV	-	-	540	540	INSIDE	107	108	105	104	107	135	137	133	137	134	P	KL
									OUTSIDE	-	-	-	-	-							
TX24	11:00	86	A041	LV	-	-	540	540	INSIDE	105	109	113	108	107	128	132	135	137	134	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021 PAGE# 20

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF41	8:00	72	G005	LV	18	840	-	-	INSIDE	97	96	106	104	97	139	136	139	142	130	P	KL
									OUTSIDE	104	102	103	102	103							
TF42	8:04	72	A115	AS	8	850	-	-	INSIDE	120	107	107	5	109	131	129	133	134	128	P	KL
									OUTSIDE	104	109	103	112	102							
TF43	9:00	74	G005	LV	14	840	-	-	INSIDE	102	110	108	102	105	128	125	130	128	131	P	KL
									OUTSIDE	106	111	107	112	106							
TX25	12:50	90	A049	AS	-	-	480	460	INSIDE	102	98	106	97	98	129	127	123	122	129	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/8/2021 PAGE# 21

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX26	8:50	75	A049	AS	-	-	440	480	INSIDE	122	118	116	116	116	134	133	140	134	129	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/13/2021 PAGE# 22

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX27	9:05	78	A049	AS	-	-	440	480	INSIDE	102	105	101	109	101	135	137	132	138	132	P	KL
									OUTSIDE	-	-	-	-	-							
TX28	9:15	78	A021	LV	-	-	540	540	INSIDE	110	113	118	117	119	130	135	137	133	137	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021 PAGE# 23

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF44	9:00	76	G005	LV	14	840	-	-	INSIDE	140	129	134	141	135	149	147	146	152	141	P	KL
									OUTSIDE	109	127	126	122	121							
TX29	9:15	76	A049	AS	-	-	480	460	INSIDE	115	122	120	123	118	136	135	137	139	141	P	KL
									OUTSIDE	-	-	-	-	-							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/18/2021 PAGE# 24

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF45	9:00	70	G005	LV	14	840	-	-	INSIDE	127	128	127	140	133	135	150	150	151	142	P	KL
									OUTSIDE	144	11	143	132	122							
TX30	9:08	70	A049	AS	-	-	480	440	INSIDE	117	134	129	109	119	165	156	151	161	157	P	KL
									OUTSIDE	-	-	-	-	-							
TX31	12:45	82	A021	LV	-	-	540	540	INSIDE	105	112	109	111	116	135	142	137	139	145	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/19/2021 PAGE# 25

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TX32	8:03	72	A049	AS	-	-	480	440	INSIDE	105	113	118	110	114	135	142	137	140	143	P	KL
									OUTSIDE	-	-	-	-	-							
TF46	15:09	84	G005	LV	14	840	-	-	INSIDE	121	125	128	116	119	123	124	132	126	128	P	KL
									OUTSIDE	114	111	120	119	111							
									INSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/20/2021 PAGE# 26

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TX33	8:00	74	A021	LS	-	-	540	540	INSIDE	129	127	126	117	125	153	146	149	153	147	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 11/3/2021 PAGE# 27

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET		PEEL VALUE lbs/inch					SHEER VALUE lbs/inch					P/F	QA MON.
TF47	13:13	84	G011	LV	18	840	-	-	INSIDE	102	101	109	111	106	132	136	138	134	137	P	KL
									OUTSIDE	109	110	102	107	102							
TF48	13:20	84	G011	LV	14	840	-	-	INSIDE	112	114	110	116	106	132	134	138	134	137	P	KL
									OUTSIDE	100	102	105	111	103							
TX34	14:12	84	A070	CC	-	-	480	460	INSIDE	102	103	109	103	101	132	126	130	134	133	P	KL
									OUTSIDE	-	-	-	-	-							
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE TRIAL SEAM LOG

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 11/4/2021 PAGE# 28

TF/TX ID #	Time	AMB TEMP.	MACH. ID #	WELD TECH	FUSION WELD SPEED	FUSION WELD WEDGE SET	EXTRUSION WELD PRE HEAT	EXTRUSION WELD BARREL SET	PEEL VALUE lbs/inch						SHEER VALUE lbs/inch					P/F	QA MON.
TX35	10:00	74	A070	CC	-	-	480	460	INSIDE	109	112	1010	114	116	132	137	135	130	133	P	KL
									OUTSIDE	-	-	-	-	-							
									INSIDE												
									OUTSIDE												
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Passing Peel Fusion (91 lb/in): _____ Passing Peel Extrusion (78 lb/in): _____ Passing Shear Fusion (120 lb/in): _____ Passing Shear Extrusion (120 lb/in): _____

Section 3
Geomembrane Fusion Seaming Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #004

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
1/2	SEOS-NEOS	1010	82	LV	18	800	22	22		KL		9/7/2021	KL
2/3	EEOS-WEOS	1018	83	LV	18	800	26	48		KL		9/7/2021	KL
1/3	EEOS-WEOS	1020	86	LV	14	800	25	73		KL		9/7/2021	KL
3/4	EEOS-WEOS	1025	86	LV	18	800	52	25	100	KL	DP-01	9/7/2021	KL
4/5	EEOS-WEOS	1030	86	LV	18	800	52	77		KL		9/7/2021	KL
10/11	EEOS-WEOS	1047	87	LV	18	800	51	128		KL		9/7/2021	KL
11/12	EEOS-WEOS	1058	87	LV	18	800	54	182		KL		9/7/2021	KL
12/13	WEOS-EEOS	1110	88	LV	18	800	53	235		KL		9/7/2021	KL
13/14	WEOS-EEOS	1118	88	LV	18	800	55	290		KL		9/7/2021	KL
14/15	WEOS-EEOS	1122	89	LV	18	800	56	346		KL		9/7/2021	KL
19/20	WEOS-EEOS	1130	89	LV	18	800	59	405		KL		9/7/2021	KL
20/21	WEOS-EEOS	1135	90	LV	18	800	57	462		KL		9/7/2021	KL
21/22	WEOS-EEOS	1140	90	LV	18	800	56	43	475	KL	DP-03	9/7/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 618

PAGE DESTRUCTIVE LENGTH CARRY-OVER 43

DAILY TOTAL WELDED (FT) 618

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 43

MACHINE # #004

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
12/23	SEOS-NEOS	933	80	LV	14	800	22	65		KL		9/8/2021	KL
11/23	SEOS-NEOS	935	80	LV	14	800	22	87		KL		9/8/2021	KL
10/23	SEOS-NEOS	937	80	LV	14	800	22	109		KL		9/8/2021	KL
9/23	SEOS-NEOS	939	80	LV	14	800	22	131		KL		9/8/2021	KL
8/23	SEOS-NEOS	941	80	LV	14	800	22	153		KL		9/8/2021	KL
7/23	SEOS-NEOS	943	80	LV	14	800	22	175		KL		9/8/2021	KL
6/23	SEOS-NEOS	945	80	LV	14	800	22	197		KL		9/8/2021	KL
5/23	SEOS-NEOS	947	80	LV	14	800	22	219		KL		9/8/2021	KL
4/23	SEOS-NEOS	949	80	LV	14	800	22	241		KL		9/8/2021	KL
3/23	SEOS-NEOS	951	80	LV	14	800	11	252		KL		9/8/2021	KL
1/23	SEOS-NEOS	953	80	LV	14	800	35	287		KL		9/8/2021	KL
24/25	SEOS-NEOS	1000	80	LV	18	800	253	65	475	KL	DP-5	9/8/2021	KL
26/27	SEOS-NEOS	1035	80	LV	18	800	254	319		KL		9/8/2021	KL

PAGE TOTAL: 751

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 319

DAILY TOTAL WELDED (FT): 751

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #005

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
31/32	SEOS-NEOS	1115	88	LV	18	800	21	21		KL		9/9/2021	KL
32/33	SEOS-NEOS	1120	88	LV	18	800	36	57		KL		9/9/2021	KL
30/33	WEOS-EEOS	1126	89	LV	14	800	21	78		KL		9/9/2021	KL
30/32	WEOS-EEOS	1128	89	LV	14	800	26	4	100	KL	DP-7	9/9/2021	KL
30/31	WEOS-EEOS	1131	89	LV	14	800	15	19		KL		9/9/2021	KL
22/30	WEOS-EEOS	1140	89	LV	18	800	59	78		KL		9/9/2021	KL
33/34	SEOS-NEOS	1325	90	LV	18	800	37	115		KL		9/9/2021	KL
30/34	SEOS-NEOS	1328	90	LV	18	800	9	124		KL		9/9/2021	KL
22/34	SEOS-NEOS	1329	90	LV	18	800	22	146		KL		9/9/2021	KL
21/34	SEOS-NEOS	1331	90	LV	18	800	22	168		KL		9/9/2021	KL
20/34	SEOS-NEOS	1333	91	LV	18	800	22	190		KL		9/9/2021	KL
19/34	SEOS-NEOS	1335	91	LV	18	800	22	212		KL		9/9/2021	KL
18/34	SEOS-NEOS	1337	91	LV	18	800	22	234		KL		9/9/2021	KL
17/34	SEOS-NEOS	1339	91	LV	18	800	22	256		KL		9/9/2021	KL
16/34	SEOS-NEOS	1341	91	LV	18	800	22	278		KL		9/9/2021	KL

PAGE TOTAL: 378

PAGE DESTRUCTIVE LENGTH CARRY-OVER 278

DAILY TOTAL WELDED (FT) 614

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 278

MACHINE # #005

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
15/34	SEOS-NEOS	1343	90	LV	18	800	22	300		KL		9/9/2021	KL
14/34	SEOS-NEOS	1345	90	LV	18	800	22	322		KL		9/9/2021	KL
2/EXIST	EEOS-WEOS	1424	90	LV	14	800	26	348		KL		9/9/2021	KL
1/EXIST	EEOS-WEOS	1426	91	LV	14	800	22	370		KL		9/9/2021	KL
23/EXIST	EEOS-WEOS	1428	91	LV	14	800	22	392		KL		9/9/2021	KL
24/EXIST	EEOS-WEOS	1430	91	LV	14	800	22	414		KL		9/9/2021	KL
25/EXIST	EEOS-WEOS	1432	92	LV	14	800	22	436		KL		9/9/2021	KL
26/EXIST	EEOS-WEOS	1434	92	LV	14	800	22	458		KL		9/9/2021	KL
27/EXIST	EEOS-WEOS	1436	92	LV	14	800	22	5	475	KL	DP-8	9/9/2021	KL
28/EXIST	EEOS-WEOS	1438	92	LV	14	800	22	27		KL		9/9/2021	KL
29/EXIST	EEOS-WEOS	1440	92	LV	14	800	12	39		KL		9/9/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 236

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 39

DAILY TOTAL WELDED (FT): 614

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/10/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 39

MACHINE # #005

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
34/35	SEOS-NEOS	818	77	LV	18	800	247	286		KL		9/10/2021	KL
35/36	WEOS-EEOS	840	78	LV	18	800	22	308		KL		9/10/2021	KL
34/36	SEOS-NEOS	843	79	LV	18	800	29	337		KL		9/10/2021	KL
37/38	SEOS-NEOS	855	80	LV	18	800	218	80	475	KL	DP-10	9/10/2021	KL
38/39	WEOS-EEOS	925	80	LV	14	800	22	102		KL		9/10/2021	KL
37/39	SEOS-NEOS	927	81	LV	18	800	63	165		KL		9/10/2021	KL
41/42	WEOS-EEOS	942	82	LV	14	800	22	187		KL		9/10/2021	KL
40/42	SEOS-NEOS	950	82	LV	18	800	94	281		KL		9/10/2021	KL
40/41	SEOS-NEOS	955	82	LV	18	800	186	467		KL		9/10/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 903

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 467

DAILY TOTAL WELDED (FT): 903

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 467

MACHINE # #005

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
43/45	SEOS-NEOS	855	73	LV	18	800	260	252	475	KL	DP-15	9/14/2021	KL
45/47	SEOS-NEOS	925	73	LV	18	800	257	34	475	KL	DP-16	9/14/2021	KL
47/49	SEOS-NEOS	1005	73	LV	18	800	258	292		KL		9/14/2021	KL
49/51	SEOS-NEOS	1044	78	LV	18	800	260	77	475	KL	DP-17	9/14/2021	KL
51/53	SEOS-NEOS	1130	78	LV	18	800	260	337		KL		9/14/2021	KL
53/55	SEOS-NEOS	1205	85	LV	18	800	257	119	475	KL	DP-18	9/14/2021	KL
54/56	SEOS-NEOS	1308	85	LV	14	800	260	379		KL		9/14/2021	KL
56/58	SEOS-NEOS	1325	85	LV	14	800	260	164	475	KL	DP-20	9/14/2021	KL
58/60	SEOS-NEOS	1654	84	LV	14	800	261	425		KL		9/14/2021	KL

PAGE TOTAL: 2333

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 425

DAILY TOTAL WELDED (FT): 2333

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 425

MACHINE # #005

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
60/62	SEOS-NEOS	820	85	LV	18	800	262	212	475	KL	DP-23	9/15/2021	KL
62/64	SEOS-NEOS	910	85	LV	18	800	263	25	450	KL	DP-24	9/15/2021	KL
64/66	SEOS-NEOS	1005	86	LV	18	800	261	286		KL		9/15/2021	KL
66/68	SEOS-NEOS	1023	86	LV	18	800	260	71	475	KL	DP-26	9/15/2021	KL
68/70	SEOS-NEOS	1100	86	LV	18	800	259	330		KL		9/15/2021	KL
70/72	SEOS-NEOS	1130	86	LV	18	800	259	114	475	KL	DP-28	9/15/2021	KL
72/74	SEOS-NEOS	1330	87	LV	18	800	260	374		KL		9/15/2021	KL
74/76	SEOS-NEOS	1435	87	LV	18	800	259	158	475	KL	DP-30	9/15/2021	KL
76/78	SEOS-NEOS	1512	87	LV	18	800	261	419		KL		9/15/2021	KL
78/80	SEOS-NEOS	1532	87	LV	18	800	260	204	475	KL	DP-32	9/15/2021	KL

PAGE TOTAL: 2604

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 204

DAILY TOTAL WELDED (FT): 2604

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/16/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 5 Mileage: 204

MACHINE # #005

PAGE NUMBER: 6

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
44/EXIST	EEOS-WEOS	1441	81	LV	14	800	22	226		KL		9/17/2021	KL
46/EXIST	EEOS-WEOS	1442	82	LV	14	800	22	248		KL		9/17/2021	KL
48/EXIST	EEOS-WEOS	1444	82	LV	14	800	22	270		KL		9/17/2021	KL
50/EXIST	EEOS-WEOS	1446	82	LV	14	800	22	292		KL		9/17/2021	KL
52/EXIST	EEOS-WEOS	1448	82	LV	14	800	22	314		KL		9/17/2021	KL
54/EXIST	EEOS-WEOS	1450	82	LV	14	800	22	336		KL		9/17/2021	KL
56/EXIST	EEOS-WEOS	1452	82	LV	14	800	22	358		KL		9/17/2021	KL
58/EXIST	EEOS-WEOS	1454	82	LV	14	800	22	380		KL		9/17/2021	KL
60/EXIST	EEOS-WEOS	1456	82	LV	14	800	22	402		KL		9/17/2021	KL
62/EXIST	EEOS-WEOS	1458	82	LV	14	800	22	424		KL		9/17/2021	KL
64/EXIST	EEOS-WEOS	1500	82	LV	14	800	22	446		KL		9/17/2021	KL
66/EXIST	EEOS-WEOS	1502	82	LV	14	800	22	15	453	KL	DP-34	9/17/2021	KL
68/EXIST	EEOS-WEOS	1552	82	LV	14	800	22	37		KL		9/17/2021	KL
70/EXIST	EEOS-WEOS	1554	82	LV	14	800	22	59		KL		9/17/2021	KL

PAGE TOTAL: 308

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 59

DAILY TOTAL WELDED (FT): 396

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/16/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 6 Mileage: 59

MACHINE # #005

PAGE NUMBER: 7

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
72/EXIST	EEOS-WEOS	1556	84	LV	14	800	22	81		KL		9/17/2021	KL
74/EXIST	EEOS-WEOS	1558	84	LV	14	800	22	103		KL		9/17/2021	KL
76/EXIST	EEOS-WEOS	1600	84	LV	14	800	22	125		KL		9/17/2021	KL
78/EXIST	EEOS-WEOS	1602	84	LV	14	800	22	147		KL		9/17/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 88

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 147

DAILY TOTAL WELDED (FT): 396

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 7 Mileage: 147

MACHINE # #005

PAGE NUMBER: 8

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
80/82	SEOS-NEOS	1103	81	LV	18	800	264	411		KL		9/27/2021	KL
82/84	SEOS-NEOS	1136	83	LV	18	800	265	201	475	KL	DP-36	9/27/2021	KL
84/86	SEOS-NEOS	1331	86	LV	18	800	266	467		KL		9/27/2021	KL
86/88	SEOS-NEOS	1352	86	LV	18	800	268	260	475	KL	DP-38	9/27/2021	KL
88/90	SEOS-NEOS	1422	87	LV	18	800	266	51	475	KL	DP-40	9/27/2021	KL
90/92	SEOS-NEOS	1454	86	LV	18	800	265	316		KL		9/27/2021	KL
92/94	SEOS-NEOS	1530	86	LV	18	800	263	104	475	KL	DP-42	9/27/2021	KL
94/96	SEOS-NEOS	1640	85	LV	18	800	267	371		KL		9/27/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2124

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 371

DAILY TOTAL WELDED (FT): 2124

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 8 Mileage: 371

MACHINE # #005

PAGE NUMBER: 9

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
96/98	SEOS-NEOS	850	79	LV	18	840	265	161	475	KL	DP-45	9/28/2021	KL
98/100	SEOS-NEOS	930	79	LV	18	840	265	426		KL		9/28/2021	KL
100/102	SEOS-NEOS	1000	80	LV	18	840	260	211	475	KL	DP-46	9/28/2021	KL
102/104	SEOS-NEOS	1038	80	LV	18	840	261	472		KL		9/28/2021	KL
104/106	SEOS-NEOS	1111	90	LV	18	840	261	248	485	KL	DP-48	9/28/2021	KL
106/108	SEOS-NEOS	1140	90	LV	18	840	262	35	475	KL	DP-49	9/28/2021	KL
108/110	SEOS-NEOS	1323	97	LV	18	840	262	297		KL		9/28/2021	KL
110/112	SEOS-NEOS	1355	97	LV	18	840	262	84	475	KL	DP-54	9/28/2021	KL
112/114	SEOS-NEOS	1430	97	LV	18	840	262	346		KL		9/28/2021	KL
114/116	SEOS-NEOS	1502	97	LV	18	840	263	134	475	KL	DP-55	9/28/2021	KL
116/118	SEOS-NEOS	1540	94	LV	18	840	268	402		KL		9/28/2021	KL
118/120	SEOS-NEOS	1618	93	LV	18	840	266	193	475	KL	DP-56	9/28/2021	KL
120/122	SEOS-NEOS	1652	90	LV	18	840	265	458		KL		9/28/2021	KL

PAGE TOTAL: 3422

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 458

DAILY TOTAL WELDED (FT): 3422

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 9 Mileage: 458

MACHINE # #005

PAGE NUMBER: 10

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
122/124	SEOS-NEOS	825	80	LV	18	840	265	248	475	KL	DP-61	9/29/2021	KL
124/126	SEOS-NEOS	905	80	LV	18	840	266	39	475	KL	DP-62	9/29/2021	KL
126/128	SEOS-NEOS	955	81	LV	18	840	267	306		KL		9/29/2021	KL
128/130	SEOS-NEOS	1027	81	LV	18	840	263	94	475	KL	DP-63	9/29/2021	KL
130/132	SEOS-NEOS	1107	81	LV	18	840	263	357		KL		9/29/2021	KL
132/134	SEOS-NEOS	1150	81	LV	18	840	264	146	475	KL	DP-64	9/29/2021	KL
80/EXIST	EEOS-WEOS	1340	81	LV	14	840	22	168		KL		9/29/2021	KL
82/EXIST	EEOS-WEOS	1342	81	LV	14	840	22	190		KL		9/29/2021	KL
84/EXIST	EEOS-WEOS	1344	81	LV	14	840	22	212		KL		9/29/2021	KL
86/EXIST	EEOS-WEOS	1346	81	LV	14	840	22	234		KL		9/29/2021	KL
88/EXIST	EEOS-WEOS	1348	81	LV	14	840	22	256		KL		9/29/2021	KL
90/EXIST	EEOS-WEOS	1350	81	LV	14	840	22	278		KL		9/29/2021	KL
92/EXIST	EEOS-WEOS	1352	81	LV	14	840	22	300		KL		9/29/2021	KL
94/EXIST	EEOS-WEOS	1354	81	LV	14	840	22	322		KL		9/29/2021	KL
96/EXIST	EEOS-WEOS	1356	81	LV	14	840	22	344		KL		9/29/2021	KL

PAGE TOTAL: 1786

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 344

DAILY TOTAL WELDED (FT): 2050

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 10 Mileage: 344

MACHINE # #005

PAGE NUMBER: 11

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
98/EXIST	EEOS-WEOS	1358	81	LV	14	840	22	366		KL		9/29/2021	KL
100/EXIST	EEOS-WEOS	1400	81	LV	14	840	22	388		KL		9/29/2021	KL
102/EXIST	EEOS-WEOS	1402	81	LV	14	840	22	410		KL		9/29/2021	KL
104/EXIST	EEOS-WEOS	1450	81	LV	14	840	22	432		KL		9/29/2021	KL
106/EXIST	EEOS-WEOS	1452	81	LV	14	840	22	454		KL		9/29/2021	KL
108/EXIST	EEOS-WEOS	1454	81	LV	14	840	22	476		KL		9/29/2021	KL
110/EXIST	EEOS-WEOS	1456	81	LV	14	840	22	3	495	KL	DP-65	9/29/2021	KL
112/EXIST	EEOS-WEOS	1458	81	LV	14	840	22	25		KL		9/29/2021	KL
114/EXIST	EEOS-WEOS	1500	81	LV	14	840	22	47		KL		9/29/2021	KL
116/EXIST	EEOS-WEOS	1502	81	LV	14	840	22	69		KL		9/29/2021	KL
118/EXIST	EEOS-WEOS	1504	81	LV	14	840	22	91		KL		9/29/2021	KL
120/EXIST	EEOS-WEOS	1506	81	LV	14	840	22	113		KL		9/29/2021	KL

PAGE TOTAL: 264

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 113

DAILY TOTAL WELDED (FT): 2050

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 11 Mileage: 113

MACHINE # #005

PAGE NUMBER: 12

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
13/34	EEOS-WEOS	842	82	LV	14	840	22	135		AV		CAPPED R.257	
23/34	EEOS-WEOS	846	82	LV	14	840	22	157		AV		9/30/2021	AV
24/36	EEOS-WEOS	848	82	LV	14	840	22	179		AV		9/30/2021	AV
25/37	EEOS-WEOS	850	83	LV	14	840	22	201		AV		9/30/2021	AV
26/39	EEOS-WEOS	852	83	LV	14	840	22	223		AV		9/30/2021	AV
27/40	EEOS-WEOS	900	83	LV	14	840	22	245		AV		9/30/2021	AV
28/41	EEOS-WEOS	902	83	LV	14	840	22	267		AV		9/30/2021	AV
29/43	EEOS-WEOS	904	83	LV	14	840	22	289		AV		9/30/2021	AV
43/44	SEOS-NEOS	910	84	LV	14	840	18	307		AV		9/30/2021	AV
61/137	SEOS-NEOS	927	84	LV	14	840	22	329		AV		9/30/2021	AV
59/137	SEOS-NEOS	929	87	LV	14	840	22	351		AV		9/30/2021	AV
57/137	WEOS-EEOS	931	87	LV	14	840	22	373		AV		9/30/2021	AV
55/137	WEOS-EEOS	933	87	LV	14	840	22	395		AV		9/30/2021	AV
53/136	WEOS-EEOS	943	89	LV	14	840	22	417		AV		9/30/2021	AV
51/136	WEOS-EEOS	945	89	LV	14	840	22	439		AV		9/30/2021	AV

PAGE TOTAL: 326

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 439

DAILY TOTAL WELDED (FT): 546

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 12 Mileage: 439

MACHINE # #005

PAGE NUMBER: 13

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
49/136	WEOS-EEOS	947	90	LV	14	840	22	461		AV		9/30/2021	AV
46/47	WEOS-EEOS	950	90	LV	14	840	22	8	475	AV	DP-66	9/30/2021	AV
44/45	WEOS-EEOS	952	90	LV	14	840	22	30		AV		9/30/2021	AV
60/137	WEOS-EEOS	1003	91	LV	14	840	22	52		AV		9/30/2021	AV
58/137	WEOS-EEOS	1005	91	LV	14	840	22	74		AV		9/30/2021	AV
56/137	WEOS-EEOS	1007	91	LV	14	840	22	96		AV		9/30/2021	AV
54/137	WEOS-EEOS	1009	92	LV	14	840	22	118		AV		9/30/2021	AV
52/136	WEOS-EEOS	1011	92	LV	14	840	22	140		AV		9/30/2021	AV
50/136	WEOS-EEOS	1013	92	LV	14	840	22	162		AV		9/30/2021	AV
48/136	WEOS-EEOS	1015	92	LV	14	840	22	184		AV		9/30/2021	AV

PAGE TOTAL: 220

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 184

DAILY TOTAL WELDED (FT): 546

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/1/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 13 Mileage: 184

MACHINE # #005

PAGE NUMBER: 14

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
122/EXIST	WEOS-EEOS	830	78	LV	14	840	22	206		AV		10/1/2021	AV
124/EXIST	WEOS-EEOS	832	79	LV	14	840	22	228		AV		10/1/2021	AV
126/EXIST	WEOS-EEOS	834	79	LV	14	840	22	250		AV		10/1/2021	AV
128/EXIST	WEOS-EEOS	836	79	LV	14	840	22	272		AV		10/1/2021	AV
130/EXIST	WEOS-EEOS	838	80	LV	14	840	22	294		AV		10/1/2021	AV
132/EXIST	WEOS-EEOS	840	80	LV	14	840	22	316		AV		10/1/2021	AV
134/EXIST	WEOS-EEOS	842	80	LV	14	840	22	338		AV		10/1/2021	AV

PAGE TOTAL: 154

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 338

DAILY TOTAL WELDED (FT): 154

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 14 Mileage: 338

MACHINE # #005

PAGE NUMBER: 15

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
134/138	SEOS-NEOS	840	73	LV	18	840	261	104	495	KL	DP-68	10/5/2021	KL
138/140	SEOS-NEOS	915	75	LV	18	840	267	371		KL		10/5/2021	KL
140/142	SEOS-NEOS	948	81	LV	18	840	266	162	475	KL	DP-70	10/5/2021	KL
142/144	SEOS-NEOS	1033	81	LV	18	840	264	426		KL		10/5/2021	KL
144/146	SEOS-NEOS	1102	82	LV	18	840	269	220	475	KL	DP-72	10/5/2021	KL
146/148	SEOS-NEOS	1130	83	LV	18	840	267	12	475	KL	DP-74	10/5/2021	KL
148/150	SEOS-NEOS	1320	90	LV	18	840	265	277		KL		10/5/2021	KL
150/152	SEOS-NEOS	1355	91	LV	18	840	266	68	475	KL	DP-76	10/5/2021	KL
152/154	SEOS-NEOS	1510	90	LV	18	840	269	337		KL		10/5/2021	KL
154/156	SEOS-NEOS	1544	88	LV	18	840	265	124	478	KL	DP-78	10/5/2021	KL
156/158	SEOS-NEOS	1626	87	LV	18	840	266	390		KL		10/5/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2925

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 390

DAILY TOTAL WELDED (FT): 2925

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/6/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 15 Mileage: 390

MACHINE # #005

PAGE NUMBER: 16

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
138/EXIST	EEOS-WEOS	820	78	LV	14	840	22	412		KL		10/6/2021	KL
140/EXIST	EEOS-WEOS	824	78	LV	14	840	22	434		KL		10/6/2021	KL
142/EXIST	EEOS-WEOS	826	78	LV	14	840	22	456		KL		10/6/2021	KL
144/EXIST	EEOS-WEOS	828	78	LV	14	840	22	3	475	KL	DP-80	10/6/2021	KL
146/EXIST	EEOS-WEOS	830	78	LV	14	840	22	25		KL		10/6/2021	KL
148/EXIST	EEOS-WEOS	832	78	LV	14	840	22	47		KL		10/6/2021	KL
150/EXIST	EEOS-WEOS	834	78	LV	14	840	22	69		KL		10/6/2021	KL
152/EXIST	EEOS-WEOS	836	78	LV	14	840	22	91		KL		10/6/2021	KL
154/EXIST	EEOS-WEOS	838	78	LV	14	840	22	113		KL		10/6/2021	KL
156/EXIST	EEOS-WEOS	840	78	LV	14	840	22	135		KL		10/6/2021	KL
158/EXIST	EEOS-WEOS	842	78	LV	14	840	22	157		KL		10/6/2021	KL

PAGE TOTAL: 242

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 157

DAILY TOTAL WELDED (FT): 242

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 16 Mileage: 157

MACHINE # #005

PAGE NUMBER: 17

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
158/160	SEOS-NEOS	802	80	LV	18	840	266	423		KL		10/7/2021	KL
160/162	SEOS-NEOS	832	80	LV	18	840	267	215	475	KL	DP-81	10/7/2021	KL
165/166	EEOS-WEOS	920	80	LV	14	840	62	277		KL		10/7/2021	KL
164/165	NEOS-SEOS	930	80	LV	18	840	22	299		KL		10/7/2021	KL
164/166	NEOS-SEOS	932	80	LV	18	840	22	321		KL		10/7/2021	KL
164/167	EEOS-WEOS	938	80	LV	14	840	22	343		KL		10/7/2021	KL
166/167	EEOS-WEOS	940	80	LV	14	840	62	405		KL		10/7/2021	KL
167/168	EEOS-WEOS	946	80	LV	14	840	83	13	475	KL	DP-83	10/7/2021	KL
168/169	EEOS-WEOS	953	80	LV	14	840	83	96		KL		10/7/2021	KL
169/170	EEOS-WEOS	1000	80	LV	14	840	83	179		KL		10/7/2021	KL
170/171	EEOS-WEOS	1005	80	LV	14	840	83	262		KL		10/7/2021	KL
171/172	EEOS-WEOS	1012	80	LV	14	840	83	345		KL		10/7/2021	KL
172/173	EEOS-WEOS	1017	80	LV	14	840	84	429		KL		10/7/2021	KL
173/174	EEOS-WEOS	1023	80	LV	14	840	84	38	475	KL	DP-84	10/7/2021	KL
174/175	EEOS-WEOS	1030	80	LV	14	840	84	122		KL		10/7/2021	KL

PAGE TOTAL: 1390

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 122

DAILY TOTAL WELDED (FT): 2861

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 17 Mileage: 122

MACHINE # #005

PAGE NUMBER: 18

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
162/174	NEOS-SEOS	1036	81	LV	18	840	22	144		KL		10/7/2021	KL
162/173	NEOS-SEOS	1038	81	LV	18	840	22	166		KL		10/7/2021	KL
162/172	NEOS-SEOS	1040	81	LV	14	840	22	188		KL		10/7/2021	KL
162/171	NEOS-SEOS	1042	81	LV	18	840	22	210		KL		10/7/2021	KL
162/170	NEOS-SEOS	1044	81	LV	18	840	22	232		KL		10/7/2021	KL
162/169	NEOS-SEOS	1046	81	LV	14	840	22	254		KL		10/7/2021	KL
162/168	NEOS-SEOS	1048	81	LV	14	840	22	276		KL		10/7/2021	KL
162/167	NEOS-SEOS	1050	81	LV	14	840	22	298		KL		10/7/2021	KL
162/164	WEOS-EEOS	1052	84	LV	14	840	47	345		KL		10/7/2021	KL
176/177	WEOS-EEOS	1105	84	LV	18	840	85	430		KL		10/7/2021	KL
177/178	WEOS-EEOS	1113	84	LV	18	840	86	41	475	KL	DP-85	10/7/2021	KL
178/179	WEOS-EEOS	1121	84	LV	18	840	86	127		KL		10/7/2021	KL
179/180	WEOS-EEOS	1129	84	LV	18	840	86	213		KL		10/7/2021	KL
180/181	WEOS-EEOS	1140	84	LV	18	840	86	299		KL		10/7/2021	KL
181/182	WEOS-EEOS	1150	84	LV	18	840	85	384		KL		10/7/2021	KL

PAGE TOTAL: 737

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 384

DAILY TOTAL WELDED (FT): 2861

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 18 Mileage: 384

MACHINE # #005

PAGE NUMBER: 19

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
182/183	WEOS-EEOS	1300	84	LV	18	840	85	469		KL		10/7/2021	KL
183/184	WEOS-EEOS	1310	84	LV	18	840	86	55	500	KL	DP-86	10/7/2021	KL
160/EXIST	EEOS-WEOS	1330	84	LV	14	840	22	77		KL		10/7/2021	KL
162/EXIST	EEOS-WEOS	1332	84	LV	14	840	22	99		KL		10/7/2021	KL
164/EXIST	EEOS-WEOS	1334	84	LV	14	840	22	121		KL		10/7/2021	KL
165/EXIST	EEOS-WEOS	1336	84	LV	14	840	62	183		KL		10/7/2021	KL
185/186	WEOS-EEOS	1355	84	LV	14	840	52	235		KL		10/7/2021	KL
185/187	SEOS-NEOS	1402	84	LV	14	840	22	257		KL		10/7/2021	KL
186/187	WEOS-EEOS	1404	84	LV	14	840	22	279		KL		10/7/2021	KL
184/185	WEOS-EEOS	1411	84	LV	14	840	57	336		KL		10/7/2021	KL
184/187	WEOS-EEOS	1413	84	LV	14	840	18	354		KL		10/7/2021	KL
163/187	SEOS-NEOS	1420	84	LV	14	840	44	398		KL		10/7/2021	KL
163/184	SEOS-NEOS	1423	84	LV	14	840	22	420		KL		10/7/2021	KL
163/183	SEOS-NEOS	1425	84	LV	14	840	22	442		KL		10/7/2021	KL
163/182	SEOS-NEOS	1427	84	LV	14	840	22	464		KL		10/7/2021	KL

PAGE TOTAL: 580

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 464

DAILY TOTAL WELDED (FT): 2861

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 19 Mileage: 464

MACHINE # #005

PAGE NUMBER: 20

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
163/181	SEOS-NEOS	1429	83	LV	14	840	22	486		KL		10/7/2021	KL
163/180	SEOS-NEOS	1431	83	LV	14	840	22	16	492	KL	DP-87	10/7/2021	KL
163/179	SEOS-NEOS	1433	83	LV	14	840	22	38		KL		10/7/2021	KL
163/178	SEOS-NEOS	1440	83	LV	14	840	22	60		KL		10/8/2021	KL
163/177	SEOS-NEOS	1442	83	LV	14	840	22	82		KL		10/8/2021	KL
163/176	SEOS-NEOS	1444	83	LV	14	840	22	104		KL		10/8/2021	KL
162/175	SEOS-NEOS	1450	83	LV	14	840	22	126		KL		10/8/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 154

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 126

DAILY TOTAL WELDED (FT): 2861

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 20 Mileage: 126

MACHINE # #005

PAGE NUMBER: 21

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
77/188	EEOS-WEOS	920	73	LV	14	840	22	148		KL		10/15/2021	KL
75/188	EEOS-WEOS	922	74	LV	14	840	22	170		KL		10/15/2021	KL
73/188	EEOS-WEOS	924	74	LV	14	840	22	192		KL		10/15/2021	KL
71/188	EEOS-WEOS	926	74	LV	14	840	22	214		KL		10/15/2021	KL
69/188	EEOS-WEOS	928	74	LV	14	840	22	236		KL		10/15/2021	KL
78/189	EEOS-WEOS	935	74	LV	14	840	22	258		KL		10/15/2021	KL
76/188	EEOS-WEOS	937	76	LV	14	840	22	280		KL		10/15/2021	KL
74/188	EEOS-WEOS	939	76	LV	14	840	22	302		KL		10/15/2021	KL
72/188	EEOS-WEOS	941	76	LV	14	840	22	324		KL		10/15/2021	KL
70/188	EEOS-WEOS	943	76	LV	14	840	22	346		KL		10/15/2021	KL
68/188	EEOS-WEOS	945	76	LV	14	840	22	368		KL		10/15/2021	KL
79/189	EEOS-WEOS	955	77	LV	14	840	22	390		KL		10/15/2021	KL
82/83	EEOS-WEOS	1011	80	LV	14	840	22	412		KL		10/15/2021	KL
80/81	EEOS-WEOS	1013	80	LV	14	840	22	434		KL		10/15/2021	KL

PAGE TOTAL: 308

PAGE DESTRUCTIVE LENGTH CARRY-OVER 434

DAILY TOTAL WELDED (FT) 618

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date:

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 21 Mileage: 434

MACHINE # #005

PAGE NUMBER: 22

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
88/89	EEOS-WEOS	1045	83	LV	14	840	22	3	453	KL	DP-88	10/15/2021	KL
86/87	EEOS-WEOS	1047	83	LV	14	840	22	25		KL		10/15/2021	KL
84/85	EEOS-WEOS	1049	83	LV	14	840	22	47		KL		10/15/2021	KL
108/109	EEOS-WEOS	1310	89	LV	14	840	22	69		KL		10/15/2021	KL
106/107	EEOS-WEOS	1312	89	LV	14	840	22	91		KL		10/15/2021	KL
104/105	EEOS-WEOS	1314	89	LV	14	840	22	113		KL		10/15/2021	KL
102/103	EEOS-WEOS	1316	89	LV	14	840	22	135		KL		10/15/2021	KL
100/101	EEOS-WEOS	1318	89	LV	14	840	22	157		KL		10/15/2021	KL
98/99	EEOS-WEOS	1320	89	LV	14	840	22	179		KL		10/15/2021	KL
96/97	EEOS-WEOS	1322	89	LV	14	840	22	201		KL		10/15/2021	KL
94/95	EEOS-WEOS	1324	89	LV	14	840	22	223		KL		10/15/2021	KL
92/93	EEOS-WEOS	1326	89	LV	14	840	22	245		KL		10/15/2021	KL
90/91	EEOS-WEOS	1328	89	LV	14	840	22	267		KL		10/15/2021	KL
88/R425	SEOS-NEOS	1332	89	LV	14	840	12	279		KL	CAP	10/15/2021	KL
90/R425	SEOS-NEOS	1334	89	LV	14	840	12	291		KL	CAP	10/15/2021	KL

PAGE TOTAL: 310

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 291

DAILY TOTAL WELDED (FT): 618

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/18/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 22 Mileage: 291

MACHINE # #005

PAGE NUMBER: 23

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
124/125	WEOS-EEOS	930	74	LV	14	840	22	313		KL		10/18/2021	KL
122/123	WEOS-EEOS	932	74	LV	14	840	22	335		KL		10/18/2021	KL
120/121	WEOS-EEOS	934	74	LV	14	840	22	357		KL		10/18/2021	KL
118/119	WEOS-EEOS	936	74	LV	14	840	22	379		KL		10/18/2021	KL
116/117	WEOS-EEOS	938	74	LV	14	840	22	401		KL		10/18/2021	KL
114/115	WEOS-EEOS	940	74	LV	14	840	22	423		KL		10/18/2021	KL
112/113	WEOS-EEOS	942	74	LV	14	840	22	445		KL		10/18/2021	KL
110/111	WEOS-EEOS	944	74	LV	14	840	22	12	455	KL	DP-89	10/18/2021	KL

PAGE TOTAL: 176

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 12

DAILY TOTAL WELDED (FT): 176

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/19/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 23 Mileage: 12

MACHINE # #005

PAGE NUMBER: 24

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
158/159	WEOS-EEOS	1330	77	LV	14	840	22	34		KL		10/19/2021	KL
156/157	WEOS-EEOS	1332	77	LV	14	840	22	56		KL		10/19/2021	KL
154/155	WEOS-EEOS	1334	77	LV	14	840	22	78		KL		10/19/2021	KL
152/153	WEOS-EEOS	1336	77	LV	14	840	22	100		KL		10/19/2021	KL
150/151	WEOS-EEOS	1338	77	LV	14	840	22	122		KL		10/19/2021	KL
148/149	WEOS-EEOS	1340	77	LV	14	840	22	144		KL		10/19/2021	KL
146/147	WEOS-EEOS	1342	77	LV	14	840	22	166		KL		10/19/2021	KL
144/145	WEOS-EEOS	1344	77	LV	14	840	22	188		KL		10/19/2021	KL
142/143	WEOS-EEOS	1346	77	LV	14	840	22	210		KL		10/19/2021	KL
140/141	WEOS-EEOS	1348	77	LV	14	840	22	232		KL		10/19/2021	KL
138/139	WEOS-EEOS	1350	77	LV	14	840	22	254		KL		10/19/2021	KL
134/135	WEOS-EEOS	1352	77	LV	14	840	22	276		KL		10/19/2021	KL
132/133	WEOS-EEOS	1354	77	LV	14	840	22	298		KL		10/19/2021	KL
130/131	WEOS-EEOS	1356	77	LV	14	840	22	320		KL		10/19/2021	KL
128/129	WEOS-EEOS	1358	77	LV	14	840	22	342		KL		10/19/2021	KL

PAGE TOTAL: 330

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 342

DAILY TOTAL WELDED (FT): 380

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/19/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 24 Mileage: 342

MACHINE # #005

PAGE NUMBER: 25

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
126/127	WEOS-EEOS	1400	77	LV	14	840	22	14	350	KL	DP-90	10/19/2021	KL
124/R449	SEOS-NEOS	1605	77	LV	14	840	14	28		KL		10/19/2021	KL
126/R449	SEOS-NEOS	1608	77	LV	14	840	14	42		KL		10/20/2021	KL

PAGE TOTAL: 50

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 42

DAILY TOTAL WELDED (FT): 380

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 11/3/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #011

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
176/190	WEOS-EEOS	1330	81	LV	18	840	85	20	65	KL	DP-91	11/3/2021	KL
162/163	WEOS-EEOS	1345	82	LV	18	840	22	42		KL		11/3/2021	KL
160/161	WEOS-EEOS	1347	82	LV	18	840	22	64		KL		11/3/2021	KL
158/R475	SEOS-NEOS	1350	84	LV	18	840	16	80		KL		11/3/2021	KL
160/R475	SEOS-NEOS	1352	84	LV	18	840	16	96		KL		11/3/2021	KL
163/190	SEOS-NEOS	1415	84	LV	18	840	13	109		KL		11/3/2021	KL
162/190	SEOS-NEOS	1416	84	LV	18	840	14	123		KL		11/3/2021	KL
175/191	EEOS-WEOS	1430	84	LV	18	840	23	146		KL		11/3/2021	KL
190/191	EEOS-WEOS	1440	84	LV	18	840	23	169		KL		11/3/2021	KL
175/190	EEOS-WEOS	1448	84	LV	18	840	66	235		KL		11/3/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 300

PAGE DESTRUCTIVE LENGTH CARRY-OVER 235

DAILY TOTAL WELDED (FT) 300

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #104

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
5/6	EEOS-WEOS	1015	86	LP	9	850	53	53		KL		9/7/2021	KL
6/7	EEOS-WEOS	1025	86	LP	9	850	53	6	100	KL	DP-2	9/7/2021	KL
7/8	EEOS-WEOS	1033	87	LP	9	850	54	60		KL		9/7/2021	KL
8/9	EEOS-WEOS	1045	87	LP	9	850	53	113		KL		9/7/2021	KL
9/10	EEOS-WEOS	1050	88	LP	9	850	52	165		KL		9/7/2021	KL
15/16	WEOS-EEOS	1120	88	LP	9	850	56	221		KL		9/7/2021	KL
16/17	WEOS-EEOS	1130	89	LP	9	850	57	278		KL		9/7/2021	KL
17/18	WEOS-EEOS	1140	90	LP	9	850	58	336		KL		9/7/2021	KL
18/19	WEOS-EEOS	1150	90	LP	9	850	58	394		KL		9/7/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 494
PAGE DESTRUCTIVE LENGTH CARRY-OVER 394
DAILY TOTAL WELDED (FT) 494

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 394

MACHINE # #104

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
23/24	SEOS-NEOS	940	88	LP	8.5	850	253	172	475	KL	DP-4	9/8/2021	KL
25/26	SEOS-NEOS	1015	89	LP	8.5	850	252	424		KL		9/8/2021	KL
27/28	SEOS-NEOS	1050	93	LP	8.5	850	254	203	475	KL	DP-6	9/8/2021	KL
28/29	SEOS-NEOS	1255	96	LP	8.5	850	253	456		KL		9/8/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1012

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 456

DAILY TOTAL WELDED (FT): 1012

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/10/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 456

MACHINE # #104

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
35/37	SEOS-NEOS	840	81	LP	8.5	850	247	228	475	KL	DP-9	9/10/2021	KL
36/37	SEOS-NEOS	905	81	LP	8.5	850	29	257		KL		9/10/2021	KL
38/40	SEOS-NEOS	930	81	LP	8.5	850	218	10	465	KL	DP-11	9/10/2021	KL
39/40	SEOS-NEOS	950	82	LP	8.5	850	63	73		KL		9/10/2021	KL
42/43	SEOS-NEOS	1005	82	LP	8.5	850	94	167		KL		9/10/2021	KL
41/43	SEOS-NEOS	1016	82	LP	8.5	850	186	353		KL		9/10/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 837

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 353

DAILY TOTAL WELDED (FT): 837

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 353

MACHINE # #104

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
29/44	SEOS-NEOS	856	81	AL	8	850	248	126	475	KL	DP-12	9/14/2021	KL
44/46	SEOS-NEOS	935	81	AL	8	850	259	385		KL		9/14/2021	KL
46/48	SEOS-NEOS	1010	81	AL	8	850	262	172	475	KL	DP-13	9/14/2021	KL
48/50	SEOS-NEOS	1055	82	AL	8	850	261	433		KL		9/14/2021	KL
50/52	SEOS-NEOS	1135	82	AL	8	850	262	220	475	KL	DP-14	9/14/2021	KL
52/54	SEOS-NEOS	1210	82	AL	8	850	261	6	475	KL	DP-19	9/14/2021	KL
55/57	SEOS-NEOS	1421	82	AL	8	850	250	256		KL		9/14/2021	KL
57/59	SEOS-NEOS	1415	82	AL	8	850	258	39	475	KL	DP-21	9/14/2021	KL
59/61	SEOS-NEOS	1645	82	AL	8	850	258	297		KL		9/14/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2319

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 297

DAILY TOTAL WELDED (FT): 2319

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 297

MACHINE # #104

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
61/63	SEOS-NEOS	815	85	AL	8	850	257	79	475	KL	DP-22	9/15/2021	KL
63/65	SEOS-NEOS	906	85	AL	8	850	259	338		KL		9/15/2021	KL
65/67	SEOS-NEOS	945	85	AL	8	850	258	121	475	KL	DP-25	9/15/2021	KL
67/69	SEOS-NEOS	1020	85	AL	8	850	260	381		KL		9/15/2021	KL
69/71	SEOS-NEOS	1055	85	AL	8	850	257	163	475	KL	DP-27	9/15/2021	KL
71/73	SEOS-NEOS	1130	85	AL	8	850	259	422		KL		9/15/2021	KL
73/75	SEOS-NEOS	1240	85	AL	8	850	258	205	475	KL	DP-29	9/15/2021	KL
75/77	SEOS-NEOS	1430	85	AL	8	850	258	463		KL		9/15/2021	KL
77/79	SEOS-NEOS	1530	85	AL	8	850	257	245	475	KL	DP-31	9/15/2021	KL
79/81	SEOS-NEOS	1600	85	AL	8	850	256	26	475	KL	DP-33	9/15/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2579

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 26

DAILY TOTAL WELDED (FT): 2579

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #115

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
105/107	SEOS-NEOS	1105	90	ALLS	8	850	260	160	100	KL	DP-50	9/28/2021	KL
107/109	SEOS-NEOS	1140	90	ALLS	8	850	260	420		KL		9/28/2021	KL
109/111	SEOS-NEOS	1320	90	ALLS	8	850	260	205	475	KL	DP-51	9/28/2021	KL
111/113	SEOS-NEOS	1350	97	ALLS	8	850	260	465		KL		9/28/2021	KL
113/115	SEOS-NEOS	1430	97	ALLS	8	850	260	240	485	KL	DP-52	9/28/2021	KL
115/117	SEOS-NEOS	1500	97	ALLS	8	850	261	26	475	KL	DP-53	9/28/2021	KL
117/119	SEOS-NEOS	1535	93	ALLS	8	850	261	287		KL		9/28/2021	KL
119/121	SEOS-NEOS	1610	92	ALLS	8	850	260	72	475	KL	DP-57	9/28/2021	KL
121/123	SEOS-NEOS	1650	89	ALLS	8	850	261	333		KL		9/28/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2343
PAGE DESTRUCTIVE LENGTH CARRY-OVER 333
DAILY TOTAL WELDED (FT) 2343

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 333

MACHINE # #115

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
123/125	SEOS-NEOS	820	74	ALLS	8	850	259	117	475	KL	DP-58	9/29/2021	KL
125/127	SEOS-NEOS	900	76	ALLS	8	850	254	371		KL		9/29/2021	KL
127/129	SEOS-NEOS	950	78	ALLS	8	850	253	149	475	KL	DP-59	9/29/2021	KL
129/131	SEOS-NEOS	1025	79	ALLS	8	850	256	405		KL		9/29/2021	KL
131/133	SEOS-NEOS	1110	80	ALLS	8	850	256	186	475	KL	DP-60	9/29/2021	KL
133/135	SEOS-NEOS	1150	80	ALLS	8	850	255	441		KL		9/29/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1533

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 441

DAILY TOTAL WELDED (FT): 1533

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 2 Mileage: 441

MACHINE # #115

PAGE NUMBER: 3

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
66/67	SEOS-NEOS	1015	75	ALLS	7	850	22	463		KL		9/30/2021	KL
64/65	SEOS-NEOS	1018	75	ALLS	7	850	22	10	475	KL	DP-67	9/30/2021	KL
62/63	SEOS-NEOS	1021	75	ALLS	7	850	22	32		KL		9/30/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 66

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 32

DAILY TOTAL WELDED (FT): 66

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 3 Mileage: 32

MACHINE # #115

PAGE NUMBER: 4

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
135/139	SEOS-NEOS	850	72	ALLS	8	850	259	291		KL		10/5/2021	KL
139/141	SEOS-NEOS	920	75	ALLS	8	850	259	75	475	KL	DP-69	10/5/2021	KL
141/143	SEOS-NEOS	950	79	ALLS	8	850	258	333		KL		10/5/2021	KL
143/145	SEOS-NEOS	1030	84	ALLS	8	850	258	116	475	KL	DP-71	10/5/2021	KL
145/147	SEOS-NEOS	1100	84	ALLS	8	850	255	377		KL		10/5/2021	KL
147/149	SEOS-NEOS	1130	83	ALLS	8	850	257	153	475	KL	DP-73	10/5/2021	KL
149/151	SEOS-NEOS	1325	90	ALLS	8	850	256	409		KL		10/5/2021	KL
151/153	SEOS-NEOS	1400	91	ALLS	8	850	255	189	475	KL	DP-75	10/5/2021	KL
153/155	SEOS-NEOS	1510	89	ALLS	8	850	256	445		KL		10/5/2021	KL
155/157	SEOS-NEOS	1550	88	ALLS	8	850	261	231	475	KL	DP-77	10/5/2021	KL
157/159	SEOS-NEOS	1625	87	ALLS	8	850	262	18	475	KL	DP-79	10/5/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2836

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 18

DAILY TOTAL WELDED (FT): 2836

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 4 Mileage: 18

MACHINE # #115

PAGE NUMBER: 5

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
159/161	SEOS-NEOS	810	72	ALLS	8	850	263	281		KL		10/7/2021	KL
161/163	SEOS-NEOS	940	74	ALLS	8	850	262	68	475	KL	DP-82	10/7/2021	KL

PAGE TOTAL: 525

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 68

DAILY TOTAL WELDED (FT): 525

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 0 Mileage: 0

MACHINE # #120

PAGE NUMBER: 1

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
81/83	SEOS-NEOS	1055	81	ALLS	8	850	259	159	100	KL	DP-35	9/27/2021	KL
83/85	SEOS-NEOS	1130	83	ALLS	8	850	263	422		KL		9/27/2021	KL
85/87	SEOS-NEOS	1230	86	ALLS	8	850	264	211	475	KL	DP-37	9/27/2021	KL
87/89	SEOS-NEOS	1355	86	ALLS	8	850	257	468		KL		9/27/2021	KL
89/91	SEOS-NEOS	1430	86	ALLS	8	850	258	251	475	KL	DP-39	9/27/2021	KL
91/93	SEOS-NEOS	1505	87	ALLS	8	850	258	34	475	KL	DP-41	9/27/2021	KL
93/95	SEOS-NEOS	1530	86	ALLS	8	850	257	291		KL		9/27/2021	KL
95/97	SEOS-NEOS	1635	85	ALLS	8	850	256	72	475	KL	DP-43	9/27/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 2072
PAGE DESTRUCTIVE LENGTH CARRY-OVER 72
DAILY TOTAL WELDED (FT) 2072

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD
Date: 12/19/2021

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE FUSION SEAM LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021

LAYER:

PRIMARY	X
SECONDARY	
OTHER	

DESTRUCTIVE SEAM LENGTH CARRY-OVER FROM
Page # 1 Mileage: 72

MACHINE # #120

PAGE NUMBER: 2

SEAM NUMBER	SEAM SECTION START * FINISH POINT * POINT	APPROX. START TIME	AMB. AIR TEMP	WELD TECH	Machine Settings MACH SPEED	Machine Settings DIGITAL SET WEDGE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTRUCT MILEAGE	QA MON.	DESTRUCT NO. OR REMARKS	** PASSING - NON DESTRUCTIVE TESTING TEST DATE	** PASSING - NON DESTRUCTIVE TESTING QA MON.
97/99	SEOS-NEOS	840	79	ALLS	8	850	255	327		KL		9/28/2021	KL
99/101	SEOS-NEOS	915	79	ALLS	8	850	256	108	475	KL	DP-44	9/28/2021	KL
101/103	SEOS-NEOS	955	80	ALLS	8	850	260	368		KL		9/28/2021	KL
103/105	SEOS-NEOS	1005	80	ALLS	8	850	260	153	475	KL	DP-47	9/28/2021	KL

* REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PAGE TOTAL: 1031

PAGE DESTRUCTIVE LENGTH CARRY-OVER: 153

DAILY TOTAL WELDED (FT): 1031

** DATA TO BE COMPLETED BY THE DATA REVIEWER ONLY.

Reviewed By: S NEJAD

Date: 12/19/2021

Section 4
Geomembrane Defect, Repair, and Vacuum Test Log

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-1	3,4	25' W OF EEOS	DF	9/13/2021	DP-1	9/13	P	2X5	41	CGC	KL	9/13	OV	P	KL
R-2	1,2,3	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-3	1,3,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-4	3,4,24	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-5	4,5,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-6	5,6,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-7	6,7	6' E OF WEOS	DF	9/13/2021	DP-2	9/13	P	2X6	41	CGC	KL	9/13	OV	P	KL
R-8	7,8,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-9	8,9,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-10	9,10,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-11	10,11,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X6	41	CGC	KL	9/13	OV	P	KL
R-12	11,12,23	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-13	12,13	8' W OF EEOS	D	9/13/2021		9/20	P	2X2	41	CGC	KL	9/20	OV	P	KL
R-14	19,20	8' W OF EEOS	D	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-15	21,22	6'E OF WEOS	DF	9/13/2021	DP-3	9/13	P	2X6	41	CGC	KL	9/13	OV	P	KL
R-16	23,24	50'N OF SEOS	DF	9/13/2021	DP-4	9/13	P	2X6	41	CGC	KL	9/13	OV	P	KL
R-17	24,25	30'S OF NEOS	DF	9/13/2021	DP-5	9/13	P	2X6	41	CGC	KL	9/13	OV	P	KL
R-18	24,25	50'S OF NEOS	D	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-19	25,26	50'N OF SEOS	D	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-20	26,27	30'S OF NEOS	D	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-21	24,25	3'N OF LCS TRENCH	D	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-22	27,28	203'S OF NEOS	DF	9/13/2021	DP-6	9/13	P	2X5	41	CGC	KL	9/13	OV	P	KL
R-23	28,29,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-24	28, EX, EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	41	CGC	KL	9/13	OV	P	KL
R-25	27,28,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X4	41	CGC	KL	9/13	OV	P	KL
R-26	27,EX, EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X5	41	CGC	KL	9/13	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 2
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-27	27,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X3	041	CGC	KL	9/13	OV	P	KL
R-28	26,EX, EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-29	26,27, EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	3X4	041	CGC	KL	9/13	OV	P	KL
R-30	25,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	3X3	041	CGC	KL	9/13	OV	P	KL
R-31	24,25,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-32	24,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X3	041	CGC	KL	9/13	OV	P	KL
R-33	23,24,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-34	23,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-35	1,23,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	3X4	041	CGC	KL	9/13	OV	P	KL
R-36	1,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-37	1,2,EX,EX	FOUR PANEL INTERSECTION	INT	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-38	2,EX,EX	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-39	13,14,34	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	041	CGC	KL	9/30	ALLS	P	KL
R-40	14,15,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-41	15,16,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-42	16,17,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-43	17,18,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-44	18,19,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-45	19,20,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-46	20,21,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-47	21,22,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X3	041	CGC	KL	9/13	OV	P	KL
R-48	22,30,34	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-49	33,34,30	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X3	041	CGC	KL	9/13	OV	P	KL
R-50	30,32,33	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X3	041	CGC	KL	9/13	OV	P	KL
R-51	30,31,32	5'W OF EEOS	DF/T	9/13/2021	DP-7	9/13	P	2X5	041	CGC	KL	9/13	OV	P	KL
R-52	34,35,36	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER _____

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 3
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-53	35,36,37	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-54	37,38,39	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-55	38,39,40	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-56	40,41,42	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-57	41,42,43	THREE PANEL INTERSECTION	T	9/13/2021		9/13	P	2X2	041	CGC	KL	9/13	OV	P	KL
R-58	35,37	15' N OF SEOS	DF	9/13/2021	DP-9	9/13	P	2X6	041	CGC	KL	9/13	OV	P	KL
R-59	37,38	60' S OF NEOS	DF	9/13/2021	DP10	9/13	P	2X6	041	CGC	KL	9/13	OV	P	KL
R-60	38,40	7' N OF SEOS	DF	9/13/2021	DP-11	9/13	P	2X6	041	CGC	KL	9/13	OV	P	KL
R-61	27,EX	2' W OF EEOS	DF	9/13/2021	DP-8	9/13	P	2X6	041	CGC	KL	9/13	OV	P	KL
R-62	29,44	100' N OF SEOS	DF	9/13/2021	DP-12	9/13	P	2X6	041	CGC	KL	9/13	OV	P	KL
R-63	46,48	172' N OF SEOS	DF	9/13/2021	DP-13	9/16	P	2X6	041	CGC	KL	9/17	OV	P	KL
R-64	50,52	17' S OF NEOS	DF	9/13/2021	DP-14	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-65	52,54	6' S OF NEOS	D	9/16/2021		9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-66	52,54	14' N OF SEOS	DF	9/16/2021	DP-19	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-67	43,45	19' S OF NEOS	DF	9/16/2021	DP-15	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-68	45,47	34' NO OF SEOS	DF	9/16/2021	DP-16	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-69	49,51	77' S OF NEOS	DF	9/16/2021	DP-17	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-70	53,55	120' S OF NEOS	DF	9/16/2021	DP-18	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-71	57,59	39' S OF NEOS	DF	9/16/2021	DP-21	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-72	56,58	165' S OF NEOS	DF	9/16/2021	DP-20	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-73	61,63	79' S OF NEOS	DF	9/16/2021	DP-22	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-74	65,67	121' N OF SEOS	DF	9/16/2021	DP-25	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-75	69,71	163' N OF SEOS	DF	9/16/2021	DP-27	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-76	73,75	205' N OF SEOS	DF	9/16/2021	DP-29	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-77	77,79	245' N OF SEOS	DF	9/16/2021	DP-31	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL
R-78	60,62	212' N OF SEOS	DF	9/16/2021	DP-23	9/16	P	2X4	041	CGC	KL	9/17	OV	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
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T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER _____

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 4
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-79	66,68	70' S OF NEOS	DF	9/16/2021	DP-26	9/16	P	2X4	041	CGC	KL	9/17	MP	P	KL
R-80	70,72	114' S OF NEOS	DF	9/16/2021	DP-28	9/16	P	2X4	041	CGC	KL	9/17	MP	P	KL
R-81	74,76	158' S OF NEOS	DF	9/16/2021	DP-30	9/17	P	2X4	041	CGC	KL	9/17	MP	P	KL
R-82	76,78	59' N OF SEOS	D	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-83	78,80	200' S OF NEOS	DF	9/17/2021	DP-32	9/17	P	2X4	041	CGC	KL	9/17	MP	P	KL
R-84	P80	9'W, 27'S	D	9/16/2021		9/17	P	3X4	041	CGC	KL	9/17	MP	P	KL
R-85	P78	8'W, 26'S	D	9/16/2021		9/16	P	3X5	041	CGC	KL	9/17	MP	P	KL
R-86	P76	9'W, 22'S	D	9/16/2021		9/16	P	4X5	041	CGC	KL	9/17	MP	P	KL
R-87	P76	3'W, 27'S	D	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-88	P74	8'E, 22'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-89	P72	10'E 27'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-90	P70	7'E 27'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-91	P68	7'E 25'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-92	P66	7'W 26' S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-93	62,64	23' S OF EX	DF	9/16/2021	DP-24	9/16	P	2X6	041	CGC	KL	9/17	MP	P	KL
R-94	P64	9'E 9' S	D	9/16/2021		9/16	P	8X14	041	CGC	KL	9/17	MP	P	KL
R-95	P62	6'W 23' S	D	9/16/2021		9/16	P	4X4	041	CGC	KL	9/17	MP	P	KL
R-96	P60	11'E 29' S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-97	P58	10'E 27'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-98	P56	10'E 27'S	D	9/16/2021		9/16	P	3X3	041	CGC	KL	9/17	MP	P	KL
R-99	P54	10'E 24'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-100	P52	10'E 24'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-101	P50	11'E 24'S	D	9/16/2021		9/16	P	3X3	041	CGC	KL	9/17	MP	P	KL
R-102	P48	10'E 24'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-103	P46	8'W 24'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-104	P46	8'E 24'S	D	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
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T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER _____

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

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SECONDARY

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ENGINEER: Geosyntec
INSTALLER: Comanco
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DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-105	27,EX	10' W OF EEOS	DX	9/17/2021	DPX-1	9/17	P	2X5	041	CGC	KL	9/17	MP	P	KL
R-106	79,81	26' S OF NEOS	DF	9/17/2021	DP-33	9/17	P	2X5	041	CGC	KL	9/17	MP	P	KL
R-107	29,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X5	041	CGC	KL	9/17	MP	P	KL
R-108	29,44,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-109	44,EXY,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-110	44,46,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-111	46,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-112	46,48,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-113	18,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-114	48,50,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-115	50,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/16	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-116	50,52,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-117	52,EX,ESXT	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-118	52,54,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-119	54,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-120	54,56,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-121	6+,EX.EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-122	56,58,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-123	58,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-124	58,60,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-125	60,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-126	60,62,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-127	62,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-128	62,64,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-129	64,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-130	64,66,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL

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REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
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GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

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SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
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INSTALLER: Comanco

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DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-131	66,EX	6'W OF EEOS	DF	9/16/2021	DF-34	9/17	P	2X6	041	CGC	KL	9/17	MP	P	KL
R-132	66, EX	5'E OF WEOS	D	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-133	66,68,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X3	041	CGC	KL	9/17	MP	P	KL
R-134	66,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-135	68,70,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-136	68,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-137	70,72,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-138	72,74,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-139	72,74,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-140	74,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-141	74,76,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-142	76,EX,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-143	76,78,EX	THREE PANEL INTERSECTION	T	9/16/2021		9/17	P	2X2	041	CGC	KL	9/17	MP	P	KL
R-144	64,R94	ON R-94	DX	9/17/2021	DPX-2	9/17	P	2X6	041	CGC	KL	9/17	MP	P	KL
R-145	5,6	4'E OF WEOS	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-146	P6	1'E 6'N	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-147	23	70'S 5'W	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-148	P5	5'E 2'S	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-149	P4	3'E 1'N	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-150	P4	2'N 5'E	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-151	P4	6'E 4'N	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-152	P3	1'S 1'E	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-153	P1	1'N 1'E	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-154	P23	31'S 5'E	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-155	23,30	EEOS	D	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL
R-156	78,EX,EX	THREE PANEL INTERSECTION	T	9/22/2021		9/22	P	2X2	041	CGC	KL	9/22	MP	P	KL

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REVIEWED BY : S NEJAD
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GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

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SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
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INSTALLER: Comanco
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DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-157	81,83	159'S OF NEOS	DF	9/29/2021	DP-35	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-158	85,87	104'N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL
R-159	85,87	211'S OF NEOS	DF	9/29/2021	DP-37	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-160	89,91	251'S OF NEOS	DF	9/29/2021	DP-39	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-161	81,83	5'N OF SEOS	BO	10/4/2021		10/4	P	2X5	014	LV	KL	10/4	CGC	P	KL
R-162	89,91	45'N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL
R-163	91,89	100' N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL
R-164	91,93	34'S OF NEOS	DF	9/29/2021	DP-41	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-165	95,97	72'S OF NEOS	DF	9/29/2021	DP-43	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-166	99,101	108'S OF NEOS	DF	9/29/2021	DP-44	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-167	103,105	153'S OF NEOS	DF	9/29/2021	DP-47	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-168	105,107	160'S OF NEOS	DF	9/29/2021	DP-50	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-169	109,111	107'N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL
R-170	109,111	205'S OF NEOS	DF	9/29/2021	DP-51	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-171	113,115	240'S OF NEOS	DF	9/29/2021	DP-52	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-172	115,117	26'S OF NEOS	DF	9/29/2021	DP-53	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-173	119,121	72'S OF NEOS	DF	9/29/2021	DP-57	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-174	119,121	124'N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL
R-175	82,84	201'S OF NEOS	DF	9/29/2021	DP-36	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-176	86,88	260'S OF NEOS	DF	9/29/2021	DP-38	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-177	88,90	51' N OF SEOS	DF	9/29/2021	DP-40	9/29	P	2X6	049	LV	KL	9/29	CGC	P	KL
R-178	92,94	104'S OF NEOS	DF	9/29/2021	DP-42	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-179	96,98	161'S OF NEOS	DF	9/29/2021	DP-45	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-180	100,102	211'S OF NEOS	DF	9/29/2021	DP-46	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-181	104,106	248'S OF NEOS	DF	9/29/2021	DP-48	9/29	P	2X6	049	LV	KL	9/30	CGC	P	KL
R-182	108,110	58'N OF SEOS	BO	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	CGC	P	KL

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CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-183	110,112	75'S OF NEOS	DF	9/29/2021	DP-54	9/29	P	2X5	049	LV	KL	9/30	JL	P	KL
R-184	114,116	120'S OF NEOS	DF	9/29/2021	DP-55	9/29	P	2X5	049	LV	KL	9/30	JL	P	KL
R-185	118,120	175'S OF NEOS	DF	9/29/2021	DP-56	9/29	P	2X5	049	LV	KL	9/30	JL	P	KL
R-186	120,122	40'S OF NEOS	ED	9/30/2021		9/30	P	2X2	049	LV	KL	9/30	JL	P	KL
R-187	78,80,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X4	014	LV	KL	9/29	JL	P	KL
R-188	80,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-189	80,82,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X3	014	LV	KL	9/29	JL	P	KL
R-190	82,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-191	82,84,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-192	84,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X3	014	LV	KL	9/29	JL	P	KL
R-193	84,86,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-194	86,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-195	86,88,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-196	88,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X3	014	LV	KL	9/29	JL	P	KL
R-197	EX	EXISTING	D	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-198	88,90,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-199	90,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-200	90,92,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-201	92,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-202	92,94,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-203	94,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-204	94,96,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-205	96,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-206	96,98,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-207	98,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL
R-208	98	1'S 2'E	D	9/29/2021		9/29	P	2X2	014	LV	KL	9/29	JL	P	KL

DEFECTS TYPES
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE
DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION
PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER _____

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 9
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-209	98,100,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-210	72	10'S OF R-223	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-211	74	20'S, 2'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-212	74	30'S, 5'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-213	76	45'S, 2'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-214	76	50'S, 5'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-215	76	10'S, 2'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-216	76	5'S OF R-86	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-217	76	10'N OF R-87	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-218	74	10'N OF R-212	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-219	74	47'S, 5'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-220	70	65'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-221	70	20'S 1'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-222	72	5'N OF R-89	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-223	72	10'N OF R-210	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-224	78	2'W OF R-85	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-225	78	1'S OF R-85	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-226	82	30'S 10'W OF NEOS	D	9/29/2021		9/29	P	2X5	014	LP	KL	9/30	JL	P	KL
R-227	84	35'S 11'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-228	86	36'S 5'W OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-229	88	1'E OF R-230	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-230	88	35'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-231	90	33'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-232	92	32'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-233	94	50'S 11'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL
R-234	96	48'S 11'E OF NEOS	D	9/29/2021		9/29	P	2X2	014	LP	KL	9/30	JL	P	KL

DEFECTS TYPES
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OTHER

REPAIR TYPES
P - PATCH
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-235	98	47'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-236	100	50'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-237	102	50'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-238	104	50'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-239	104	20'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-240	104	10'S 10'E OF NEOS	D	9/29/2021		9/29	P	2X2	049	LP	KL	9/30	JP	P	KL
R-241	106	46'S 10'E	D	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-242	106,108	36' S OF NEOS	DF	9/29/2021	DP-49	9/29	P	2X5	049	LP	KL	9/30	JP	P	KL
R-243	108	10'W OF R-242	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-244	110	45'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-245	112	45'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X6	049	LP	KL	9/30	JP	P	KL
R-246	114	43'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-247	116	48'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-248	118	36'S 8'E OF NEOS	ED	9/30/2021		9/30	P	2X5	049	LP	KL	9/30	JP	P	KL
R-249	120	37'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-250	122	40'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-251	126	40'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-252	128	35'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X5	049	LP	KL	9/30	JP	P	KL
R-253	128,130	35'S 10'E OF NEOS	BO	9/30/2021		9/30	P	2X2	049	LP	KL	9/30	JP	P	KL
R-254	130	36'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X5	049	LP	KL	9/30	JP	P	KL
R-255	132	34'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X5	049	LP	KL	9/30	JP	P	KL
R-256	134	37'S 10'E OF NEOS	ED	9/30/2021		9/30	P	2X4	049	LP	KL	9/30	JP	P	KL
R-257	12,13	14'E OF WEOS	CUT	9/30/2021		9/30	C	2X34	014	LV	KL	9/30	JP	P	KL
R-258	23,34,24,36	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	JP	P	KL
R-259	24,36,25,37	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	JP	P	KL
R-260	26,39,25,37	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	JP	P	KL

R260
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REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
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REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 11
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-261	39,40	2'S OF NEOS	D	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-262	26,27,39,40	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-263	27,28,40,41	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-264	28,29,41,43	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-265	29,43	7' E OF WEOS	BO	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-266	29,43,44	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-267	43,44,45	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-268	45,44,46,47	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-269	46,47,49,48,136	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-270	48,49,50,51,136	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-271	50,51,52,53,136	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-272	52,53,54,55,136,137	SIX PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-273	54,55,56,57,137	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-274	56,57,58,59,137	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-275	58,59,60,61,137	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-276	60,61,62,63,137	FIVE PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-277	62,63,64,65	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-278	64,65,66,67	FOUR PANEL INTERSECTION	INT	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-279	46,47	14'E OF WEOS	DF	9/30/2021	DP-66	9/30	P	2X6	014	LV	KL	9/30	ALLS	P	KL
R-280	64,65	10'E OF WEOS	DF	9/30/2021	DP-67	9/30	P	2X5	014	LV	KL	9/30	ALLS	P	KL
R-281	101	1'W OF R-166	D	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-282	107	1'W OF R-168	D	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-283	94	37'S 4'W OF NEOS	D	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-284	100,EX,EX	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-285	100,102,EX	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL
R-286	102,EX,EX	THREE PANEL INTERSECTION	T	9/30/2021		9/30	P	2X2	014	LV	KL	9/30	ALLS	P	KL

R260
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REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 12
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-287	102,104,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-288	104,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-289	104	1'S OF NEOP	D	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-290	104,106,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-291	106,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-292	106,108,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-293	108,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-294	108,110,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-295	110,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-296	110,112,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-297	112,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-298	112	1'S OF NEOP	D	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-299	112,114	2'S OF NEOS	D	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-300	112,114,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-301	114,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-302	114,116,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-303	116,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-304	116,118,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-305	118,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-306	118,120,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X2	049	LV	KL	9/30	JL	P	KL
R-307	120,EX,EX	THREE PANEL INTERSECTION	T	9/29/2021		9/29	P	2X4	049	LV	KL	9/30	JL	P	KL
R-308	110	1'S OF NEOP	D	9/30/2021		9/30	P	2X2	049	LV	KL	9/30	JL	P	KL
R-309	110,EX	5'W OF EEOS	DF	10/1/2021	DP-65	10/1	P	2X5	049	LV	KL	10/1	JL	P	KL
R-310	120,R-249	ON R-249	DX	10/1/2021	DPX-3	10/1	P	2X5	049	LV	KL	10/1	JL	P	KL
R-311	120,122,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-312	122,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL

R260
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE

DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
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FS - FAILED SEAM
INT - INTERSECTION

PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 13
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-313	122,124,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-314	124,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-315	124,126,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-316	126,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-317	126,128,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-318	128,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-319	128,130,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-320	130,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-321	130,132,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-322	132,EX,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-323	132,134,EX	THREE PANEL INTERSECTION	T	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-324	119,121	5'N OF SEOS	ED	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-325	122,124	248'S OF NEOS	DF	10/1/2021	DP-61	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-326	124,126	266'S OF NEOS	DF	10/1/2021	DP-62	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-327	128,130	94'S OF NEOS	DF	10/1/2021	DP-63	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-328	132,134	146'S OF NEOS	DF	10/1/2021	DP-64	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-329	131,133	144'N OF SEOS	BO	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-330	131,133	186'S OF NEOS	DF	10/1/2021	DP-60	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-331	127,129	149'S OF NEOS	DF	10/1/2021	DP-59	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-332	123,125	117'S OF NEOS	DF	10/1/2021	DP-58	10/1	P	2X6	049	LV	KL	10/1	JL	P	KL
R-333	123,125	10'N OF SEOS	BO	10/1/2021		10/1	P	2X2	049	LV	KL	10/1	JL	P	KL
R-334	134,138	167'N OF SEOS	DF	10/6/2021	DP-68	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-335	139,141	162'S OF NEOS	DF	10/6/2021	DP-69	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-336	140,142	116'S OF NEOS	DF	10/6/2021	DP-70	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-337	143,145	220'S OF NEOS	DF	10/6/2021	DP-71	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-338	144,146	153'S OF NEOS	DF	10/6/2021	DP-72	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL

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REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-339	147,149	189'S OF NEOS	DF	10/6/2021	DP-73	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-340	151,153	12'S OF NEOS	DF	10/6/2021	DP-75	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-341	146,148	68' S OF NEOS	DF	10/6/2021	DP-74	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-342	150,152	68' N OF SEOS	DF	10/6/2021	DP-76	10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-343	135,138,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-344	138,140,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-345	140,142,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-346	142,144,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-347	P144	6'S 2'W	D	10/6/2021		10/6	P	2X3	041	LV	KL	10/6	LP	P	KL
R-348	144,146,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-349	146,148,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-350	148,150,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-351	150,152,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-352	152,154,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-353	154,156,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-354	156,158,EX	THREE PANEL INTERSECTION	T	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-355	P158	38'S 11'W	D	10/6/2021		10/6	P	2X4	041	LV	KL	10/6	LP	P	KL
R-356	P156	39'S 12'W	D	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-357	P154	36'S 14'W	D	10/6/2021		10/6	P	3X5	041	LV	KL	10/6	LP	P	KL
R-358	P152	36'S 12'W	D	10/6/2021		10/6	P	3X5	041	LV	KL	10/6	LP	P	KL
R-359	P150	38'S 12'W	D	10/6/2021		10/6	P	2X4	041	LV	KL	10/6	LP	P	KL
R-360	P148	35'S 12'E	D	10/6/2021		10/6	P	2X4	041	LV	KL	10/6	LP	P	KL
R-361	P146	36'S 12'E	D	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL
R-362	P144	16'S 2'W	D	10/6/2021		10/6	P	2X7	041	LV	KL	10/6	LP	P	KL
R-363	P144	13'S 2'W	D	10/6/2021		10/6	P	2X2	041	LV	KL	10/6	LP	P	KL
R-364	P142	36'S 11'W	D	10/6/2021		10/6	P	2X6	041	LV	KL	10/6	LP	P	KL

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REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco

(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-365	P140	37'S 11'W	D	10/6/2021		10/6	P	2X5	041	LV	KL	10/6	ED	P	KL
R-366	P138	36'S 10'W	D	10/6/2021		10/6	P	2X4	041	LV	KL	10/6	ED	P	KL
R-367	154,156	124'S OF NEOS	DF	10/6/2021	DP-78	10/6	P	2X6	041	LV	KL	10/6	ED	P	KL
R-368	155,157	30'N OF SEOS	DF	10/6/2021	DP-77	10/6	P	2X6	041	LV	KL	10/6	ED	P	KL
R-369	157,159	16'S OF NEOS	DF	10/6/2021	DP-79	10/6	P	2X6	041	LV	KL	10/6	ED	P	KL
R-370	142,EX	3'E OF WEOS	DF	10/6/2021	DP-80	10/6	P	2X6	041	LV	KL	10/6	ED	P	KL
R-371	142,EX	7' W OF WEOS	DX	10/6/2021	DPX-4	10/6	P	2X5	041	LV	KL	10/6	ED	P	KL
R-372	158,160,EX	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-373	160,162,EX	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-374	162,164,EX	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-375	164,165,EX	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-376	165,EX	30'E OF WEOS	BO	10/7/2021		10/7	P	3X6	041	LV	KL	10/7	ED	P	KL
R-377	165,EX	WEOS	BO	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-378	164,165,166	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-379	162,164,167	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-380	162,164,167	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-381	167,168	13'E OF WEOS	DF	10/7/2021	DP-83	10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-382	162,167,168	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-383	162,168,169	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-384	P168	35' S 12' E	D	10/7/2021		10/7	P	2X6	041	LV	KL	10/7	ED	P	KL
R-385	162,169,170	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-386	162,170,171	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-387	162,171,172	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-388	162,172,173	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL
R-389	173,174	38' E OF WEOS	DF	10/7/2021	DP-84	10/7	P	2X5	041	LV	KL	10/7	ED	P	KL
R-390	162,173,174	THREE PANEL INTERSECTION	T	10/7/2021		10/7	P	2X2	041	LV	KL	10/7	ED	P	KL

R260
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REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 16
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-391	160,162	215'S OF NEOS	DF	10/7/2021	DP-81	10/7	P	2X6	041	ALS	KL	10/7	LP	P	KL
R-392	161,163	68'S OF NEOS	DF	10/7/2021	DP-82	10/7	P	2X5	041	ALS	KL	10/7	LP	P	KL
R-393	163,176,177	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-394	177,178	41'W OF EEOS	DF	10/8/2021	DP-85	10/8	P	2X5	041	ALS	KL	10/8	LP	P	KL
R-395	163,177,178	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-396	163,178,179	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-397	163,179,180	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-398	163,180,181	THREE PANEL INTERSECTION	T/DF	10/8/2021	DP-87	10/8	P	2X8	041	ALS	KL	10/8	LP	P	KL
R-399	163,181,182	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	3X3	041	ALS	KL	10/8	LP	P	KL
R-400	181,182	25'W OF EEOS	BO	10/8/2021		10/8	P	2X3	041	ALS	KL	10/8	LP	P	KL
R-401	182,183	16'W OF EEOS	BO	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-402	163,182,183	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-403	163,183,184	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-404	163,184,187	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-405	184,185,187	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-406	185,186,187	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-407	186,187	18'N OF SEOS	BO	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-408	183,184	11'E OF WEOS	DF	10/8/2021	DP-86	10/8	P	2X6	041	ALS	KL	10/8	LP	P	KL
R-409	162,174,175	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	2X2	041	ALS	KL	10/8	LP	P	KL
R-410	166,68,67,69	THREE PANEL INTERSECTION	T	10/8/2021		10/8	P	3X10	041	ALS	KL	10/8	LP	P	KL
R-411	69,71,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	041	ALS	KL	10/15	LP	P	KL
R-412	68,70,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	3X10	041	ALS	KL	10/15	LP	P	KL
R-413	71,73,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	041	ALS	KL	10/15	LP	P	KL
R-414	70,72,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	041	ALS	KL	10/15	LP	P	KL
R-415	73,75,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	041	ALS	KL	10/15	LP	P	KL
R-416	72,74,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	041	ALS	KL	10/15	LP	P	KL

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REVIEWED BY : S NEJAD
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BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
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PROJECT LOCATION : St. Cloud, Florida
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SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 17
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-417	75,77,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	049	ALS	KL	10/15	LP	P	KL
R-418	74,76,188	THREE PANEL INTERSECTION	T	10/15/2021		10/15	P	2X2	049	ALS	KL	10/15	LP	P	KL
R-419	77,76,188,189	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	3X6	049	ALS	KL	10/15	LP	P	KL
R-420	79,80,82,83	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	3X6	049	ALS	KL	10/15	LP	P	KL
R-421	80,81,82,83	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	2X2	049	ALS	KL	10/15	LP	P	KL
R-422	82,83,84,85	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	2X12	049	ALS	KL	10/15	LP	P	KL
R-423	84,85,86,87	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	2X2	049	ALS	KL	10/15	LP	P	KL
R-424	86,87,88,89	FOUR PANEL INTERSECTION	INT	10/15/2021		10/15	P	2X2	049	ALS	KL	10/15	LP	P	KL
R-425	88,89,90,91	FOUR PANEL INTERSECTION	D	10/15/2021	2X12+2X12	10/15	CAP	4X25	049	ALS	KL	10/15	LP	P	KL
R-426	90,91,92,93	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-427	92,93,94,95	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	049	ALS	KL	10/20	LP	P	KL
R-428	94,95,96,97	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-429	96,97,98,99	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-430	98,99,100,101	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-431	100,101,102,103	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-432	102,104,103,105	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-433	104,105,106,107	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-434	106,107,108,109	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X5	049	ALS	KL	10/18	LP	P	KL
R-435	98,99	8' S OF NEOS	BO	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-436	88,89,90,91	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-437	88,90,R425	N END OF R-425	D	10/18/2021		10/18	P	2x2	049	ALS	KL	10/18	LP	P	KL
R-438	108,109,110,111	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2x12	049	ALS	KL	10/18	LP	P	KL
R-439	110,111,112,113	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2x2	049	ALS	KL	10/18	LP	P	KL
R-440	112,113,114,115	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2x2	049	ALS	KL	10/18	LP	P	KL
R-441	114,116,115,117	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2x5	049	ALS	KL	10/18	LP	P	KL
R-442	116,117,118,119	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2x2	049	ALS	KL	10/18	LP	P	KL

R260
BO - BURNOUT
CO - CHANGE OF OVERLAP
CUT - CUT
D - DAMAGE
CR - CREASE

DX - EXRUSION DESTRUCTIVE
ED - EQUIP. DAMAGE
EXT - PANEL EXENTION
FM - FISHMOUTH
FS - FAILED SEAM
INT - INTERSECTION

PT - PRESSURE TEST CUT
T - THREE PANEL INTERSECTION
VL - VACCUM LEAK
WR - WRINKLE
WS - WELDER RESTART
OTHER

REPAIR TYPES
P - PATCH
C - CAP
RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 18
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-443	118,119,120,121	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-444	120,121,122,123	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-445	122,123,124,125	FOUR PANEL INTERSECTION	INT	10/18/2021		10/18	P	2X2	049	ALS	KL	10/18	LP	P	KL
R-446	84,R422	4' S OF NEOS	DX	10/20/2021	DPX-5	10/20	P	2X5	021	LV	KL	10/20	JL	P	KL
R-447	88,89	8' W OF EEOS	DF	10/20/2021	DP-88	10/20	P	2X5	021	LV	KL	10/20	JL	P	KL
R-448	110,111	12' E OF WEOS	DF	10/19/2021	DP-89	10/19	P	2X6	021	LV	KL	10/20	JL	P	KL
R-449	124,126	S END TO 16' N	D	10/19/2021		10/19	CAP	2X16	021	LV	KL	10/20	JL	P	KL
R-450	124,126	16' N OF SEOS	D	10/19/2021		10/19	P	2X3	021	LV	KL	10/20	JL	P	KL
R-451	124,126,R449	THREE PANEL INTERSECTION	T	10/20/2021		10/20	P	3X7	021	LV	KL	10/20	JL	P	KL
R-452	126,127,128,129	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	3X3	021	LV	KL	10/20	JL	P	KL
R-453	130,131,128,129	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-454	132,133,130,131	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-455	134,135,132,133	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-456	138,139,134,135	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-457	140,141,138,139	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-458	142,143,140,141	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-459	144,145,142,143	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	3X3	021	LV	KL	10/20	JL	P	KL
R-460	P-145	5' S/ 2'W	D	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-461	P-143	7'S /3'E	D	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-462	146,147,144,145	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-463	146,148	3'N OF SEOS	D	10/19/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-464	148,149,146,147	FOUR PANEL INTERSECTION	INT	10/19/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-465	150,151,148,149	FOUR PANEL INTERSECTION	INT	10/19/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-466	P148	10'W NEOP	D	10/19/2021		10/20	P	2X3	021	LV	KL	10/20	JL	P	KL
R-467	102,153,150,151	FOUR PANEL INTERSECTION	INT	10/19/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-468	154,155,152,153	FOUR PANEL INTERSECTION	INT	10/19/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL

R260
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

BRANTLEY ENGINEERING, LLC

GEOMEMBRANE DEFECT, REPAIR, AND TEST LOG

PROJECT # 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
LAYER: PRIMARY X
SECONDARY

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
Page # 19
(for sequence only)

DEFECT	DEFECT LOCATION		DEFECT	DATE	REMARKS	REPAIR						VACUUM TEST			
CODE	SEAM, PANEL OR DEFECT CODE	DEFECT LOCATION DESCRIPTION	TYPE			DATE	TYPE	APPROX SIZE	MACH ID #	WELD TECH	QA MON.	DATE	TECH ID	P/F	QA MON.
R-469	156,157,155,154	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-470	158,159,156,157	FOUR PANEL INTERSECTION	INT	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-471	124,125,126,127	FOUR PANEL INTERSECTION	INT	10/20/2021	COVERS R451	10/20	P	4X7	021	LV	KL	10/20	JL	P	KL
R-472	120,122	4'N OF SEOS	D	10/20/2021		10/20	P	2X2	021	LV	KL	10/20	JL	P	KL
R-473	126,127	12' W OF EEOS	DF	10/20/2021	DP-90	10/20	P	2X5	021	LV	KL	10/20	JL	P	KL
R-474	126,R473	1'W OF EEOS	DX	10/20/2021	DPX-6	10/20	P	2X5	021	LV	KL	10/20	JL	P	KL
R-475	158,160	RECONSTRUCTED SEAM	RS	11/3/2021		11/3	P	1X16	070	CEC	KL	11/3	TM	P	KL
R-476	157,160,R475	THREE PANEL INTERSECTION	T	11/3/2021		11/3	P	3X3	070	CEC	KL	11/3	TM	P	KL
R-477	158,159,160,161	FOUR PANEL INTERSECTION	INT	11/3/2021		11/3	P	3X3	070	CEC	KL	11/3	TM	P	KL
R-478	160,161,162,163	FOUR PANEL INTERSECTION	INT	11/3/2021		11/3	P	2X2	070	CEC	KL	11/3	TM	P	KL
R-479	162,163,190	THREE PANEL INTERSECTION	WR/T	11/3/2021		11/3	CAP	3X4	070	CEC	KL	11/3	TM	P	KL
R-480	163,176,190	THREE PANEL INTERSECTION	T	11/3/2021		11/3	P	2X3	070	CEC	KL	11/3	TM	P	KL
R-481	176,190	7'E OF WEOS	BO	11/3/2021		11/3	P	2X3	070	CEC	KL	11/3	TM	P	KL
R-482	176,190	20'W OF EEOS	DF	11/3/2021	DP-91	11/3	P	4X6	070	CEC	KL	11/3	TM	P	KL
R-483	190,R482	ON R-482	DX	11/3/2021	DPX-7	11/3	P	4X6	070	CEC	KL	11/3	TM	P	KL
R-484	176,190	WEOS	PT	11/3/2021		11/3	P	2X2	070	CEC	KL	11/3	TM	P	KL
R-485	162,175,190,191	FOUR PANEL INTERSECTION	INT	11/3/2021		11/3	P	3X3	070	CEC	KL	11/3	TM	P	KL
R-486	190,191	4' W OF EEOS	WR	11/3/2021		11/3	P	2X7	070	CEC	KL	11/3	TM	P	KL
R-487	175,191	3' E OF WEOS	BO	11/3/2021		11/3	P	2X3	070	CEC	KL	11/3	TM	P	KL
R-488	175,190,191	THREE PANEL INTERSECTION	T	11/3/2021		11/3	P	2X2	070	CEC	KL	11/3	TM	P	KL
R-489	190	PIPE BOOT	PB	11/4/2021		11/4	P	6X10	070	CEC	KL	11/4	TM	P	KL
R-490	190	PIPE BOOT	PB	11/4/2021		11/4	P	5X5	070	CEC	KL	11/4	TM	P	KL
R-491															
R-492															
R-493															
R-494															

R260
BO - BURNOUT
CO - CHANGE OF OVERLAP
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REPAIR TYPES
P - PATCH
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RS - RECONSTRUCTED SEAM
G&W - GRIND AND WELD

REVIEWED BY : S NEJAD
DATE : 12/19/21

Section 5
Geomembrane Non-Destructive Pressure Test Log

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/7/2021
PAGE# 1

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
1/3	EEOS	WEOS	CG	1025	1030	30	30	PASS	Y	KL	
1/2	SEOS	NEOS	CG	1025	1030	30	30	PASS	Y	KL	
2/3	WEOS	EEOS	CG	1025	1030	30	30	PASS	Y	KL	
3/4	WEOS	EEOS	CG	1036	1041	30	30	PASS	Y	KL	
4/5	WEOS	EEOS	CG	1037	1042	30	30	PASS	Y	KL	
5/6	WEOS	EEOS	CG	1038	1043	30	30	PASS	Y	KL	
6/7	WEOS	EEOS	CG	1039	1044	30	30	PASS	Y	KL	
7/8	WEOS	EEOS	CG	1053	1058	30	30	PASS	Y	KL	
8/9	WEOS	EEOS	CG	1054	1059	30	30	PASS	Y	KL	
9/10	WEOS	EEOS	CG	1055	1100	30	30	PASS	Y	KL	
10/11	WEOS	EEOS	CG	1101	1106	30	30	PASS	Y	KL	
11/12	WEOS	EEOS	CG	1107	1112	30	30	PASS	Y	KL	
12/13	R13	EEOS	CG	1118	1123	30	30	PASS	N	KL	
12/13	R13	WEOS	CG	1118	1123	30	29	PASS	Y	KL	
13/14	WEOS	EEOS	CG	1139	1144	30	30	PASS	Y	KL	
14/15	WEOS	EEOS	CG	1140	1145	30	30	PASS	Y	KL	
15/16	WEOS	EEOS	CG	1141	1146	30	30	PASS	Y	KL	
16/17	WEOS	EEOS	CG	1142	1147	30	30	PASS	Y	KL	
17/18	WEOS	EEOS	CG	1150	1155	30	30	PASS	Y	KL	
18/19	WEOS	EEOS	CG	1151	1156	30	30	PASS	Y	KL	
19/20	R14	EEOS	CG	1152	1157	30	30	PASS	N	KL	
19/20	WEOS	R14	CG	1152	1157	30	30	PASS	Y	KL	
20/21	WEOS	EEOS	CG	1243	1248	30	30	PASS	Y	KL	
21/22	WEOS	EEOS	CG	1244	1249	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/8/2021
PAGE# 2

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
12/23	SEOS	NEOS	CG	940	945	30	29	PASS	Y		
11/23	SEOS	NEOS	CG	941	946	30	30	PASS	Y		
10/23	SEOS	NEOS	CG	942	947	30	30	PASS	Y		
9/23	SEOS	NEOS	CG	946	951	30	30	PASS	Y		
8/23	SEOS	NEOS	CG	947	952	30	30	PASS	Y		
7/23	SEOS	NEOS	CG	948	953	30	30	PASS	Y		
6/23	SEOS	NEOS	CG	955	1000	30	30	PASS	Y		
5/23	SEOS	NEOS	CG	956	1001	30	30	PASS	Y		
4/23	SEOS	NEOS	CG	957	1002	30	30	PASS	Y		
3/23	SEOS	NEOS	CG	1005	1010	30	30	PASS	Y		
1/23	SEOS	NEOS	CG	1006	1011	30	30	PASS	Y		
23/24	SEOS	NEOS	CG	1029	1034	30	30	PASS	Y		
24/25	SEOS	NEOS	CG	1030	1035	30	30	PASS	Y		
25/26	SEOS	R19	CG	1042	1047	30	30	PASS	N		
25/26	R19	NEOS	CG	1043	1048	30	30	PASS	Y		
26/27	SEOS	R20	CG	1118	1123	30	30	PASS	N		
26/27	R20	NEOS	CG	1111	1116	30	30	PASS	Y		
27/28	SEOS	NEOS	CG	1116	1121	30	30	PASS	Y		
28/29	SEOS	NEOS	CG	1323	1328	30	30	PASS	Y		

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021
PAGE# 3

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
30/31	WEOS	WEOS	CG	1145	1150	30	30	PASS	Y	KL	
31/32	EEOS	NEOS	CG	1145	1150	30	30	PASS	Y	KL	
30/32	EEOS	EEOS	CG	1150	1155	30	29	PASS	Y	KL	
30/33	WEOS	EEOS	CG	1150	1155	30	30	PASS	Y	KL	
32/33	NEOS	EEOS	CG	1150	1155	30	30	PASS	Y	KL	
33/34	SEOS	EEOS	CG	1408	1413	30	30	PASS	Y	KL	
30/34	NEOS	EEOS	CG	1408	1413	30	30	PASS	Y	KL	
22/30	WEOS	EEOS	CG	1409	1414	30	30	PASS	Y	KL	
22/34	SEOS	EEOS	CG	1409	1414	30	30	PASS	Y	KL	
21/34	SEOS	EEOS	CG	1410	1415	30	30	PASS	Y	KL	
20/34	SEOS	EEOS	CG	1416	1421	30	30	PASS	Y	KL	
19/34	SEOS	EEOS	CG	1417	1422	30	30	PASS	Y	KL	
18/34	SEOS	EEOS	CG	1418	1423	30	30	PASS	Y	KL	
17/34	SEOS	WEOS	CG	1419	1424	30	30	PASS	Y	KL	
16/34	SEOS	EEOS	CG	1420	1425	30	30	PASS	Y	KL	
14/34	SEOS	EEOS	CG	1432	1437	30	30	PASS	Y	KL	
15/34	SEOS	EEOS	CG	1432	1437	30	30	PASS	Y	KL	
23/EX	WEOS	R34	CG	1534	1539	30	28	PASS	N	KL	
23/EX	R34	EEOS	CG	1534	1539	30	30	PASS	Y	KL	
1/EX	WEOS	R36	CG	1535	1540	30	30	PASS	N	KL	
1/EX	R36	EEOS	CG	1535	1540	30	30	PASS	Y	KL	
2/EX	WEOS	R38	CG	1536	1541	30	30	PASS	N	KL	
24/EX	R32	EEOS	CG	1536	1541	30	30	PASS	N	KL	
24/EX	WEOS	R32	CG	1537	1542	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

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PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/9/2021
PAGE# 4

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
25/EX	R30	EEOS	CG	1538	1543	30	30	PASS	N	KL	
25/EX	WEOS	R30	CG	1539	1544	30	30	PASS	Y	KL	
26/EX	R28	EEOS	CG	1540	1545	30	30	PASS	N	KL	
26/EX	WEOS	R28	CG	1541	1546	30	30	PASS	Y	KL	
27/EX	R26	EEOS	CG	1551	1556	30	30	PASS	N	KL	
27/EX	WEOS	R26	CG	1550	1555	30	30	PASS	Y	KL	
28/EX	WEOS	R24	CG	1548	1553	30	30	PASS	N	KL	
28/EX	R24	EEOS	CG	1549	1554	30	30	PASS	Y	KL	
29/EX	R107	EEOS	CG	1547	1552	30	30	PASS	N	KL	
29/EX	R107	WEOS	CG	1550	1555	30	30	PASS	Y	KL	
2/EX	R38	WEOS	CG	1552	1557	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/10/2021
PAGE# 5

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
34/35	SEOS	NEOS	CG	905	910	30	30	PASS	Y	KL	
34/36	NEOS	SEOS	CG	905	910	30	30	PASS	Y	KL	
35/36	EEOS	WEOS	CG	911	916	30	30	PASS	Y	KL	
35/37	NEOS	SEOS	CG	911	916	30	30	PASS	Y	KL	
36/37	SEOS	NEOS	CG	916	921	30	29	PASS	Y	KL	
37/38	NEOS	SEOS	CG	937	942	30	30	PASS	Y	KL	
37/39	SEOS	NEOS	CG	937	942	30	30	PASS	Y	KL	
38/39	WEOS	EEOS	CG	937	942	30	30	PASS	Y	KL	
38/40	NEOS	SEOS	CG	1012	1017	30	30	PASS	Y	KL	
39/40	SEOS	NEOS	CG	1014	1019	30	30	PASS	Y	KL	
40/42	SEOS	NEOS	CG	1018	1023	30	30	PASS	Y	KL	
40/41	NEOS	SEOS	CG	1018	1023	30	28	PASS	Y	KL	
41/42	EEOS	WEOS	CG	1020	1025	30	30	PASS	Y	KL	
42/43	SEOS	NEOS	CG	1020	1025	30	30	PASS	Y	KL	
41/43	NEOS	SEOS	CG	1041	1046	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/14/2021
PAGE# 6

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
43/45	SEOS	NEOS	CG	1000	1005	30	29	PASS	Y	KL	
45/47	NEOS	SEOS	CG	1001	1006	30	30	PASS	Y	KL	
29/44	SEOS	NEOS	CG	1004	1009	30	30	PASS	Y	KL	
44/46	SEOS	NEOS	CG	1019	1024	30	30	PASS	Y	KL	
47/49	NEOS	SEOS	CG	1039	1044	30	30	PASS	Y	KL	
46/48	SEOS	NEOS	CG	1055	1100	30	30	PASS	Y	KL	
49/51	NEOS	SEOS	CG	1116	1121	30	30	PASS	Y	KL	
48/50	SEOS	NEOS	CG	1141	1146	30	29	PASS	Y	KL	
50/52	SEOS	NEOS	CG	1204	1209	30	30	PASS	Y	KL	
51/53	NEOS	SEOS	CG	1205	1210	30	30	PASS	Y	KL	
52/54	SEOS	NEOS	CG	1434	1439	30	30	PASS	Y	KL	
54/56	SEOS	NEOS	CG	1430	1435	30	30	PASS	Y	KL	
56/58	SEOS	NEOS	CG	1431	1436	30	30	PASS	Y	KL	
53/55	NEOS	SEOS	CG	1440	1445	30	30	PASS	Y	KL	
55/57	NEOS	SEOS	CG	1441	1446	30	30	PASS	Y	KL	
57/59	NEOS	SEOS	CG	1442	1447	30	30	PASS	Y	KL	
59/61	NEOS	SEOS	CG	1719	1724	30	30	PASS	Y	KL	
58/60	SEOS	NEOS	CG	1720	1725	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/15/2021
PAGE# 7

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
60/62	SEOS	NEOS	CG	932	937	30	30	PASS	Y	KL	
62/64	SEOS	NEOS	CG	934	939	30	30	PASS	Y	KL	
61/63	NEOS	SEOS	CG	939	944	30	30	PASS	Y	KL	
63/65	NEOS	SEOS	CG	940	945	30	29	PASS	Y	KL	
65/67	NEOS	SEOS	CG	1015	1020	30	30	PASS	Y	KL	
64/66	SEOS	NEOS	CG	1030	1035	30	30	PASS	Y	KL	
67/69	NEOS	SEOS	CG	1048	1053	30	30	PASS	Y	KL	
66/68	SEOS	NEOS	CG	1055	1100	30	30	PASS	Y	KL	
69/71	NEOS	SEOS	CG	1129	1134	30	30	PASS	Y	KL	
68/70	SEOS	NEOS	CG	1141	1146	30	30	PASS	Y	KL	
71/73	NEOS	SEOS	CG	1150	1155	30	30	PASS	Y	KL	
70/72	SEOS	NEOS	CG	1412	1417	30	30	PASS	Y	KL	
73/75	NEOS	SEOS	CG	1418	1423	30	30	PASS	Y	KL	
72/74	SEOS	NEOS	CG	1419	1424	30	30	PASS	Y	KL	
75/77	NEOS	SEOS	CG	1519	1524	30	30	PASS	Y	KL	
74/76	SEOS	NEOS	CG	1520	1525	30	29	PASS	Y	KL	
77/79	NEOS	SEOS	CG	1543	1548	30	30	PASS	Y	KL	
79/81	NEOS	SEOS	CG	1621	1626	30	30	PASS	Y	KL	
78/80	SEOS	NEOS	CG	1622	1627	30	30	PASS	Y	KL	
76/78	SEOS	NEOS	CG	1512	1517	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/17/2021
PAGE# 8

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
44/EX	EEOS	R109	CG	930	935	30	30	PASS	N	KL	
44/EX	R109	WEOS	CG	937	942	30	29	PASS	Y	KL	
46/EX	EEOS	R111	CG	939	944	30	30	PASS	N	KL	
46/EX	R111	WEOS	CG	942	947	30	30	PASS	Y	KL	
48/EX	EEOS	R113	CG	947	952	30	30	PASS	N	KL	
48/EX	R113	WEOS	CG	950	955	30	30	PASS	Y	KL	
50/EX	EEOS	R115	CG	952	957	30	30	PASS	N	KL	
50/EX	R115	WEOS	CG	955	1000	30	30	PASS	Y	KL	
52/EX	EEOS	R117	CG	1000	1005	30	29	PASS	N	KL	
52/EX	R117	WEOS	CG	1005	1010	30	30	PASS	Y	KL	
54/EX	EEOS	R119	CG	1010	1015	30	30	PASS	N	KL	
54/EX	R119	WEOS	CG	1015	1020	30	30	PASS	Y	KL	
56/EX	EEOS	R121	CG	1020	1025	30	30	PASS	N	KL	
56/EX	R121	WEOS	CG	1021	1026	30	30	PASS	Y	KL	
58/EX	EEOS	R123	CG	1025	1030	30	30	PASS	N	KL	
58/EX	R123	WEOS	CG	1027	1032	30	30	PASS	Y	KL	
60/EX	EEOS	R125	CG	1030	1035	30	30	PASS	N	KL	
60/EX	R125	WEOS	CG	1035	1040	30	30	PASS	Y	KL	
62/EX	EEOS	R127	CG	1040	1045	30	30	PASS	N	KL	
62/EX	R127	WEOS	CG	1042	1047	30	30	PASS	Y	KL	
64/EX	EEOS	R129	CG	1043	1048	30	30	PASS	N	KL	
64/EX	R129	WEOS	CG	1045	1050	30	30	PASS	Y	KL	
66/EX	EEOS	R132	CG	1050	1055	30	30	PASS	N	KL	
66/EX	R132	WEOS	CG	1055	1100	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/17/2021
PAGE# 9

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
68/EX	EEOS	R134	CG	1100	1105	30	29	PASS	N	KL	
68/EX	R134	WEOS	CG	1105	1110	30	28	PASS	Y	KL	
70/EX	EEOS	R136	CG	1110	1115	30	30	PASS	N	KL	
70/EX	R136	WEOS	CG	1115	1120	30	30	PASS	Y	KL	
72/EX	EEOS	R138	CG	1120	1125	30	30	PASS	N	KL	
72/EX	R138	WEOS	CG	1125	1130	30	30	PASS	Y	KL	
74/EX	EEOS	R140	CG	1130	1135	30	30	PASS	N	KL	
74/EX	R140	WEOS	CG	1135	1140	30	30	PASS	Y	KL	
76/EX	EEOS	R142	CG	1140	1145	30	30	PASS	N	KL	
76/EX	R142	WEOS	CG	1145	1150	30	30	PASS	Y	KL	
78/EX	EEOS	R156	CG	1150	1155	30	30	PASS	N	KL	
78/EX	R156	WEOS	CG	1155	1200	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/27/2021
PAGE# 10

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
81/83	NEOS	SEOS	CG	932	937	30	30	PASS	Y	KL	
80/82	SEOS	NEOS	CG	934	939	30	30	PASS	Y	KL	
82/84	SEOS	R175	CG	939	944	30	30	PASS	N	KL	
83/85	NEOS	SEOS	CG	940	945	30	30	PASS	Y	KL	
82/84	R175	NEOS	CG	1015	1020	30	30	PASS	Y	KL	
85/87	R158	NEOS	CG	1030	1035	30	30	PASS	N	KL	
85/87	R158	SEOS	CG	1048	1053	30	30	PASS	Y	KL	
86/88	SEOS	NEOS	CG	1055	1100	30	30	PASS	Y	KL	
87/89	NEOS	SEOS	CG	1129	1134	30	30	PASS	Y	KL	
88/90	SEOS	NEOS	CG	1141	1146	30	29	PASS	Y	KL	
89/91	NEOS	R163	CG	1150	1155	30	30	PASS	N	KL	
90/92	SEOS	NEOS	CG	1412	1417	30	29	PASS	Y	KL	
89/91	R163	R162	CG	1418	1423	30	30	PASS	N	KL	
89/91	R162	SEOS	CG	1419	1424	30	30	PASS	Y	KL	
92/94	SEOS	NEOS	CG	1519	1524	30	30	PASS	Y	KL	
93/95	NEOS	NEOS	CG	1520	1525	30	30	PASS	Y	KL	
94/96	NEOS	SEOS	CG	1543	1548	30	30	PASS	Y	KL	
95/97	SEOS	NEOS	CG	1621	1626	30	30	PASS	Y	KL	
84/86	SEOS	NEOS	CG	1330	1335	30	30	PASS	Y	KL	
91/93	NEOS	SEOS	CG	1345	1350	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021
PAGE# 11

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
97/99	NEOS	SEOS	CG	906	911	30	30	PASS	Y	KL	
96/98	SEOS	NEOS	CG	909	914	30	30	PASS	Y	KL	
98/100	SEOS	NEOS	CG	946	951	30	30	PASS	Y	KL	
99/101	NEOS	SEOS	CG	953	958	30	30	PASS	Y	KL	
100/102	SEOS	NEOS	CG	1020	1025	30	29	PASS	Y	KL	
101/103	NEOS	SEOS	CG	1054	1059	30	30	PASS	Y	KL	
102/104	SEOS	NEOS	CG	1102	1107	30	30	PASS	Y	KL	
103/105	NEOS	SEOS	CG	1129	1134	30	30	PASS	Y	KL	
104/106	SEOS	NEOS	CG	1317	1322	30	30	PASS	Y	KL	
108/110	SEOS	R182	CG	1329	1334	30	30	PASS	N	KL	
109/111	NEOS	R169	CG	1342	1347	30	30	PASS	N	KL	
108/110	R182	NEOS	CG	1346	1351	30	30	PASS	Y	KL	
109/111	R169	SEOS	CG	1350	1355	30	29	PASS	Y	KL	
111/113	NEOS	SEOS	CG	1413	1418	30	30	PASS	Y	KL	
110/112	SEOS	NEOS	CG	1414	1419	30	30	PASS	Y	KL	
112/114	SEOS	NEOS	CG	1449	1454	30	30	PASS	Y	KL	
113/115	NEOS	SEOS	CG	1450	1455	30	30	PASS	Y	KL	
115/117	SEOS	NEOS	CG	1520	1525	30	30	PASS	Y	KL	
114/116	SEOS	NEOS	CG	1521	1526	30	30	PASS	Y	KL	
116/118	SEOS	NEOS	CG	1600	1605	30	30	PASS	Y	KL	
117/119	NEOS	SEOS	CG	1601	1606	30	30	PASS	Y	KL	
119/121	NESO	SEOS	CG	1630	1635	30	30	PASS	Y	KL	
118/120	SEOS	NEOS	CG	1636	1641	30	28	PASS	Y	KL	
106/108	SEOS	NEOS	CG	1330	1335	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/28/2021
PAGE# 12

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
105/107	NEOS	SEOS	CG	1335	1340	30	30	PASS	Y	KL	
107/109	NEOS	SEOS	CG	1346	1351	30	30	PASS	Y	KL	
120/122	SEOS	NEOS	CG	1712	1717	30	30	PASS	Y	KL	
121/123	NEOS	SEOS	CG	1710	1715	30	29	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021
PAGE# 13

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
122/124	SEOS	NEOS	CG	856	901	30	30	PASS	Y	KL	
123/125	NEOS	SEOS	CG	900	905	30	30	PASS	Y	KL	
124/126	SEOS	NEOS	CG	924	929	30	29	PASS	Y	KL	
125/127	NEOS	SEOS	CG	928	933	30	30	PASS	Y	KL	
126/128	SEOS	NEOS	CG	1016	1021	30	30	PASS	Y	KL	
127/129	NEOS	SEOS	CG	1018	1023	30	30	PASS	Y	KL	
128/130	SEOS	NEOS	CG	1047	1052	30	30	PASS	Y	KL	
129/131	NEOS	SEOS	CG	1053	1058	30	30	PASS	Y	KL	
130/132	SEOS	NEOS	CG	1128	1133	30	30	PASS	Y	KL	
131/133	NEOS	SEOS	CG	1140	1145	30	30	PASS	Y	KL	
132/134	SEOS	NEOS	CG	1208	1213	30	30	PASS	Y	KL	
133/135	NEOS	SEOS	CG	1213	1218	30	30	PASS	Y	KL	
80/EX	EEOS	R188	CG	1349	1354	30	30	PASS	N	KL	
80/EX	R188	WEOS	CG	1351	1356	30	30	PASS	Y	KL	
82/EX	EEOS	R190	CG	1358	1403	30	30	PASS	N	KL	
82/EX	R190	WEOS	CG	1400	1405	30	30	PASS	Y	KL	
84/EX	EEOS	R192	CG	1405	1410	30	29	PASS	N	KL	
84/EX	R192	WEOS	CG	1410	1415	30	30	PASS	Y	KL	
86/EX	EEOS	R194	CG	1415	1420	30	30	PASS	N	KL	
86/EX	R194	WEOS	CG	1420	1425	30	30	PASS	Y	KL	
88/EX	EEOS	R196	CG	1425	1430	30	30	PASS	N	KL	
88/EX	R196	R197	CG	1431	1436	30	30	PASS	N	KL	
88/EX	R197	WEOS	CG	1438	1443	30	30	PASS	Y	KL	
90/EX	EEOS	R199	CG	1445	1450	30	28	PASS	N	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021
PAGE# 14

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
90/EX	R199	WEOS	CG	1445	1450	30	30	PASS	Y	KL	
92/EX	EEOS	R201	CG	1446	1451	30	30	PASS	N	KL	
92/EX	R201	WEOS	CG	1446	1451	30	29	PASS	Y	KL	
94/EX	EEOS	R203	CG	1447	1452	30	30	PASS	N	KL	
94/EX	R203	WEOS	CG	1447	1452	30	30	PASS	Y	KL	
96/EX	EEOS	R205	CG	1448	1453	30	30	PASS	N	KL	
96/EX	R205	WEOS	CG	1448	1453	30	30	PASS	Y	KL	
98/EX	EEOS	R207	CG	1452	1457	30	30	PASS	N	KL	
98/EX	R207	WEOS	CG	1452	1457	30	30	PASS	Y	KL	
100/EX	EEOS	R285	CG	1457	1502	30	30	PASS	N	KL	
100/EX	R285	WEOS	CG	1457	1502	30	30	PASS	Y	KL	
102/EX	EEOS	R286	CG	1507	1512	30	30	PASS	N	KL	
102/EX	R286	WEOS	CG	1507	1512	30	30	PASS	Y	KL	
104/EX	EEOS	R288	CG	1515	1520	30	29	PASS	N	KL	
104/EX	R288	WEOS	CG	1515	1520	30	30	PASS	Y	KL	
106/EX	EEOS	R291	CG	1517	1522	30	30	PASS	N	KL	
106/EX	R291	WEOS	CG	1517	1522	30	30	PASS	Y	KL	
108/EX	EEOS	R293	CG	1520	1525	30	29	PASS	N	KL	
108/EX	R293	WEOS	CG	1520	1525	30	30	PASS	Y	KL	
110/EX	EEOS	R295	CG	1523	1528	30	30	PASS	N	KL	
110/EX	R295	WEOS	CG	1532	1537	30	30	PASS	Y	KL	
112/EX	EEOS	R297	CG	1537	1542	30	30	PASS	N	KL	
112/EX	R297	WEOS	CG	1537	1542	30	30	PASS	Y	KL	
114/EX	EEOS	R301	CG	1540	1545	30	28	PASS	N	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/29/2021
PAGE# 15

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
114/EX	R301	WEOS	CG	1542	1547	30	29	PASS	Y	KL	
116/EX	EEOS	R303	CG	1545	1550	30	30	PASS	Y	KL	
116/EX	R303	WEOS	CG	1550	1555	30	30	PASS	Y	KL	
118/EX	EEOS	R305	CG	1555	1600	30	30	PASS	Y	KL	
118/EX	R305	WEOS	CG	1558	1603	30	29	PASS	Y	KL	
120/EX	EEOS	R307	CG	1600	1605	30	30	PASS	Y	KL	
120/EX	R307	WEOS	CG	1605	1610	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021
PAGE# 16

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
23/34	EEOS	WEOS	CG	900	905	30	30	PASS	Y	KL	
24/36	EEOS	WEOS	CG	900	905	30	30	PASS	Y	KL	
25/37	EEOS	WEOS	CG	903	908	30	30	PASS	Y	KL	
26/39	EEOS	WEOS	CG	903	908	30	30	PASS	Y	KL	
27/40	EEOS	WEOS	CG	910	915	30	30	PASS	Y	KL	
28/41	EEOS	WEOS	CG	912	917	30	30	PASS	Y	KL	
29/43	EEOS	WEOS	CG	912	917	30	30	PASS	Y	KL	
43/44	EEOS	WEOS	CG	915	920	30	30	PASS	Y	KL	
44/45	EEOS	WEOS	CG	1000	1005	30	30	PASS	Y	KL	
46/47	EEOS	WEOS	CG	955	1000	30	30	PASS	Y	KL	
49/136	EEOS	WEOS	CG	955	1000	30	30	PASS	Y	KL	
48/136	EEOS	WEOS	CG	1022	1027	30	30	PASS	Y	KL	
50/136	EEOS	WEOS	CG	1019	1024	30	29	PASS	Y	KL	
52/136	EEOS	WEOS	CG	1019	1024	30	29	PASS	Y	KL	
51/136	EEOS	WEOS	CG	950	955	30	30	PASS	Y	KL	
53/136	EEOS	WEOS	CG	950	955	30	30	PASS	Y	KL	
55/137	EEOS	WEOS	CG	939	944	30	30	PASS	Y	KL	
57/137	EEOS	WEOS	CG	939	944	30	30	PASS	Y	KL	
54/137	EEOS	WEOS	CG	1014	1019	30	30	PASS	Y	KL	
56/137	EEOS	WEOS	CG	1014	1019	30	29	PASS	Y	KL	
59/137	EEOS	WEOS	CG	934	939	30	30	PASS	Y	KL	
61/137	EEOS	WEOS	CG	934	939	30	30	PASS	Y	KL	
58/137	EEOS	WEOS	CG	1008	1013	30	30	PASS	Y	KL	
60/137	EEOS	WEOS	CG	1008	1013	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 9/30/2021
PAGE# 17

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
62/63	EEOS	WEOS	CG	1032	1037	30	30	PASS	Y	KL	
64/65	EEOS	WEOS	CG	1032	1037	30	30	PASS	Y	KL	
66/67	EEOS	WEOS	CG	1035	1040	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/1/2021
PAGE# 18

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
122/EX	EEOS	R312	CG	905	910	30	30	PASS	N	KL	
122/EX	R312	WEOS	CG	910	915	30	30	PASS	Y	KL	
124/EX	EEOS	R314	CG	915	920	30	29	PASS	N	KL	
124/EX	R314	WEOS	CG	920	925	30	30	PASS	Y	KL	
126/EX	EEOS	R316	CG	925	930	30	30	PASS	N	KL	
126/EX	R316	WEOS	CG	930	935	30	30	PASS	Y	KL	
128/EX	EEOS	R318	CG	935	940	30	30	PASS	N	KL	
128/EX	R318	WEOS	CG	940	945	30	29	PASS	Y	KL	
130/EX	EEOS	R320	CG	945	950	30	30	PASS	N	KL	
130/EX	R320	WEOS	CG	950	955	30	30	PASS	Y	KL	
132/EX	EEOS	R322	CG	955	1000	30	30	PASS	N	KL	
132/EX	R322	WEOS	CG	1000	1005	30	30	PASS	Y	KL	
134/EX	EEOS	WEOS	CG	1005	1010	30	30	PASS	Y	KL	
									* EX =EXISTING		

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS),
DEFECT NUMBER OR A POINT LOCATION ON A SEAM

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/5/2021
PAGE# 19

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
135/139	SEOS	NEOS	CG	850	855	30	29	PASS	Y	KL	
134/138	SEOS	NEOS	CG	900	905	30	30	PASS	Y	KL	
139/141	SEOS	NEOS	CG	920	925	30	30	PASS	Y	KL	
138/140	SEOS	NEOS	CG	936	941	30	30	PASS	Y	KL	
141/143	SEOS	NEOS	CG	950	955	30	30	PASS	Y	KL	
140/142	SEOS	NEOS	CG	1010	1015	30	30	PASS	Y	KL	
143/145	SEOS	NEOS	CG	1030	1035	30	30	PASS	Y	KL	
142/144	SEOS	NEOS	CG	1051	1056	30	30	PASS	Y	KL	
145/147	SEOS	NEOS	CG	1100	1105	30	30	PASS	Y	KL	
144/146	SEOS	NEOS	CG	1120	1125	30	30	PASS	Y	KL	
147/149	SEOS	NEOS	CG	1130	1135	30	29	PASS	Y	KL	
146/148	SEOS	NEOS	CG	1149	1154	30	30	PASS	Y	KL	
149/151	SEOS	NEOS	CG	1325	1330	30	30	PASS	Y	KL	
148/150	SEOS	NEOS	CG	1349	1354	30	30	PASS	Y	KL	
151/153	SEOS	NEOS	CG	1400	1405	30	30	PASS	Y	KL	
150/152	SEOS	NEOS	CG	1409	1414	30	30	PASS	Y	KL	
153/155	SEOS	NEOS	CG	1510	1515	30	29	PASS	Y	KL	
152/154	SEOS	NEOS	CG	1525	1530	30	30	PASS	Y	KL	
155/157	SEOS	NEOS	CG	1550	1555	30	30	PASS	Y	KL	
154/156	SEOS	NEOS	CG	1603	1608	30	30	PASS	Y	KL	
157/159	SEOS	NEOS	CG	1625	1630	30	30	PASS	Y	KL	
156/158	SEOS	NEOS	CG	1647	1652	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/6/2021
PAGE# 20

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
138/EX	EEOS	WEOS	CG	850	855	30	29	PASS	Y	KL	
140/EX	EEOS	WEOS	CG	851	856	30	30	PASS	Y	KL	
142/EX	EEOS	WEOS	CG	855	900	30	30	PASS	Y	KL	
144/EX	EEOS	WEOS	CG	856	901	30	30	PASS	Y	KL	
146/EX	EEOS	WEOS	CG	857	902	30	30	PASS	Y	KL	
148/EX	EEOS	WEOS	CG	901	906	30	30	PASS	Y	KL	
150/EX	EEOS	WEOS	CG	902	907	30	30	PASS	Y	KL	
152/EX	EEOS	WEOS	CG	903	908	30	30	PASS	Y	KL	
154/EX	EEOS	WEOS	CG	904	909	30	30	PASS	Y	KL	
156/EX	EEOS	WEOS	CG	908	913	30	30	PASS	Y	KL	
158/EX	EEOS	WEOS	CG	909	914	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021
PAGE# 21

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
158/160	SEOS	NEOS	CG	826	831	30	29	PASS	Y	KL	
159/161	SEOS	NEOS	CG	846	851	30	30	PASS	Y	KL	
160/162	SEOS	NEOS	CG	854	859	30	30	PASS	Y	KL	
161/163	SEOS	NEOS	CG	903	908	30	30	PASS	Y	KL	
165/166	EEOS	WEOS	CG	933	938	30	30	PASS	Y	KL	
164/165	NEOS	SEOS	CG	933	938	30	29	PASS	Y	KL	
164/166	NEOS	SEOS	CG	944	949	30	30	PASS	Y	KL	
164/167	EEOS	WEOS	CG	944	949	30	30	PASS	Y	KL	
166/167	EEOS	WEOS	CG	1012	1017	30	30	PASS	Y	KL	
167/168	EEOS	WEOS	CG	1013	1018	30	30	PASS	Y	KL	
168/169	EEOS	WEOS	CG	1014	1019	30	30	PASS	Y	KL	
169/170	EEOS	WEOS	CG	1015	1020	30	30	PASS	Y	KL	
170/171	EEOS	WEOS	CG	1029	1034	30	30	PASS	Y	KL	
171/172	EEOS	WEOS	CG	1030	1035	30	30	PASS	Y	KL	
172/173	EEOS	WEOS	CG	1031	1036	30	30	PASS	Y	KL	
173/174	EEOS	WEOS	CG	1032	1037	30	29	PASS	Y	KL	
174/175	EEOS	WEOS	CG	1040	1045	30	29	PASS	Y	KL	
162/174	NEOS	SEOS	CG	1040	1045	30	30	PASS	Y	KL	
162/173	NEOS	SEOS	CG	1041	1046	30	30	PASS	Y	KL	
162/172	NEOS	SEOS	CG	1042	1047	30	30	PASS	Y	KL	
162/171	NEOS	SEOS	CG	1046	1051	30	30	PASS	Y	KL	
162/170	NEOS	SEOS	CG	1047	1052	30	30	PASS	Y	KL	
162/169	NEOS	SEOS	CG	1048	1053	30	30	PASS	Y	KL	
162/168	NEOS	SEOS	CG	1053	1058	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021
PAGE# 22

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
162/167	NEOS	SEOS	CG	1054	1059	30	29	PASS	Y	KL	
162/164	NEOS	SEOS	CG	1054	1059	30	30	PASS	Y	KL	
176/177	NEOS	SEOS	CG	1125	1130	30	30	PASS	Y	KL	
177/178	SEOS	NEOS	CG	1126	1131	30	30	PASS	Y	KL	
178/179	EEOS	WEOS	CG	1127	1132	30	30	PASS	Y	KL	
179/180	EEOS	WEOS	CG	1148	1153	30	29	PASS	Y	KL	
180/181	EEOS	WEOS	CG	1150	1155	30	30	PASS	Y	KL	
181/182	EEOS	WEOS	CG	1154	1159	30	30	PASS	Y	KL	
182/183	EEOS	WEOS	CG	1313	1318	30	30	PASS	Y	KL	
183/184	EEOS	WEOS	CG	1315	1320	30	30	PASS	Y	KL	
160/EX	EEOS	WEOS	CG	1337	1342	30	30	PASS	Y	KL	
162/EX	EEOS	WEOS	CG	1340	1345	30	30	PASS	Y	KL	
164/EX	EEOS	WEOS	CG	1345	1350	30	30	PASS	Y	KL	
165/EX	EEOS	R376	CG	1350	1355	30	30	PASS	N	KL	
185/186	EEOS	WEOS	CG	1419	1424	30	30	PASS	Y	KL	
185/187	NEOS	SEOS	CG	1420	1425	30	29	PASS	Y	KL	
186/187	NEOS	SEOS	CG	1421	1426	30	29	PASS	Y	KL	
184/185	EEOS	WEOS	CG	1421	1426	30	30	PASS	Y	KL	
184/187	SEOS	NEOS	CG	1435	1440	30	30	PASS	Y	KL	
163/187	NEOS	SEOS	CG	1439	1444	30	30	PASS	Y	KL	
163/184	NEOS	SEOS	CG	1440	1445	30	30	PASS	Y	KL	
163/183	SEOS	NEOS	CG	1442	1447	30	30	PASS	Y	KL	
163/182	NEOS	SEOS	CG	1449	1454	30	30	PASS	Y	KL	
163/181	SEOS	NEOS	CG	1449	1454	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/7/2021
PAGE# 23

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
163/180	NEOS	SEOS	CG	1556	1561	30	29	PASS	Y	KL	
163/179	SEOS	NEOS	CG	1556	1561	30	30	PASS	Y	KL	
165/EX	R376	WEOS	CG	1600	1605	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/8/2021
PAGE# 24

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
163/178	NEOS	SEOS	CG	752	757	30	29	PASS	Y	KL	
163/177	NEOS	SEOS	CG	753	758	30	30	PASS	Y	KL	
163/176	SEOS	NEOS	CG	753	758	30	30	PASS	Y	KL	
162/175	NEOS	SEOS	CG	755	800	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021
PAGE# 25

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
77/188	WEOS	EEOS	CG	930	935	30	29	PASS	Y	KL	
75/188	EEOS	WEOS	CG	930	935	30	30	PASS	Y	KL	
69/188	EEOS	WEOS	CG	932	937	30	30	PASS	Y	KL	
73/188	EEOS	WEOS	CG	936	941	30	30	PASS	Y	KL	
71/188	WEOS	EEOS	CG	936	941	30	30	PASS	Y	KL	
76/188	EEOS	WEOS	CG	947	952	30	30	PASS	Y	KL	
74/188	WEOS	EEOS	CG	947	952	30	30	PASS	Y	KL	
72/188	EEOS	WEOS	CG	949	954	30	30	PASS	Y	KL	
70/188	WEOS	EEOS	CG	949	954	30	30	PASS	Y	KL	
68/188	EEOS	WEOS	CG	950	955	30	30	PASS	Y	KL	
79/189	EEOS	WEOS	CG	1006	1011	30	30	PASS	Y	KL	
78/189	EEOS	WEOS	CG	1006	1011	30	30	PASS	Y	KL	
82/83	WEOS	EEOS	CG	1027	1032	30	30	PASS	Y	KL	
80/81	WEOS	EEOS	CG	1027	1032	30	30	PASS	Y	KL	
88/89	WEOS	EEOS	CG	1053	1058	30	30	PASS	Y	KL	
86/87	EEOS	WEOS	CG	1053	1058	30	30	PASS	Y	KL	
84/85	WEOS	EEOS	CG	1054	1059	30	30	PASS	Y	KL	
106/107	WEOS	EEOS	CG	1321	1326	30	30	PASS	Y	KL	
108/109	WEOS	EEOS	CG	1322	1327	30	30	PASS	Y	KL	
100/101	WEOS	EEOS	CG	1323	1328	30	30	PASS	Y	KL	
102/103	WEOS	EEOS	CG	1324	1329	30	30	PASS	Y	KL	
104/105	WEOS	EEOS	CG	1325	1330	30	30	PASS	Y	KL	
92/93	EEOS	WEOS	CG	1329	1334	30	30	PASS	Y	KL	
94/95	EEOS	WEOS	CG	1330	1335	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/15/2021
PAGE# 26

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
96/97	EEOS	WEOS	CG	1331	1336	30	29	PASS	Y	KL	
98/99	EEOS	WEOS	CG	1332	1337	30	30	PASS	Y	KL	
90/R425	SEOS	NEOS	CG	1340	1345	30	30	PASS	Y	KL	
88/R425	SEOS	NEOS	CG	1343	1348	30	30	PASS	Y	KL	
90/91	EEOS	WEOS	CG	1343	1348	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/18/2021
PAGE# 27

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
110/111	EEOS	WEOS	CG	948	953	30	29	PASS	Y	KL	
112/113	WEOS	EEOS	CG	948	953	30	30	PASS	Y	KL	
116/117	WEOS	EEOS	CG	950	955	30	30	PASS	Y	KL	
114/115	EEOS	WEOS	CG	950	955	30	30	PASS	Y	KL	
120/121	EEOS	WEOS	CG	1003	1008	30	30	PASS	Y	KL	
118/119	WEOS	EEOS	CG	1003	1008	30	30	PASS	Y	KL	
124/125	EEOS	WEOS	CG	1005	1010	30	30	PASS	Y	KL	
122/123	WEOS	EEOS	CG	1005	1010	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/19/2021
PAGE# 28

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
158/159	EEOS	WEOS	CG	1341	1346	30	29	PASS	Y	KL	
156/157	EEOS	WEOS	CG	1342	1347	30	30	PASS	Y	KL	
154/155	EEOS	WEOS	CG	1343	1348	30	30	PASS	Y	KL	
152/153	EEOS	WEOS	CG	1344	1349	30	30	PASS	Y	KL	
150/151	EEOS	WEOS	CG	1345	1350	30	30	PASS	Y	KL	
148/149	EEOS	WEOS	CG	1346	1351	30	30	PASS	Y	KL	
146/147	EEOS	WEOS	CG	1354	1359	30	30	PASS	Y	KL	
144/145	EEOS	WEOS	CG	1355	1400	30	30	PASS	Y	KL	
142/143	EEOS	WEOS	CG	1356	1401	30	30	PASS	Y	KL	
140/141	EEOS	WEOS	CG	1357	1402	30	30	PASS	Y	KL	
138/139	EEOS	WEOS	CG	1358	1403	30	30	PASS	Y	KL	
134/135	EEOS	WEOS	CG	1359	1404	30	30	PASS	Y	KL	
132/133	EEOS	WEOS	CG	1405	1410	30	30	PASS	Y	KL	
130/131	EEOS	WEOS	CG	1406	1411	30	30	PASS	Y	KL	
128/129	EEOS	WEOS	CG	1407	1412	30	30	PASS	Y	KL	
126/127	EEOS	WEOS	CG	1611	1616	30	30	PASS	Y	KL	
124/R449	EEOS	WEOS	CG	1611	1616	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 10/20/2021
PAGE# 29

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
126/R449	EEOS	WEPS	CG	924	929	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

PROJECT # : 2021-002
PROJECT DESCRIPTION : JED Cell 14 Construction
PROJECT LOCATION : St. Cloud, Florida
PRIMARY: X
SECONDARY: OTHER:

Brantley Engineering, LLC

OWNER: Omni Waste of Osceola County, LLC
ENGINEER: Geosyntec
INSTALLER: Comanco
DATE: 11/3/2021
PAGE# 30

SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	TECH ID	TIME START	TIME FINISH	PRESSURE (PSI) INITIAL	PRESSURE (PSI) FINAL	PASS/ FAIL	SEAM COMPLETE Y/N	QA MONITOR	REMARKS
160/161	EEOS	WEOS	CG	1415	1420	30	30	PASS	Y	KL	
162/163	EEOS	WEOS	CG	1357	1402	30	30	PASS	Y	KL	
175/190	EEOS	WEOS	CG	1417	1422	30	30	PASS	Y	KL	
176/190	EEOS	WEOS	CG	1422	1427	30	30	PASS	Y	KL	
162/190	SEOS	NEOS	CG	1453	1458	30	29	PASS	Y	KL	
163/190	SEOS	NEOS	CG	1435	1440	30	30	PASS	Y	KL	
175/191	EEOS	WEOS	CG	1450	1455	30	30	PASS	Y	KL	
190/191	EEOS	WEOS	CG	1352	1357	30	30	PASS	Y	KL	
158/R475	NEOS	SEOS	CG	1458	1503	30	30	PASS	Y	KL	
160/R475	NEOS	SEOS	CG	1504	1509	30	30	PASS	Y	KL	

*REFERENCE SEAM ENDPOINTS FROM END OF SEAM (EOS), DEFECT NUMBER OR A POINT LOCATION ON A SEAM

* EX =EXISTING

Section 6
Geomembrane Destructive Samples Laboratory Results

GAI-LAP
Initial: CVZ #:0.13
DATE: 09/16/2021

September 16, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of six (6) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **September 16, 2021**

REFERENCE TRI JOB NO.: G210936

DATE RECEIVED: September 16, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-1 P3/ P4	158707
DP-2 P6/ P7	158708
DP-3 P21/ P22	158709
DP-4 P23/ P24	158710
DP-5 P24/ P25	158711
DP-6 P27/ P28	158712

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 3.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

4 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **16-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210936**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 16-Sep-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-1	**158707**	153	>50%	BRK		1 Outside	127	0	SE1	
P3/ P4		151	>50%	BRK		2 Outside	129	0	SE1	
		152	>50%	BRK		3 Outside	125	0	SE1	
		151	>50%	BRK		4 Outside	126	0	SE1	
		150	>50%	BRK		5 Outside	126	0	SE1	
						AVG:	**127**			91
						STD. DEV.	**2**			
						1 Inside	96	0	SE1	
						2 Inside	96	0	SE1	
						3 Inside	95	0	SE1	
						4 Inside	99	0	SE1	
						5 Inside	97	0	SE1	
	AVG.	**152**			120	**AVG:**	**96**			91
	STD. DEV.	**1**				STD. DEV.	**1**			
DP-2	**158708**	155	>50%	BRK		1 Outside	105	0	SE1	
P6/ P7		154	>50%	BRK		2 Outside	111	0	SE1	
		152	>50%	BRK		3 Outside	103	0	SE1	
		151	>50%	BRK		4 Outside	108	0	SE1	
		151	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	107	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**153**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **16-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210936**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 16-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-3	**158709**	141	>50%	BRK		1 Outside	133	0	SE1	
P21/ P22		143	>50%	BRK		2 Outside	140	0	SE1	
		141	>50%	BRK		3 Outside	135	0	SE1	
		147	>50%	BRK		4 Outside	141	0	SE1	
		144	>50%	BRK		5 Outside	137	0	SE1	
						AVG:	**137**			91
						STD. DEV.	**4**			
						1 Inside	118	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	115	0	SE1	
						5 Inside	118	0	SE1	
	AVG.	**143**			120	**AVG:**	**114**			91
	STD. DEV.	**2**				STD. DEV.	**5**			
DP-4	**158710**	150	>50%	BRK		1 Outside	105	0	SE1	
P23/ P24		151	>50%	BRK		2 Outside	104	0	SE1	
		144	>50%	BRK		3 Outside	101	0	SE1	
		149	>50%	BRK		4 Outside	103	0	SE1	
		149	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**2**			
						1 Inside	111	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**149**			120	**AVG:**	**108**			91
	STD. DEV.	**3**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **16-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210936**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 16-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-5	**158711**	159	>50%	BRK		1 Outside	125	0	SE1	
P24/ P25		160	>50%	BRK		2 Outside	129	0	SE1	
		160	>50%	BRK		3 Outside	121	0	SE1	
		160	>50%	BRK		4 Outside	125	0	SE1	
		160	>50%	BRK		5 Outside	125	0	SE1	
						AVG:	**125**			91
						STD. DEV.	**3**			
						1 Inside	114	0	SE1	
						2 Inside	120	0	SE1	
						3 Inside	117	0	SE1	
						4 Inside	114	0	SE1	
						5 Inside	113	0	SE1	
	AVG.	**160**			120	**AVG:**	**116**			91
	STD. DEV.	**1**				STD. DEV.	**3**			
DP-6	**158712**	149	>50%	BRK		1 Outside	103	0	SE1	
P27/ P28		151	>50%	BRK		2 Outside	102	0	SE1	
		149	>50%	BRK		3 Outside	106	0	SE1	
		150	>50%	BRK		4 Outside	103	0	SE1	
		146	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**2**			
						1 Inside	114	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**149**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

September 20, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 09/20/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT
Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of twenty-eight (28) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **September 20, 2021**

REFERENCE TRI JOB NO.: G210953

DATE RECEIVED: September 20, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DP-7 P30/ P32	158812	DP-21 P57/ P59	158826
DP-8 P27/ EXT	158813	DP-22 P61/ P63	158827
DP-9 P35/ P37	158814	DP-23 P60/ P62	158828
DP-10 P37/ P38	158815	DP-24 P62/ P64	158829
DP-11 P38/ P40	158816	DP-25 P65/ P67	158830
DP-12 P29/ P44	158817	DP-26 P66/ P68	158831
DP-13 P46/ P48	158818	DP-27 P69/ P71	158832
DP-14 P50/ P52	158819	DP-28 P70/ P72	158833
DP-15 P43/ P45	158820	DP-29 P73/ P75	158834
DP-16 P45/ P47	158821	DP-30 P74/ P76	158835
DP-17 P49/ P51	158822	DP-31 P77/ P79	158836
DP-18 P53/ P55	158823	DP-32 P78/ P80	158837
DP-19 P52/ P54	158824	DP-33 P79/ P81	158838
DP-20 P56/ P58	158825	DPX-1 P27/ R-26	158839

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 14.
Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

15 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP- 7	**158812**	143	>50%	BRK		1 Outside	129	0	SE1	
P30/P32		146	>50%	BRK		2 Outside	124	0	SE1	
		142	>50%	BRK		3 Outside	123	0	SE1	
		143	>50%	BRK		4 Outside	124	0	SE1	
		141	>50%	BRK		5 Outside	122	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**3**			
						1 Inside	114	0	SE1	
						2 Inside	118	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	130	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**143**			120	**AVG:**	**114**			91
	STD. DEV.	**2**				STD. DEV.	**11**			
DP-8	**158813**	145	>50%	BRK		1 Outside	134	0	SE1	
P27/PEXT		143	>50%	BRK		2 Outside	131	0	SE1	
		142	>50%	BRK		3 Outside	134	0	SE1	
		146	>50%	BRK		4 Outside	135	0	SE1	
		142	>50%	BRK		5 Outside	130	0	SE1	
						AVG:	**133**			91
						STD. DEV.	**2**			
						1 Inside	116	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	104	0	SE1	
	AVG:	**144**			120	**AVG:**	**106**			91
	STD. DEV.	**2**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-9	**158814**	143	>50%	BRK		1 Outside	113	0	SE1	
P35/P37		145	>50%	BRK		2 Outside	106	0	SE1	
		143	>50%	BRK		3 Outside	106	0	SE1	
		145	>50%	BRK		4 Outside	105	0	SE1	
		144	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**4**			
						1 Inside	114	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	126	0	SE1	
						4 Inside	123	0	SE1	
						5 Inside	132	0	SE1	
	AVG.	**144**			120	**AVG:**	**122**			91
	STD. DEV.	**1**				STD. DEV.	**7**			
DP-10	**158815**	145	>50%	BRK		1 Outside	98	0	SE1	
P37/P38		146	>50%	BRK		2 Outside	104	0	SE1	
		147	>50%	BRK		3 Outside	104	0	SE1	
		146	>50%	BRK		4 Outside	100	0	SE1	
		144	>50%	BRK		5 Outside	98	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**3**			
						1 Inside	116	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**145**			120	**AVG:**	**108**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***20-Sep-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G210953***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-11	**158816**	144	>50%	BRK		1 Outside	104	0	SE1	
P38/P40		146	>50%	BRK		2 Outside	103	0	SE1	
		143	>50%	BRK		3 Outside	101	0	SE1	
		145	>50%	BRK		4 Outside	104	0	SE1	
		144	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**2**			
						1 Inside	115	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	95	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	112	0	SE1	
	AVG.	**145**			120	**AVG:**	**108**			91
	STD. DEV.	**1**				STD. DEV.	**8**			
DP-12	**158817**	150	>50%	BRK		1 Outside	111	0	SE1	
P29/P44		149	>50%	BRK		2 Outside	107	0	SE1	
		146	>50%	BRK		3 Outside	105	0	SE1	
		145	>50%	BRK		4 Outside	108	0	SE1	
		146	>50%	BRK		5 Outside	108	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**2**			
						1 Inside	109	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**147**			120	**AVG:**	**109**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***20-Sep-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G210953***

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-13	**158818**	137	>50%	BRK		1 Outside	106	0	SE1	
P46/P48		139	>50%	BRK		2 Outside	106	0	SE1	
		137	>50%	BRK		3 Outside	102	0	SE1	
		136	>50%	BRK		4 Outside	103	0	SE1	
		136	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**2**			
						1 Inside	104	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	100	0	SE1	
	AVG.	**137**			120	**AVG:**	**104**			91
	STD. DEV.	**1**				STD. DEV.	**3**			
DP-14	**158819**	143	>50%	BRK		1 Outside	107	0	SE1	
P50/P52		144	>50%	BRK		2 Outside	109	0	SE1	
		144	>50%	BRK		3 Outside	111	0	SE1	
		146	>50%	BRK		4 Outside	125	0	SE1	
		143	>50%	BRK		5 Outside	98	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**10**			
						1 Inside	106	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	132	0	SE1	
						5 Inside	129	0	SE1	
	AVG:	**144**			120	**AVG:**	**118**			91
	STD. DEV.	**1**				STD. DEV.	**12**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-15	**158820**	143	>50%	BRK		1 Outside	104	0	SE1	
P43/P45		144	>50%	BRK		2 Outside	98	0	SE1	
		147	>50%	BRK		3 Outside	97	0	SE1	
		148	>50%	BRK		4 Outside	110	0	SE1	
		146	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**5**			
						1 Inside	114	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**146**			120	**AVG:**	**109**			91
	STD. DEV.	**2**				STD. DEV.	**5**			
DP-16	**158821**	141	>50%	BRK		1 Outside	108	0	SE1	
P45/P47		145	>50%	BRK		2 Outside	98	0	SE1	
		141	>50%	BRK		3 Outside	105	0	SE1	
		142	>50%	BRK		4 Outside	102	0	SE1	
		139	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**4**			
						1 Inside	102	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	97	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**142**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-17	**158822**	155	>50%	BRK		1 Outside	109	0	SE1	
P49/P51		148	>50%	BRK		2 Outside	112	0	SE1	
		151	>50%	BRK		3 Outside	107	0	SE1	
		157	>50%	BRK		4 Outside	105	0	SE1	
		147	>50%	BRK		5 Outside	108	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**3**			
						1 Inside	115	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	114	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	116	0	SE1	
	AVG.	**152**			120	**AVG:**	**114**			91
	STD. DEV.	**4**				STD. DEV.	**2**			
DP-18	**158823**	157	>50%	BRK		1 Outside	108	0	SE1	
P53/P55		155	>50%	BRK		2 Outside	105	0	SE1	
		157	>50%	BRK		3 Outside	103	0	SE1	
		158	>50%	BRK		4 Outside	105	0	SE1	
		152	>50%	BRK		5 Outside	115	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**5**			
						1 Inside	112	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	125	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**156**			120	**AVG:**	**113**			91
	STD. DEV.	**2**				STD. DEV.	**8**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-19	**158824**	150	>50%	BRK		1 Outside	102	0	SE1	
P52/P54		151	>50%	BRK		2 Outside	104	0	SE1	
		153	>50%	BRK		3 Outside	105	0	SE1	
		151	>50%	BRK		4 Outside	115	0	SE1	
		147	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**5**			
						1 Inside	109	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	107	0	SE1	
	AVG.	**150**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DP-20	**158825**	158	>50%	BRK		1 Outside	106	0	SE1	
P56/P58		159	>50%	BRK		2 Outside	116	0	SE1	
		157	>50%	BRK		3 Outside	109	0	SE1	
		159	>50%	BRK		4 Outside	115	0	SE1	
		156	>50%	BRK		5 Outside	109	0	SE1	
						AVG:	**111**			91
						STD. DEV.	**4**			
						1 Inside	107	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	99	0	SE1	
	AVG:	**158**			120	**AVG:**	**107**			91
	STD. DEV.	**1**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 8.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-21	**158826**	150	>50%	BRK		1 Outside	99	0	SE1	
P57/P59		154	>50%	BRK		2 Outside	98	0	SE1	
		148	>50%	BRK		3 Outside	100	0	SE1	
		149	>50%	BRK		4 Outside	103	0	SE1	
		147	>50%	BRK		5 Outside	94	0	SE1	
						AVG:	**99**			91
						STD. DEV.	**3**			
						1 Inside	100	0	SE1	
						2 Inside	102	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	102	0	SE1	
	AVG.	**150**			120	**AVG:**	**102**			91
	STD. DEV.	**3**				STD. DEV.	**1**			
DS- 22	**158827**	156	>50%	BRK		1 Outside	115	0	SE1	
P61/P63		156	>50%	BRK		2 Outside	113	0	SE1	
		156	>50%	BRK		3 Outside	123	0	SE1	
		159	>50%	BRK		4 Outside	108	0	SE1	
		158	>50%	BRK		5 Outside	118	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**6**			
						1 Inside	108	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	107	0	SE1	
	AVG:	**157**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 8)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 9.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-23	**158828**	158	>50%	BRK		1 Outside	110	0	SE1	
P60/P62		157	>50%	BRK		2 Outside	110	0	SE1	
		157	>50%	BRK		3 Outside	110	0	SE1	
		154	>50%	BRK		4 Outside	112	0	SE1	
		156	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**1**			
						1 Inside	115	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**156**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**4**			
DP-24	**158829**	140	>50%	BRK		1 Outside	103	0	SE1	
P62/P64		138	>50%	BRK		2 Outside	106	0	SE1	
		142	>50%	BRK		3 Outside	105	0	SE1	
		140	>50%	BRK		4 Outside	122	0	SE1	
		140	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**8**			
						1 Inside	108	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	96	0	SE1	
	AVG:	**140**			120	**AVG:**	**105**			91
	STD. DEV.	**1**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 9)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 10.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-25	**158830**	140	>50%	BRK		1 Outside	103	0	SE1	
P65/P67		143	>50%	BRK		2 Outside	108	0	SE1	
		141	>50%	BRK		3 Outside	106	0	SE1	
		140	>50%	BRK		4 Outside	105	0	SE1	
		141	>50%	BRK		5 Outside	126	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**9**			
						1 Inside	98	0	SE1	
						2 Inside	97	0	SE1	
						3 Inside	98	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**141**			120	**AVG:**	**100**			91
	STD. DEV.	**1**				STD. DEV.	**5**			
DP-26	**158831**	149	>50%	BRK		1 Outside	117	0	SE1	
P66/P68		149	>50%	BRK		2 Outside	112	0	SE1	
		144	>50%	BRK		3 Outside	118	0	SE1	
		147	>50%	BRK		4 Outside	115	0	SE1	
		150	>50%	BRK		5 Outside	109	0	SE1	
						AVG:	**114**			91
						STD. DEV.	**4**			
						1 Inside	101	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**148**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 11.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-27	**158832**	153	>50%	BRK		1 Outside	108	0	SE1	
P69/P71		156	>50%	BRK		2 Outside	104	0	SE1	
		160	>50%	BRK		3 Outside	104	0	SE1	
		149	>50%	BRK		4 Outside	106	0	SE1	
		152	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**2**			
						1 Inside	104	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	105	0	SE1	
	AVG.	**154**			120	**AVG:**	**103**			91
	STD. DEV.	**4**				STD. DEV.	**2**			
DP-28	**158833**	143	>50%	BRK		1 Outside	123	0	SE1	
P70/P72		148	>50%	BRK		2 Outside	111	0	SE1	
		143	>50%	BRK		3 Outside	117	0	SE1	
		143	>50%	BRK		4 Outside	118	0	SE1	
		141	>50%	BRK		5 Outside	119	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**4**			
						1 Inside	106	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**144**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 12.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-29	**158834**	150	>50%	BRK		1 Outside	109	0	SE1	
P73/P75		154	>50%	BRK		2 Outside	117	0	SE1	
		150	>50%	BRK		3 Outside	105	0	SE1	
		149	>50%	BRK		4 Outside	111	0	SE1	
		143	>50%	BRK		5 Outside	109	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**4**			
						1 Inside	116	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	105	0	SE1	
	AVG.	**149**			120	**AVG:**	**109**			91
	STD. DEV.	**4**				STD. DEV.	**7**			
DP-30	**158835**	145	>50%	BRK		1 Outside	114	0	SE1	
P74/P76		146	>50%	BRK		2 Outside	111	0	SE1	
		144	>50%	BRK		3 Outside	109	0	SE1	
		148	>50%	BRK		4 Outside	125	0	SE1	
		146	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**6**			
						1 Inside	101	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	102	0	SE1	
						5 Inside	100	0	SE1	
	AVG:	**146**			120	**AVG:**	**104**			91
	STD. DEV.	**1**				STD. DEV.	**7**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 13.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-31	**158836**	144	>50%	BRK		1 Outside	103	0	SE1	
P77/P79		146	>50%	BRK		2 Outside	109	0	SE1	
		143	>50%	BRK		3 Outside	107	0	SE1	
		144	>50%	BRK		4 Outside	106	0	SE1	
		141	>50%	BRK		5 Outside	103	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	103	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**143**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DP-32	**158837**	143	>50%	BRK		1 Outside	104	0	SE1	
P78/P80		143	>50%	BRK		2 Outside	104	0	SE1	
		141	>50%	BRK		3 Outside	104	0	SE1	
		139	>50%	BRK		4 Outside	103	0	SE1	
		140	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**1**			
						1 Inside	112	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	112	0	SE1	
91	**AVG:**	**141**			120	**AVG:**	**111**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 14.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **20-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion/Extrusion Weld**
TRI JOB #: **G210953**

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 20-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-33	**158838**	156	>50%	BRK		1 Outside	110	0	SE1	
P79/P81		147	>50%	BRK		2 Outside	112	0	SE1	
		149	>50%	BRK		3 Outside	107	0	SE1	
Fusion		150	>50%	BRK		4 Outside	110	0	SE1	
		143	>50%	BRK		5 Outside	112	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**2**			
						1 Inside	111	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	106	0	SE1	
	AVG.	**149**			120	**AVG:**	**106**			91
	STD. DEV.	**5**				STD. DEV.	**4**			
DPX-1	**158839**	157	>50%	BRK		1 Outside	155	0	SE3	
P27/PR-26		164	>50%	BRK		2 Outside	152	0	SE3	
		164	>50%	BRK		3 Outside	159	0	SE3	
Extrusion Weld		160	>50%	BRK		4 Outside	157	0	SE3	
		158	>50%	BRK		5 Outside	148	0	SE3	
						AVG:	**154**			78
						STD. DEV.	**5**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**161**			120	**AVG:**				
	STD. DEV.	**3**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

September 23, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 09/23/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of two (2) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **September 23, 2021**

REFERENCE TRI JOB NO.: G210980

DATE RECEIVED: September 20, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DPX-2 P61/ R94	158990
DP-34 P66/ EXT @ Tie in	158991

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **23-Sep-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion/ Fusion Weld**
TRI JOB #: **G210980**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 23-Sep-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DPX-2	**158990**	150	>50%	BRK		1 Outside	122	0	SE3	
P61/ R94		155	>50%	BRK		2 Outside	130	0	SE3	
		151	>50%	BRK		3 Outside	136	0	SE3	
		147	>50%	BRK		4 Outside	126	0	SE3	
		147	>50%	BRK		5 Outside	128	0	SE3	
						AVG:	**128**			78
						STD. DEV.	**5**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**150**			120	**AVG:**				
	STD. DEV.	**3**				STD. DEV.				
DP-34	**158991**	154	>50%	BRK		1 Outside	135	0	SE1	
P66/ EXT		152	>50%	BRK		2 Outside	140	0	SE1	
@ Tie in		152	>50%	BRK		3 Outside	133	0	SE1	
		151	>50%	BRK		4 Outside	139	0	SE1	
		153	>50%	BRK		5 Outside	140	0	SE1	
						AVG:	**137**			91
						STD. DEV.	**3**			
						1 Inside	122	0	SE1	
						2 Inside	123	0	SE1	
						3 Inside	124	0	SE1	
						4 Inside	123	0	SE1	
						5 Inside	121	0	SE1	
	AVG:	**153**			120	**AVG:**	**123**			91
	STD. DEV.	**1**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 1, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/01/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of ten (10) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 1, 2021**

REFERENCE TRI JOB NO.: G211014

DATE RECEIVED: October 1, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-36 P82/ P84	159243
DP-38 P86/ P88	159244
DP-40 P88/ P90	159245
DP-42 P92/ P94	159246
DP-45 P96/ P98	159247
DP-46 P100/ P102	159248
DP-48 P104/ P106	159249
DP-54 P110/ P112	159250
DP-55 P114/ P116	159251
DP-56 P118/ P120	159252

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 5.
Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia — Quality Assurance
Chad Blackwell — TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

6 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **1-Oct-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211014**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 1-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-36	**159243**	139	>50%	BRK		1 Outside	111	0	SE1	
P82/ P84		142	>50%	BRK		2 Outside	110	0	SE1	
		140	>50%	BRK		3 Outside	115	0	SE1	
		142	>50%	BRK		4 Outside	117	0	SE1	
		139	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**112**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**140**			120	**AVG:**	**109**			91
	STD. DEV.	**2**				STD. DEV.	**4**			
DP-38	**159244**	150	>50%	BRK		1 Outside	108	0	SE1	
P86/ P88		149	>50%	BRK		2 Outside	106	0	SE1	
		149	>50%	BRK		3 Outside	112	0	SE1	
		149	>50%	BRK		4 Outside	107	0	SE1	
		149	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**3**			
						1 Inside	100	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	100	0	SE1	
						4 Inside	95	0	SE1	
						5 Inside	102	0	SE1	
	AVG:	**149**			120	**AVG:**	**101**			91
	STD. DEV.	**0**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **1-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211014**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 1-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-40	**159245**	151	>50%	BRK		1 Outside	105	0	SE1	
P88/ 90		155	>50%	BRK		2 Outside	107	0	SE1	
		151	>50%	BRK		3 Outside	105	0	SE1	
		153	>50%	BRK		4 Outside	110	0	SE1	
		153	>50%	BRK		5 Outside	116	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**5**			
						1 Inside	100	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	101	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	100	0	SE1	
	AVG.	**153**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**3**			
DP-42	**159246**	142	>50%	BRK		1 Outside	108	0	SE1	
P92/ P94		146	>50%	BRK		2 Outside	113	0	SE1	
		144	>50%	BRK		3 Outside	102	0	SE1	
		143	>50%	BRK		4 Outside	109	0	SE1	
		144	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**4**			
						1 Inside	99	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	99	0	SE1	
						5 Inside	99	0	SE1	
	AVG:	**144**			120	**AVG:**	**101**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **1-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211014**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 1-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-45	**159247**	147	>50%	BRK		1 Outside	109	0	SE1	
P96/ P98		150	>50%	BRK		2 Outside	111	0	SE1	
		155	>50%	BRK		3 Outside	108	0	SE1	
		147	>50%	BRK		4 Outside	105	0	SE1	
		145	>50%	BRK		5 Outside	107	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**2**			
						1 Inside	101	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	98	0	SE1	
						4 Inside	98	0	SE1	
						5 Inside	96	0	SE1	
	AVG.	**149**			120	**AVG:**	**98**			91
	STD. DEV.	**4**				STD. DEV.	**2**			
DP-46	**159248**	155	>50%	BRK		1 Outside	106	0	SE1	
P100/ P102		151	>50%	BRK		2 Outside	112	0	SE1	
		153	>50%	BRK		3 Outside	113	0	SE1	
		155	>50%	BRK		4 Outside	113	0	SE1	
		154	>50%	BRK		5 Outside	112	0	SE1	
						AVG:	**111**			91
						STD. DEV.	**3**			
						1 Inside	102	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	99	0	SE1	
						5 Inside	115	0	SE1	
	AVG:	**154**			120	**AVG:**	**106**			91
	STD. DEV.	**2**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **1-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211014**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 1-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-48	**159249**	142	>50%	BRK		1 Outside	111	0	SE1	
P104/ P106		147	>50%	BRK		2 Outside	110	0	SE1	
		145	>50%	BRK		3 Outside	107	0	SE1	
		140	>50%	BRK		4 Outside	107	0	SE1	
		144	>50%	BRK		5 Outside	112	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**2**			
						1 Inside	110	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	111	0	SE1	
	AVG.	**144**			120	**AVG:**	**111**			91
	STD. DEV.	**3**				STD. DEV.	**1**			
DP-54	**159250**	147	>50%	BRK		1 Outside	130	0	SE1	
P100/ P112		144	>50%	BRK		2 Outside	123	0	SE1	
		142	>50%	BRK		3 Outside	140	0	SE1	
		140	>50%	BRK		4 Outside	139	0	SE1	
		140	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**132**			91
						STD. DEV.	**7**			
						1 Inside	121	0	SE1	
						2 Inside	125	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	118	0	SE1	
						5 Inside	112	0	SE1	
	AVG:	**143**			120	**AVG:**	**118**			91
	STD. DEV.	**3**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **1-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211014**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 1-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-55	**159251**	135	>50%	BRK		1 Outside	122	0	SE1	
P114/ P116		139	>50%	BRK		2 Outside	120	0	SE1	
		135	>50%	BRK		3 Outside	115	0	SE1	
		138	>50%	BRK		4 Outside	120	0	SE1	
		136	>50%	BRK		5 Outside	124	0	SE1	
						AVG:	**120**			91
						STD. DEV.	**3**			
						1 Inside	106	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	119	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	102	0	SE1	
	AVG.	**137**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**7**			
DP-56	**159252**	144	>50%	BRK		1 Outside	105	0	SE1	
P118/ P120		147	>50%	BRK		2 Outside	103	0	SE1	
		148	>50%	BRK		3 Outside	100	0	SE1	
		144	>50%	BRK		4 Outside	102	0	SE1	
		145	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**102**			91
						STD. DEV.	**2**			
						1 Inside	115	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	114	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	113	0	SE1	
	AVG:	**145**			120	**AVG:**	**113**			91
	STD. DEV.	**2**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 5, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/05/2021

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of twenty four (24) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 5, 2021**

REFERENCE TRI JOB NO.: G211028

DATE RECEIVED: October 5, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
DP-35 P81/ P83	159302	DP-57 P119/ P121	159314
DP-37 P85/ P87	159303	DP-58 P123/ P125	159315
DP-39 P89/ P91	159304	DP-59 P127/ P129	159316
DP-41 P91/ P93	159305	DP-60 P131/ P133	159317
DP-43 P95/ P97	159306	DP-61 P122/ P124	159318
DP-44 P99/ P101	159307	DP-62 P124/ P126	159319
DP-47 P103/ P105	159308	DP-63 P128/ P130	159320
DP-49 P106/ P108	159309	DP-64 P132/ P134	159321
DP-50 P105/ P107	159310	DP-65 P110/ EXT	159322
DP-51 P109/ P111	159311	DP-66 P46/ P47	159323
DP-52 P113/ P115	159312	DP-67 P64/ P65	159324
DP-53 P115/ P116	159313	DPX-3 P120/ R249	159325

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 12.
Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

13 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-35	**159302**	138	>50%	BRK		1 Outside	101	0	SE1	
P81/ P83		140	>50%	BRK		2 Outside	97	0	SE1	
		142	>50%	BRK		3 Outside	105	0	SE1	
		139	>50%	BRK		4 Outside	103	0	SE1	
		136	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**3**			
						1 Inside	101	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	98	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	102	0	SE1	
	AVG.	**139**			120	**AVG:**	**101**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DS-37	**159303**	146	>50%	BRK		1 Outside	98	0	SE1	
P85/ P87		146	>50%	BRK		2 Outside	102	0	SE1	
		147	>50%	BRK		3 Outside	102	0	SE1	
		144	>50%	BRK		4 Outside	105	0	SE1	
		146	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**101**			91
						STD. DEV.	**2**			
						1 Inside	108	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	102	0	SE1	
						5 Inside	101	0	SE1	
	AVG:	**146**			120	**AVG:**	**102**			91
	STD. DEV.	**1**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-39	**159304**	140	>50%	BRK		1 Outside	104	0	SE1	
P89/ P91		140	>50%	BRK		2 Outside	107	0	SE1	
		136	>50%	BRK		3 Outside	106	0	SE1	
		138	>50%	BRK		4 Outside	106	0	SE1	
		137	>50%	BRK		5 Outside	107	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**1**			
						1 Inside	106	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	102	0	SE1	
	AVG.	**138**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**4**			
DS-41	**159305**	153	>50%	BRK		1 Outside	102	0	SE1	
P91/ P93		152	>50%	BRK		2 Outside	97	0	SE1	
		153	>50%	BRK		3 Outside	106	0	SE1	
		150	>50%	BRK		4 Outside	99	0	SE1	
		152	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**102**			91
						STD. DEV.	**4**			
						1 Inside	100	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	101	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**152**			120	**AVG:**	**105**			91
	STD. DEV.	**1**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DS-43	**159306**	144	>50%	BRK		1 Outside	101	0	SE1	
P95/ P97		146	>50%	BRK		2 Outside	103	0	SE1	
		149	>50%	BRK		3 Outside	103	0	SE1	
		145	>50%	BRK		4 Outside	102	0	SE1	
		145	>50%	BRK		5 Outside	107	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**2**			
						1 Inside	97	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	99	0	SE1	
						5 Inside	101	0	SE1	
	AVG.	**146**			120	**AVG:**	**99**			91
	STD. DEV.	**2**				STD. DEV.	**2**			
DS-44	**159307**	151	>50%	BRK		1 Outside	111	0	SE1	
P99/ P101		148	>50%	BRK		2 Outside	109	0	SE1	
		154	>50%	BRK		3 Outside	108	0	SE1	
		149	>50%	BRK		4 Outside	105	0	SE1	
		150	>50%	BRK		5 Outside	127	0	SE1	
						AVG:	**112**			91
						STD. DEV.	**8**			
						1 Inside	106	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**150**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-47	**159308**	141	>50%	BRK		1 Outside	108	0	SE1	
P103/ P105		146	>50%	BRK		2 Outside	107	0	SE1	
		147	>50%	BRK		3 Outside	110	0	SE1	
		146	>50%	BRK		4 Outside	107	0	SE1	
		143	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**3**			
						1 Inside	100	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**145**			120	**AVG:**	**103**			91
	STD. DEV.	**3**				STD. DEV.	**4**			
DS-49	**159309**	158	>50%	BRK		1 Outside	130	0	SE1	
P106/ P108		159	>50%	BRK		2 Outside	124	0	SE1	
		154	>50%	BRK		3 Outside	117	0	SE1	
		155	>50%	BRK		4 Outside	111	0	SE1	
		162	>50%	BRK		5 Outside	129	0	SE1	
						AVG:	**122**			91
						STD. DEV.	**8**			
						1 Inside	102	0	SE1	
						2 Inside	103	0	SE1	
						3 Inside	101	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**157**			120	**AVG:**	**102**			91
	STD. DEV.	**3**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

		Crosshead Speed: 2 in/min				Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DS-50	**159310**	150	>50%	BRK		1 Outside	102	0	SE1	
P105/ P107		147	>50%	BRK		2 Outside	102	0	SE1	
		141	>50%	BRK		3 Outside	107	0	SE1	
		148	>50%	BRK		4 Outside	104	0	SE1	
		144	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**2**			
						1 Inside	100	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**146**			120	**AVG:**	**107**			91
	STD. DEV.	**3**				STD. DEV.	**4**			
DS-51	**159311**	143	>50%	BRK		1 Outside	118	0	SE1	
P109/ P111		147	>50%	BRK		2 Outside	119	0	SE1	
		145	>50%	BRK		3 Outside	124	0	SE1	
		140	>50%	BRK		4 Outside	114	0	SE1	
		140	>50%	BRK		5 Outside	112	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**5**			
						1 Inside	113	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	99	0	SE1	
						4 Inside	126	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**143**			120	**AVG:**	**109**			91
	STD. DEV.	**3**				STD. DEV.	**11**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-52	**159312**	152	>50%	BRK		1 Outside	106	0	SE1	
P113/ P115		153	>50%	BRK		2 Outside	110	0	SE1	
		148	>50%	BRK		3 Outside	107	0	SE1	
		148	>50%	BRK		4 Outside	106	0	SE1	
		149	>50%	BRK		5 Outside	102	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	117	0	SE1	
						2 Inside	113	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**150**			120	**AVG:**	**112**			91
	STD. DEV.	**3**				STD. DEV.	**4**			
DS-53	**159313**	142	>50%	BRK		1 Outside	115	0	SE1	
P115/ P116		144	>50%	BRK		2 Outside	120	0	SE1	
		145	>50%	BRK		3 Outside	107	0	SE1	
		144	>50%	BRK		4 Outside	123	0	SE1	
		143	>50%	BRK		5 Outside	112	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**6**			
						1 Inside	99	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	100	0	SE1	
	AVG:	**143**			120	**AVG:**	**104**			91
	STD. DEV.	**1**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-57	**159314**	143	>50%	BRK		1 Outside	99	0	SE1	
P119/ P121		145	>50%	BRK		2 Outside	118	0	SE1	
		147	>50%	BRK		3 Outside	108	0	SE1	
		147	>50%	BRK		4 Outside	126	0	SE1	
		139	>50%	BRK		5 Outside	118	0	SE1	
						AVG:	**114**			91
						STD. DEV.	**11**			
						1 Inside	109	0	SE1	
						2 Inside	106	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	106	0	SE1	
	AVG.	**144**			120	**AVG:**	**106**			91
	STD. DEV.	**3**				STD. DEV.	**2**			
DS-58	**159315**	151	>50%	BRK		1 Outside	129	0	SE1	
P123/ P125		147	>50%	BRK		2 Outside	131	0	SE1	
		148	>50%	BRK		3 Outside	110	0	SE1	
		150	>50%	BRK		4 Outside	104	0	SE1	
		146	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**116**			91
						STD. DEV.	**13**			
						1 Inside	118	0	SE1	
						2 Inside	119	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**148**			120	**AVG:**	**114**			91
	STD. DEV.	**2**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 8.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-59	**159316**	146	>50%	BRK		1 Outside	109	0	SE1	
P127/ P129		151	>50%	BRK		2 Outside	111	0	SE1	
		147	>50%	BRK		3 Outside	108	0	SE1	
		148	>50%	BRK		4 Outside	105	0	SE1	
		141	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	104	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	101	0	SE1	
	AVG.	**147**			120	**AVG:**	**106**			91
	STD. DEV.	**4**				STD. DEV.	**4**			
DS-60	**159317**	143	>50%	BRK		1 Outside	98	0	SE1	
P131/ P133		144	>50%	BRK		2 Outside	104	0	SE1	
		147	>50%	BRK		3 Outside	99	0	SE1	
		141	>50%	BRK		4 Outside	100	0	SE1	
		142	>50%	BRK		5 Outside	95	0	SE1	
						AVG:	**99**			91
						STD. DEV.	**3**			
						1 Inside	119	0	SE1	
						2 Inside	111	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	103	0	SE1	
						5 Inside	105	0	SE1	
	AVG:	**143**			120	**AVG:**	**110**			91
	STD. DEV.	**2**				STD. DEV.	**6**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 8)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 9.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-61	**159318**	146	>50%	BRK		1 Outside	115	0	SE1	
P122/ P124		150	>50%	BRK		2 Outside	113	0	SE1	
		145	>50%	BRK		3 Outside	106	0	SE1	
		145	>50%	BRK		4 Outside	111	0	SE1	
		140	>50%	BRK		5 Outside	121	0	SE1	
						AVG:	**113**			91
						STD. DEV.	**5**			
						1 Inside	110	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	116	0	SE1	
						5 Inside	113	0	SE1	
	AVG.	**145**			120	**AVG:**	**110**			91
	STD. DEV.	**4**				STD. DEV.	**5**			
DS-62	**159319**	155	>50%	BRK		1 Outside	123	0	SE1	
P124/ P126		154	>50%	BRK		2 Outside	119	0	SE1	
		156	>50%	BRK		3 Outside	100	0	SE1	
		159	>50%	BRK		4 Outside	127	0	SE1	
		152	>50%	BRK		5 Outside	129	0	SE1	
						AVG:	**120**			91
						STD. DEV.	**12**			
						1 Inside	103	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**155**			120	**AVG:**	**107**			91
	STD. DEV.	**3**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 9)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 10.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

		Crosshead Speed: 2 in/min				Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DS-63	**159320**	152	>50%	BRK		1 Outside	99	0	SE1	
P128/ P130		152	>50%	BRK		2 Outside	108	0	SE1	
		155	>50%	BRK		3 Outside	110	0	SE1	
		153	>50%	BRK		4 Outside	102	0	SE1	
		151	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**5**			
						1 Inside	97	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	109	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	95	0	SE1	
	AVG.	**153**			120	**AVG:**	**103**			91
	STD. DEV.	**1**				STD. DEV.	**7**			
DS-64	**159321**	146	>50%	BRK		1 Outside	106	0	SE1	
P132/ P134		154	>50%	BRK		2 Outside	112	0	SE1	
		152	>50%	BRK		3 Outside	104	0	SE1	
		151	>50%	BRK		4 Outside	105	0	SE1	
		144	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**3**			
						1 Inside	108	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	109	0	SE1	
	AVG:	**150**			120	**AVG:**	**109**			91
	STD. DEV.	**4**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 10)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 11.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **5-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211028**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-65	**159322**	149	>50%	BRK		1 Outside	121	0	SE1	
P110/ EXT		151	>50%	BRK		2 Outside	131	0	SE1	
		149	>50%	BRK		3 Outside	133	0	SE1	
		151	>50%	BRK		4 Outside	114	0	SE1	
		149	>50%	BRK		5 Outside	126	0	SE1	
						AVG:	**125**			91
						STD. DEV.	**8**			
						1 Inside	115	0	SE1	
						2 Inside	125	0	SE1	
						3 Inside	136	0	SE1	
						4 Inside	125	0	SE1	
						5 Inside	116	0	SE1	
	AVG.	**150**			120	**AVG:**	**123**			91
	STD. DEV.	**1**				STD. DEV.	**9**			
DS-66	**159323**	157	>50%	BRK		1 Outside	124	0	SE1	
P46/ P47		155	>50%	BRK		2 Outside	119	0	SE1	
		157	>50%	BRK		3 Outside	125	0	SE1	
		155	>50%	BRK		4 Outside	122	0	SE1	
		153	>50%	BRK		5 Outside	128	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**3**			
						1 Inside	141	0	SE1	
						2 Inside	140	0	SE1	
						3 Inside	140	0	SE1	
						4 Inside	142	0	SE1	
						5 Inside	139	0	SE1	
	AVG:	**155**			120	**AVG:**	**140**			91
	STD. DEV.	**2**				STD. DEV.	**1**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 11)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 12.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***5-Oct-21***
MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion/ Extrusion Weld***
TRI JOB #: ***G211028***
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 5-Oct-21

		Crosshead Speed: 2 in/min				Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DS-67	**159324**	154	>50%	BRK		1 Outside	129	0	SE1	
P64/ P65		157	>50%	BRK		2 Outside	142	0	SE1	
		155	>50%	BRK		3 Outside	141	0	SE1	
Fusion		153	>50%	BRK		4 Outside	145	0	SE1	
		155	>50%	BRK		5 Outside	143	0	SE1	
						AVG:	**140**			91
						STD. DEV.	**6**			
						1 Inside	139	0	SE1	
						2 Inside	142	0	SE1	
						3 Inside	142	0	SE1	
						4 Inside	144	0	SE1	
						5 Inside	143	0	SE1	
	AVG.	**155**			120	**AVG:**	**142**			91
	STD. DEV.	**1**				STD. DEV.	**2**			
DPX-3	**159325**	157	>50%	BRK		1 Outside	154	0	SE3	
P120/ R249		155	>50%	BRK		2 Outside	135	0	SE3	
		157	>50%	BRK		3 Outside	154	0	SE3	
Extrusion		152	>50%	BRK		4 Outside	155	0	SE3	
		156	>50%	BRK		5 Outside	155	0	SE3	
						AVG:	**151**			78
						STD. DEV.	**9**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**155**			120	**AVG:**				
	STD. DEV.	**2**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 12)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 7, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/07/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of five (5) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 7, 2021**

REFERENCE TRI JOB NO.: G211040

DATE RECEIVED: October 7, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-68 P134/ P138	159403
DP-70 P140/ P142	159404
DP-72 P144/ P146	159405
DP-74 P146/ P148	159406
DP-76 P150/ P152	159407

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 3.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,

TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

4 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***7-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211040***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: *7-Oct-21*

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-68	**159403**	144	>50%	BRK		1 Outside	105	0	SE1	
P134/ P138		148	>50%	BRK		2 Outside	105	0	SE1	
		150	>50%	BRK		3 Outside	105	0	SE1	
		147	>50%	BRK		4 Outside	114	0	SE1	
		147	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**4**			
						1 Inside	104	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**147**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**3**			
DP-70	**159404**	145	>50%	BRK		1 Outside	106	0	SE1	
P140/ P142		147	>50%	BRK		2 Outside	105	0	SE1	
		146	>50%	BRK		3 Outside	104	0	SE1	
		145	>50%	BRK		4 Outside	113	0	SE1	
		146	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**4**			
						1 Inside	119	0	SE1	
						2 Inside	115	0	SE1	
						3 Inside	119	0	SE1	
						4 Inside	121	0	SE1	
						5 Inside	122	0	SE1	
	AVG:	**146**			120	**AVG:**	**119**			91
	STD. DEV.	**1**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **7-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211040**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 7-Oct-21

		Crosshead Speed: 2 in/min				Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-72	**159405**	141	>50%	BRK		1 Outside	113	0	SE1	
P144/ P146		144	>50%	BRK		2 Outside	113	0	SE1	
		147	>50%	BRK		3 Outside	112	0	SE1	
		141	>50%	BRK		4 Outside	111	0	SE1	
		137	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**113**			91
						STD. DEV.	**1**			
						1 Inside	92	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	104	0	SE1	
						5 Inside	97	0	SE1	
	AVG.	**142**			120	**AVG:**	**99**			91
	STD. DEV.	**4**				STD. DEV.	**5**			
DP-74	**159406**	145	>50%	BRK		1 Outside	108	0	SE1	
P146/ P148		143	>50%	BRK		2 Outside	109	0	SE1	
		144	>50%	BRK		3 Outside	108	0	SE1	
		143	>50%	BRK		4 Outside	118	0	SE1	
		143	>50%	BRK		5 Outside	117	0	SE1	
						AVG:	**112**			91
						STD. DEV.	**5**			
						1 Inside	103	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	104	0	SE1	
						4 Inside	112	0	SE1	
						5 Inside	108	0	SE1	
	AVG:	**144**			120	**AVG:**	**106**			91
	STD. DEV.	**1**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

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TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***7-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211040***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 7-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-76	**159407**	146	>50%	BRK		1 Outside	99	0	SE1	
P150/ P152		147	>50%	BRK		2 Outside	98	0	SE1	
		147	>50%	BRK		3 Outside	99	0	SE1	
		143	>50%	BRK		4 Outside	103	0	SE1	
		140	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**100**			91
						STD. DEV.	**3**			
						1 Inside	103	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	97	0	SE1	
						4 Inside	98	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**144**			120	**AVG:**	**101**			91
	STD. DEV.	**3**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 8, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/08/2021

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of nine (9) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 8, 2021**

REFERENCE TRI JOB NO.: G211053

DATE RECEIVED: October 8, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-69 P139/ P141	159448
DP-71 P143/ P145	159449
DP-73 P147/ P149	159450
DP-75 P151/ P153	159451
DP-77 P155/ P157	159452
DP-78 P154/ P156	159453
DP-79 P157/ P159	159454
DP-80 P142/ EXT	159455
DPX-4 P142/ EXT	159456

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 5.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

6 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **8-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211053**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-69	**159448**	145	>50%	BRK		1 Outside	95	0	SE1	
P139/ P141		143	>50%	BRK		2 Outside	94	0	SE1	
		146	>50%	BRK		3 Outside	95	0	SE1	
		143	>50%	BRK		4 Outside	93	0	SE1	
		141	>50%	BRK		5 Outside	90	0	SE1	
						AVG:	**93**			91
						STD. DEV.	**2**			
						1 Inside	95	0	SE1	
						2 Inside	96	0	SE1	
						3 Inside	94	0	SE1	
						4 Inside	113	0	SE1	
						5 Inside	112	0	SE1	
	AVG.	**143**			120	**AVG:**	**102**			91
	STD. DEV.	**2**				STD. DEV.	**9**			
DP-71	**159449**	138	>50%	BRK		1 Outside	119	0	SE1	
P143/ P145		146	>50%	BRK		2 Outside	122	0	SE1	
		146	>50%	BRK		3 Outside	97	0	SE1	
		138	>50%	BRK		4 Outside	95	0	SE1	
		141	>50%	BRK		5 Outside	94	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**14**			
						1 Inside	114	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	105	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**142**			120	**AVG:**	**109**			91
	STD. DEV.	**4**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **8-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211053**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-73	**159450**	142	>50%	BRK		1 Outside	98	0	SE1	
P147/ P149		143	>50%	BRK		2 Outside	114	0	SE1	
		146	>50%	BRK		3 Outside	120	0	SE1	
		144	>50%	BRK		4 Outside	113	0	SE1	
		143	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**110**			91
						STD. DEV.	**8**			
						1 Inside	104	0	SE1	
						2 Inside	105	0	SE1	
						3 Inside	108	0	SE1	
						4 Inside	113	0	SE1	
						5 Inside	106	0	SE1	
	AVG.	**144**			120	**AVG:**	**107**			91
	STD. DEV.	**1**				STD. DEV.	**3**			
DP-75	**159451**	145	>50%	BRK		1 Outside	105	0	SE1	
P151/ P153		150	>50%	BRK		2 Outside	109	0	SE1	
		148	>50%	BRK		3 Outside	108	0	SE1	
		145	>50%	BRK		4 Outside	110	0	SE1	
		144	>50%	BRK		5 Outside	101	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**4**			
						1 Inside	113	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	107	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	102	0	SE1	
	AVG:	**146**			120	**AVG:**	**108**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

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TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **8-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211053**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-77	**159452**	147	>50%	BRK		1 Outside	112	0	SE1	
P155/ P157		146	>50%	BRK		2 Outside	108	0	SE1	
		154	>50%	BRK		3 Outside	105	0	SE1	
		144	>50%	BRK		4 Outside	104	0	SE1	
		142	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**3**			
						1 Inside	101	0	SE1	
						2 Inside	110	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	113	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**146**			120	**AVG:**	**107**			91
	STD. DEV.	**4**				STD. DEV.	**5**			
DP-78	**159453**	142	>50%	BRK		1 Outside	101	0	SE1	
P154/ P156		143	>50%	BRK		2 Outside	104	0	SE1	
		149	>50%	BRK		3 Outside	114	0	SE1	
		145	>50%	BRK		4 Outside	105	0	SE1	
		141	>50%	BRK		5 Outside	111	0	SE1	
						AVG:	**107**			91
						STD. DEV.	**5**			
						1 Inside	100	0	SE1	
						2 Inside	106	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	101	0	SE1	
	AVG:	**144**			120	**AVG:**	**104**			91
	STD. DEV.	**3**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **8-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211053**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DP-79	**159454**	144	>50%	BRK		1 Outside	103	0	SE1	
P157/ P159		147	>50%	BRK		2 Outside	106	0	SE1	
		148	>50%	BRK		3 Outside	103	0	SE1	
		146	>50%	BRK		4 Outside	103	0	SE1	
		148	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**105**			91
						STD. DEV.	**3**			
						1 Inside	116	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	112	0	SE1	
						4 Inside	117	0	SE1	
						5 Inside	109	0	SE1	
	AVG.	**146**			120	**AVG:**	**114**			91
	STD. DEV.	**2**				STD. DEV.	**3**			
DP-80	**159455**	151	>50%	BRK		1 Outside	144	0	SE1	
P142/ EXT		154	>50%	BRK		2 Outside	125	0	SE1	
		154	>50%	BRK		3 Outside	125	0	SE1	
		157	>50%	BRK		4 Outside	129	0	SE1	
		157	>50%	BRK		5 Outside	116	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**10**			
						1 Inside	110	0	SE1	
						2 Inside	128	0	SE1	
						3 Inside	122	0	SE1	
						4 Inside	118	0	SE1	
						5 Inside	119	0	SE1	
	AVG:	**154**			120	**AVG:**	**119**			91
	STD. DEV.	**2**				STD. DEV.	**7**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***8-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Extrusion Weld***
TRI JOB #: ***G211053***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 8-Oct-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DPX-4	**159456**	149	>50%	BRK		1 Outside	137	0	SE3	
P142/ EXT		148	>50%	BRK		2 Outside	139	0	SE3	
		152	>50%	BRK		3 Outside	142	0	SE3	
		151	>50%	BRK		4 Outside	140	0	SE3	
		150	>50%	BRK		5 Outside	129	0	SE3	
						AVG:	**137**			78
						STD. DEV.	**5**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**150**			120	**AVG:**				
	STD. DEV.	**2**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 13, 2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/13/2021

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of seven (7) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 13, 2021**

REFERENCE TRI JOB NO.: G211071

DATE RECEIVED: October 13, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-81 P160/ P162	159545
DP-82 P161/ P163	159546
DP-83 P166/ P167	159547
DP-84 P173/ P174	159548
DP-85 P177/ P178	159549
DP-86 P183/ P184	159550
DP-87 P163/ P180	159551

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 4.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

5 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **13-Oct-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211071**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 13-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-81	**159545**	145	>50%	BRK		1 Outside	115	0	SE1	
P160/ P162		142	>50%	BRK		2 Outside	108	0	SE1	
		144	>50%	BRK		3 Outside	107	0	SE1	
		145	>50%	BRK		4 Outside	103	0	SE1	
		148	>50%	BRK		5 Outside	106	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**4**			
						1 Inside	114	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	113	0	SE1	
						4 Inside	110	0	SE1	
						5 Inside	102	0	SE1	
	AVG.	**145**			120	**AVG:**	**111**			91
	STD. DEV.	**2**				STD. DEV.	**5**			
DS-82	**159546**	151	>50%	BRK		1 Outside	106	0	SE1	
P161/ P163		152	>50%	BRK		2 Outside	107	0	SE1	
		149	>50%	BRK		3 Outside	109	0	SE1	
		151	>50%	BRK		4 Outside	110	0	SE1	
		147	>50%	BRK		5 Outside	110	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**2**			
						1 Inside	101	0	SE1	
						2 Inside	109	0	SE1	
						3 Inside	101	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	106	0	SE1	
	AVG:	**150**			120	**AVG:**	**105**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **13-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211071**
QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 13-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-83	**159547**	151	>50%	BRK		1 Outside	107	0	SE1	
P166/ P167		151	>50%	BRK		2 Outside	102	0	SE1	
		151	>50%	BRK		3 Outside	104	0	SE1	
		149	>50%	BRK		4 Outside	101	0	SE1	
		150	>50%	BRK		5 Outside	105	0	SE1	
						AVG:	**104**			91
						STD. DEV.	**2**			
						1 Inside	101	0	SE1	
						2 Inside	101	0	SE1	
						3 Inside	102	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	103	0	SE1	
	AVG.	**150**			120	**AVG:**	**102**			91
	STD. DEV.	**1**				STD. DEV.	**1**			
DS-84	**159548**	150	>50%	BRK		1 Outside	115	0	SE1	
P173/ P174		151	>50%	BRK		2 Outside	114	0	SE1	
		152	>50%	BRK		3 Outside	113	0	SE1	
		150	>50%	BRK		4 Outside	113	0	SE1	
		153	>50%	BRK		5 Outside	120	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**3**			
						1 Inside	111	0	SE1	
						2 Inside	112	0	SE1	
						3 Inside	116	0	SE1	
						4 Inside	109	0	SE1	
						5 Inside	107	0	SE1	
	AVG:	**151**			120	**AVG:**	**111**			91
	STD. DEV.	**1**				STD. DEV.	**3**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **13-Oct-21**
MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G211071**
QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 13-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-85	**159549**	143	>50%	BRK		1 Outside	114	0	SE1	
P177/ P178		144	>50%	BRK		2 Outside	103	0	SE1	
		141	>50%	BRK		3 Outside	99	0	SE1	
		140	>50%	BRK		4 Outside	99	0	SE1	
		141	>50%	BRK		5 Outside	99	0	SE1	
						AVG:	**103**			91
						STD. DEV.	**7**			
						1 Inside	101	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	101	0	SE1	
						5 Inside	110	0	SE1	
	AVG.	**142**			120	**AVG:**	**107**			91
	STD. DEV.	**1**				STD. DEV.	**6**			
DS-86	**159550**	150	>50%	BRK		1 Outside	111	0	SE1	
P183/ P184		151	>50%	BRK		2 Outside	124	0	SE1	
		148	>50%	BRK		3 Outside	116	0	SE1	
		148	>50%	BRK		4 Outside	109	0	SE1	
		152	>50%	BRK		5 Outside	114	0	SE1	
						AVG:	**115**			91
						STD. DEV.	**6**			
						1 Inside	114	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	118	0	SE1	
						4 Inside	106	0	SE1	
						5 Inside	110	0	SE1	
	AVG:	**150**			120	**AVG:**	**112**			91
	STD. DEV.	**2**				STD. DEV.	**5**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***13-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211071***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 13-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS-87	**159551**	150	>50%	BRK		1 Outside	114	0	SE1	
P163/ P180		151	>50%	BRK		2 Outside	109	0	SE1	
		149	>50%	BRK		3 Outside	106	0	SE1	
		153	>50%	BRK		4 Outside	106	0	SE1	
		153	>50%	BRK		5 Outside	104	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**4**			
						1 Inside	110	0	SE1	
						2 Inside	108	0	SE1	
						3 Inside	106	0	SE1	
						4 Inside	107	0	SE1	
						5 Inside	105	0	SE1	
	AVG.	**151**			120	**AVG:**	**107**			91
	STD. DEV.	**2**				STD. DEV.	**2**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 21, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/21/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of three (3) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 21, 2021**

REFERENCE TRI JOB NO.: G211109

DATE RECEIVED: October 21, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-88 P88/ P89	159700
DPX-5 P84/ R22	159701
DP-89 P110/ P111	159702

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1 to 2.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***21-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion/ Extrusion Weld***
TRI JOB #: ***G211109***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: *21-Oct-21*

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DS- 88	**159700**	160	>50%	BRK		1 Outside	128	0	SE1	
P88/P89		164	>50%	BRK		2 Outside	122	0	SE1	
		162	>50%	BRK		3 Outside	123	0	SE1	
		162	>50%	BRK		4 Outside	123	0	SE1	
Fusion		164	>50%	BRK		5 Outside	119	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**3**			
						1 Inside	129	0	SE1	
						2 Inside	149	0	SE1	
						3 Inside	144	0	SE1	
						4 Inside	144	0	SE1	
						5 Inside	147	0	SE1	
	AVG.	**162**			120	**AVG:**	**143**			91
	STD. DEV.	**2**				STD. DEV.	**8**			
DPX-5	**159701**	178	>50%	BRK		1 Outside	138	0	SE3	
P84/R22		183	>50%	BRK		2 Outside	129	0	SE3	
		185	>50%	BRK		3 Outside	133	0	SE3	
		184	>50%	BRK		4 Outside	128	0	SE3	
Extrusion		183	>50%	BRK		5 Outside	139	0	SE3	
						AVG:	**133**			78
						STD. DEV.	**5**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG:	**182**			120	**AVG:**				
	STD. DEV.	**3**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 14***
DATE REC'D: ***21-Oct-21***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G211109***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 21-Oct-21

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DS- 89	**159702**	160	>50%	BRK		1 Outside	148	0	SE1	
P110/P111		160	>50%	BRK		2 Outside	143	0	SE1	
		160	>50%	BRK		3 Outside	145	0	SE1	
		158	>50%	BRK		4 Outside	149	0	SE1	
		159	>50%	BRK		5 Outside	151	0	SE1	
						AVG:	**147**			91
						STD. DEV.	**3**			
						1 Inside	147	0	SE1	
						2 Inside	149	0	SE1	
						3 Inside	124	0	SE1	
						4 Inside	119	0	SE1	
						5 Inside	121	0	SE1	
	AVG.	**159**			120	**AVG:**	**132**			91
	STD. DEV.	**1**				STD. DEV.	**15**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

October 22, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 10/22/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of two (2) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **October 22, 2021**

REFERENCE TRI JOB NO.: G211123

DATE RECEIVED: October 22, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DPX-6 P127/ R473	159801
DP-90 P127/ P126	159802

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 14**
DATE REC'D: **22-Oct-21**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Extrusion/ Fusion Weld**
TRI JOB #: **G211123**

QC'd By: Maria Capitia
TEST METHOD: ASTM D6392
DATE REPORT: 22-Oct-21

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	MAXIMUM STRENGTH (lb/in width)	Elongation Run up to	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DPX-6	**159801**	144	>50%	BRK		1 Outside	119	0	SE3	
P127/ R473		146	>50%	BRK		2 Outside	122	0	SE3	
		143	>50%	BRK		3 Outside	125	0	SE3	
Extrusion		144	>50%	BRK		4 Outside	125	0	SE3	
		148	>50%	BRK		5 Outside	122	0	SE3	
						AVG:	**123**			78
						STD. DEV.	**2**			
						1 Inside	N/A			
						2 Inside				
						3 Inside				
						4 Inside				
						5 Inside				
	AVG.	**145**			120	**AVG:**				
	STD. DEV.	**2**				STD. DEV.				
DP-90	**159802**	173	>50%	BRK		1 Outside	119	0	SE1	
P127/ P126		173	>50%	BRK		2 Outside	122	0	SE1	
		170	>50%	BRK		3 Outside	125	0	SE1	
Fusion		170	>50%	BRK		4 Outside	125	0	SE1	
		169	>50%	BRK		5 Outside	122	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**2**			
						1 Inside	144	0	SE1	
						2 Inside	149	0	SE1	
						3 Inside	155	0	SE1	
						4 Inside	149	0	SE1	
						5 Inside	146	0	SE1	
	AVG:	**171**			120	**AVG:**	**148**			91
	STD. DEV.	**2**				STD. DEV.	**4**			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

November 8, 2021

GAI-LAP
Initial: CVZ #:0.13
DATE: 11/8/2021

Allan Brantley
Brantley Engineering, LLC
13933 Tree Loft Road
Milton, GA 30004

Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the ***final*** laboratory report for the Seam testing of two (2) HDPE seam samples.

PROJECT NAME: JED Cell 14 DATE REPORTED: **November 8, 2021**

REFERENCE TRI JOB NO.: G211187

DATE RECEIVED: November 8, 2021

SAMPLES SENT BY: Brantley Engineering, LLC

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*
DP-91 P176/ P190	160038
DPX-7 P190/ DP-91	160039

TESTS REQUIRED / PERFORMED:

TEST METHOD	*DESCRIPTION*
1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Table 1.

Note: The general conditioning and testing of the material samples identified in this report were performed within the range of the laboratory environmental conditions; i.e., 20-24°C and 45-65% RH. Otherwise, the actual environmental conditions are indicated in the respective test method reported.

Respectfully,
TRI Environmental, Inc. – California

Maria Espitia
Quality Assurance

Chad Blackwell
TRI-CA Director

Signatures are on file

It shall be noted that the samples tested are believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. ***Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.*** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

2 Pages Total *(including this sheet)*

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC*** | MATERIAL: ***HDPE SEAM*** | QC'd By: Maria Espitia
PROJECT: ***JED Cell 14*** | SEAM TYPE: ***Fusion/ Extrusion Weld*** | TEST METHOD: ASTM D6392
DATE REC'D: ***8-Nov-21*** | TRI JOB #: ***G211187*** | DATE REPORT: *8-Nov-21*

		Crosshead Speed: 2 in/min				Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*MAXIMUM STRENGTH (lb/in width)*	*Elongation Run up to*	*Locus of Break*	*PROJECT SPEC. (lb/in width)*	*SPECIMEN NUMBER*	*MAXIMUM STRENGTH (lb/in width)*	*% INCURSION (%)*	*LOCUS OF BREAK*	*PROJECT SPEC. (lb/in width)*
DP- 91	**160038**	144	>50%	BRK		1 Outside	101	0	SE1	
P176/P190		148	>50%	BRK		2 Outside	98	0	SE1	
		146	>50%	BRK		3 Outside	96	0	SE1	
		146	>50%	BRK		4 Outside	98	0	SE1	
FUS		147	>50%	BRK		5 Outside	92	0	SE1	
						AVG:	**97**			91
						STD. DEV.	**3**			
						1 Inside	109	0	SE1	
						2 Inside	98	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	114	0	SE1	
						5 Inside	113	0	SE1	
	AVG.	**146**			120	**AVG:**	**107**			
	STD. DEV.	**1**				STD. DEV.	**7**			
DPX- 7	**160039**	177	>50%	BRK		1 Outside	140	0	SE1	
P190/DP-91		173	>50%	BRK		2 Outside	142	0	SE1	
		175	>50%	BRK		3 Outside	137	0	SE1	
		179	>50%	BRK		4 Outside	139	0	SE1	
EXT		173	>50%	BRK		5 Outside	140	0	SE1	
						AVG:	**139**			
						STD. DEV.	**2**			78
						1 Inside	N/A		SE3	
						2 Inside			SE3	
						3 Inside			SE3	
						4 Inside			SE3	
						5 Inside			SE3	
	AVG:	**176**			120	**AVG:**				
	STD. DEV.	**3**				STD. DEV.				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD	ADHESION FAILURE.
BRK	BREAK IN SHEETING.
SE1	BREAK AT OUTER EDGE OF SEAM.
SE2	BREAK AT INNER EDGE OF SEAM.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP	SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1	ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2	ADHESION FAILURE.
AD-WLD	BREAK THROUGH THE FILLET.
SE1	BREAK AT BOTTOM EDGE OF SEAM.
SE2	BREAK AT TOP EDGE OF SEAM.
SE3	BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1	BREAK IN BOTTOM SHEETING.
BRK2	BREAK IN TOP SHEETING.
AD-BRK	BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT	BREAK AT EDGE OF HOT TACK
SIP	SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental, Inc. from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

APPENDIX I
Florida JetClean Report

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE
ODESSA, FL 33556
T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

Gulfstream Building Group, Inc.
JED Landfill Cell 14
New LCS & LDS Piping
Jetting & EX Video-Inspections

Work Performed
December 2021

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
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FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 12/30/2021
TO : Scott Holmes – Gulfstream Building Group, Inc.
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : JED Landfill Cell 14 – New LCS Pipe Jetting & EX Video-Inspection Report

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the new Cell 14 leachate collection & detection piping on 12/29/2021. The results of these inspections are detailed in the below jetting log, CCTV Survey List, Pipe Graphic Reports, and in the video-inspection footage provided in digital format.

High-pressure Water-jetting:
As the below jetting log indicates, the new Cell 14 leachate piping was jetcleaned in its entirety via high-pressure water-jetting nozzle and was blockage free upon completion.

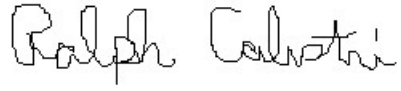
JED LANDFILL CELL 14
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
DECEMBER 2021

LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Cell 14 Collection (8”)	1,600.0'	Entire pipe jetcleaned.
Cell 12 Detection (6”)	1,600.0'	Entire pipe jetcleaned.

Explosion-proof Video-inspection:
After jetcleaning was completed the Cell 14 leachate collection & detection piping was video-inspected as far as possible using explosion-proof video-inspection equipment. The results of these inspections are documented in the below CCTV Survey List, Pipe Graphic Reports, and in the video inspection footage provided in digital format.

Please call us with questions or concerns.

Regards,



Ralph Calistri – Florida Jetclean - 800-226-8013

CCTV Surveys List for FES

Number of surveys in this list is 1 **as of** Wednesday, December 29, 2021 **Unit of measure:** ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	12/29/2021	JED LLANDFILL CELL 14	CO1 COLLECTION	UP	D	8	Y	1		939.0
2	12/29/2021	JED LLANDFILL CELL 14	CO2 DETECTION	UP	D	6	Y	1		424.6

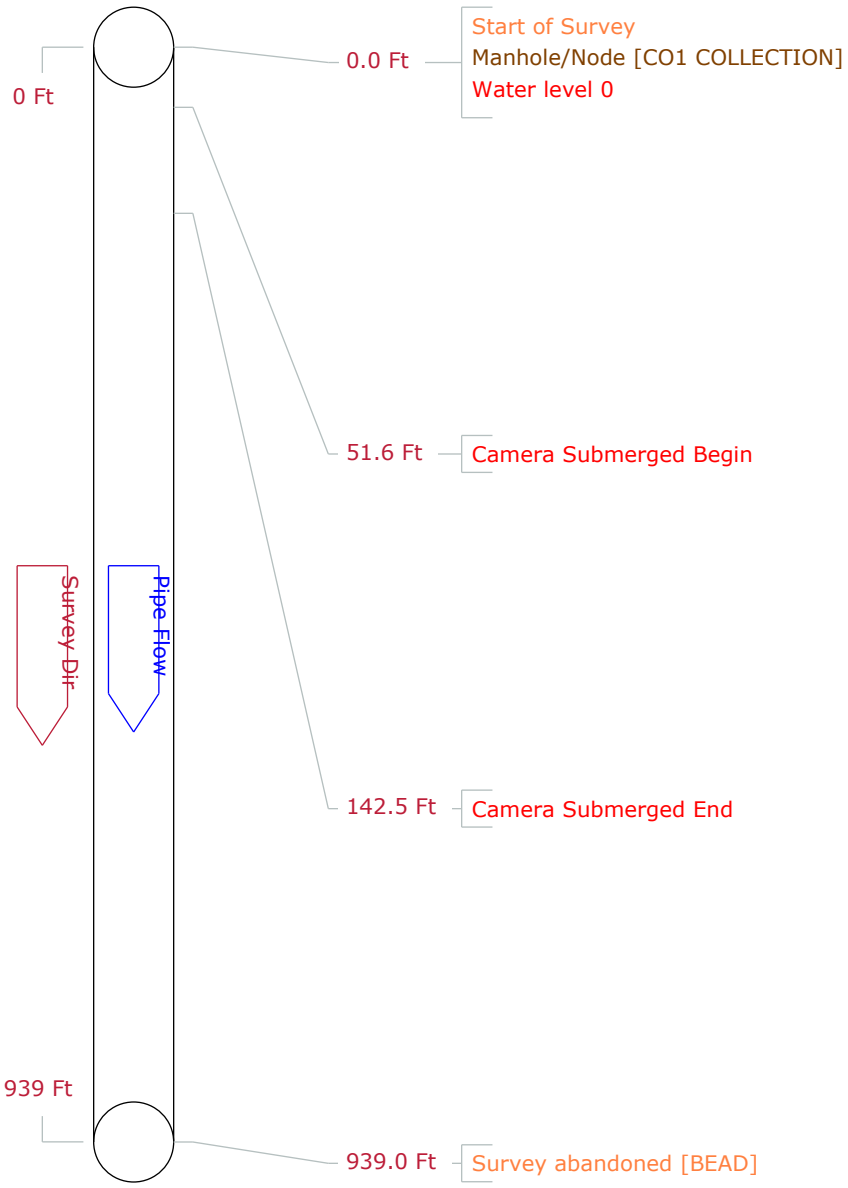
Total Length Surveyed 1,363.6

Pipe Graphic Report of PLR CO1 COLLECTION A **for** FES

Work Order		**Contract**		**Video** 1	**Setup** 1
Facility		**Operator** BMN		**Van Ref** 5	**Surveyed On** 12/29/2021
Street Name	JED LLANDFILL CELL 14	**City**	JED LANDFILL		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)		**Weather**	Dry	

Pipe Use	Other (state in comments)	**Schedule length**	Ft	**From**	CO1 COLLECTION	**Depth** Ft
Shape	Circular	**Size** 8 **by**	ins	**To**	UP	**Depth** Ft
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction**	Downstream	
Lining		**Year laid**		**Pre-clean**	Y	**Last cleaned** 12/28/2021

General note	CORRECTION FINISH MANHOLE UP699	Structural	Service Constructional
Location note		Miscellaneous	Hydraulic



FLORIDA JETCLEAN
Phone:1800-226-8013

CCTV Picture List of CO1 COLLECTION A for FES

Work Order			Setup 1
Video	1	Survey Date	2021/12/29
Path to picture files	G:\Snaps\FES\		
Path to video files	G:\Movies\FES\		
Path to media files	G:\Media\FES\		

Video Index Count 51.6 Ft
Code Camera Submerged Begin
Remarks
File Name 2.jpg

Video Index Count 142.5 Ft
Code Camera Submerged End
Remarks
File Name 3.jpg

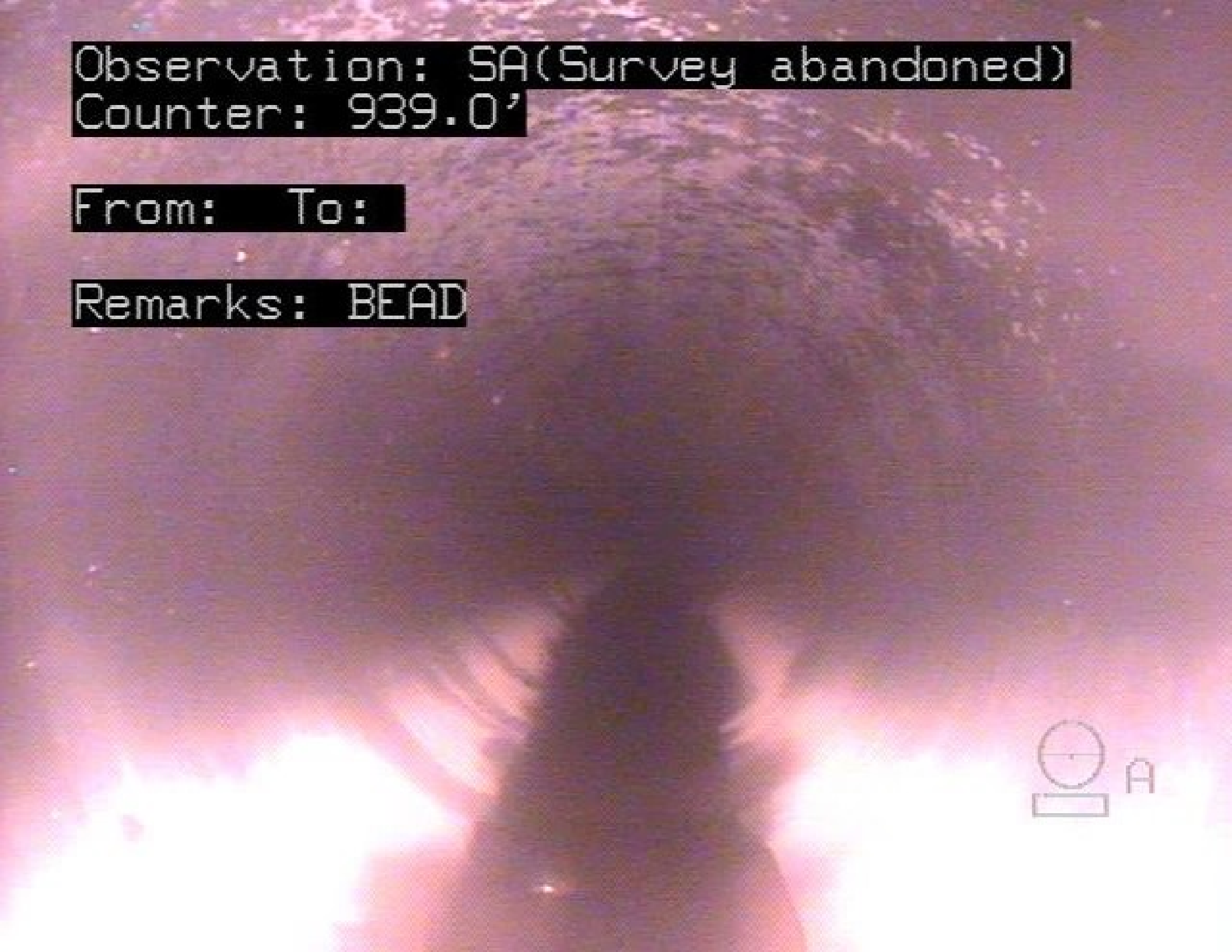
Video Index Count 939.0 Ft
Code Survey abandoned
Remarks BEAD
File Name 4.jpg

Observation: CUB(Camera Submerged Be
Counter: 51.6’
From: To:
Remarks:

Observation: CUE(Camera Submerged En
Counter: 142.5’

From: To:

Remarks:

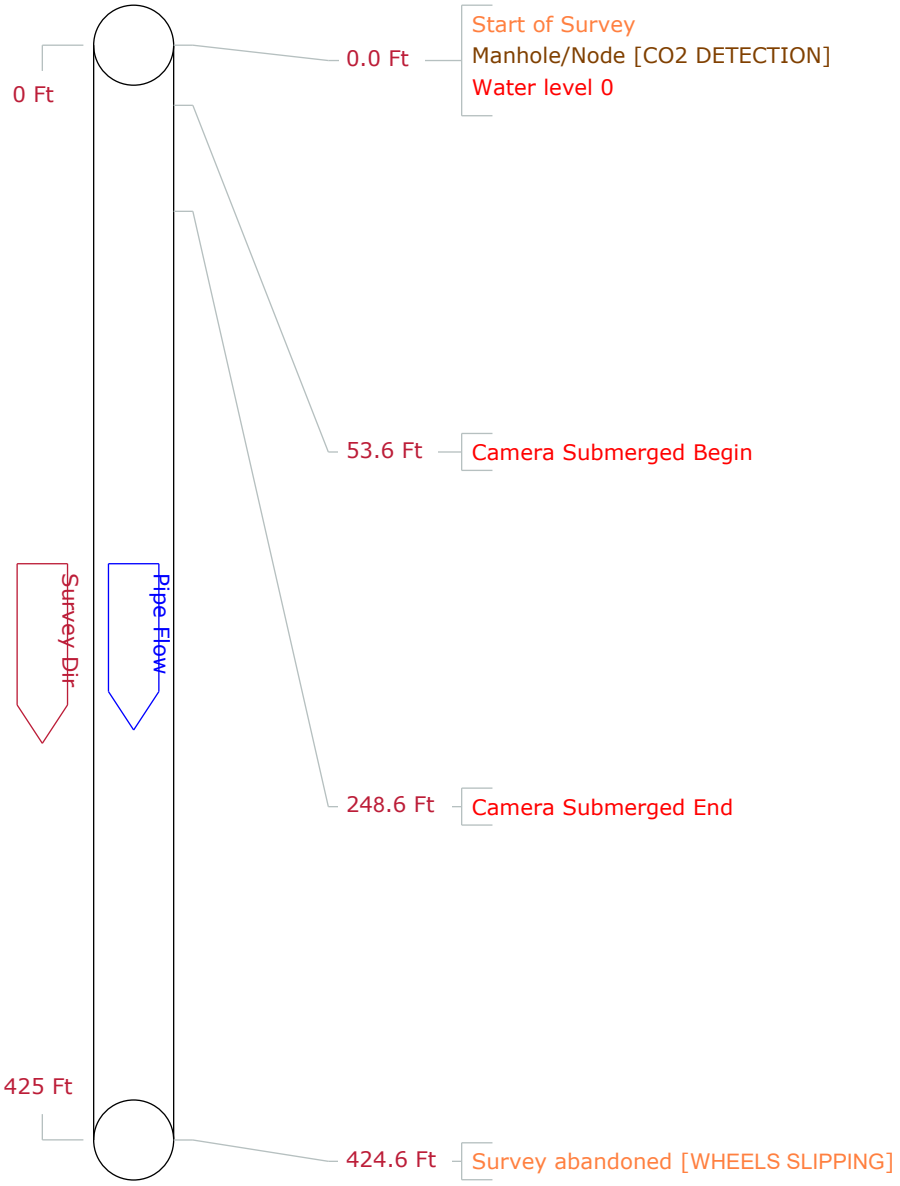

Observation: SA(Survey abandoned)
Counter: 939.0'
From: To:
Remarks: BEAD

Pipe Graphic Report of PLR CO2 DETECTION A **for** FES

Work Order		**Contract**		**Video** 1	**Setup** 2
Facility		**Operator** BMN		**Van Ref** 5	**Surveyed On** 12/29/2021
Street Name	JED LLANDFILL CELL 14	**City**	JED LANDFILL		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)		**Weather**	Dry	

Pipe Use	Other (state in comments)	**Schedule length**	Ft	**From**	CO2 DETECTION	**Depth** Ft
Shape	Circular	**Size** 6 **by**	ins	**To**	UP	**Depth** Ft
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction**	Downstream	
Lining		**Year laid**		**Pre-clean**	Y **Last cleaned**	12/28/2021

General note	Structural	Service	Constructional
Location note	Miscellaneous	Hydraulic	



FLORIDA JETCLEAN
Phone:1800-226-8013

APPENDIX J
Daily Field Monitoring Reports

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 5, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	54 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

FES continues to stockpile strippings from Borrow Pit in the West End of Borrow source area using both Excavators and 8 Haul Trucks today. Water Truck is used throughout the day for Dust control at areas of truck travel. Brantley reviewed the daily work schedule with Cory and William of FES throughout day as work progresses. Crew switched Haul Trucks to hauling material to south end of Cell 13 to widen Haul road from New Borrow Pit to Cell 14 construction area enabling Trucks to run both directions to Cell from Pit simultaneously.

CQC/CQA (s) Monitoring Activities and Test Results:

Brantley's first day mobilizing in. The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Initially reviewed the site conditions and overall conditions with the contractor. Brantley begins inventory of materials delivered and on ground so far which is all Agru 60 Mil HDPE MicroSpike. Monitor contractor construction activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 6, 2021 Tuesday

Weather Description

Sky Cover:	Mostly Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	50 at 7:00	a.m.		High (F)	83 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes widening New Haul Road from New Borrow Pit East of landfill to Cell 14 Construction area. A total of 2 more HDPE Liner trucks have arrived on site. Both have been received, placed in 2nd row just East of brick material area southeast of Cell 14. Both liner trucks inventoried. FES has moved pump from Cell 14 this afternoon while Contractor is on site with Ditch/Trench machine to install dewatering system in the new East Borrow site. Machine is a Wolfe DW 630. Sock drains are going in every 80' across Borrow site for the length of site @ 560' per run starting in Northwest corner running West to East. Contractor began placing additional Borrow pit structural fill material in the Liner lay down Area to expand to required size to accommodate additional geosynthetic materials.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to inventory materials delivered to the site. Continue to monitor contractor construction activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 7, 2021 Wednesday

Weather Description

Sky Cover:	Mostly Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	52 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placing Sock Drainage in Borrow Pit C today placing in North end running West to East. FES begins placing material from Borrow Pit C using all Haul trucks and 2 Excavators in Pit while single Dozer works on stockpiling material adjacent to the west end of Liner Material lay down Pad. After discussions with FES, the East end of Cell where the Contractor plans to start Lift 1 Placement working from East to West is still wet and spongy and will require a bridge lift. It has been decided to start with a 2' bridge lift to work out of the area. The remaining dry areas will be proof rolled before fill placement commences along with the top of the bridge lift.

Lift 1 Begins in the East end of Cell 14 at 2' thick to bridge out of standing water to approximately 80-100' west of East end of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

57 Loads of Fill Material placed at ~22 CY/Load = 1,254 CY of material placed for the Bridge Lift. No density test were taken at this time.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 8, 2021 Thursday

Weather Description

Sky Cover:	Mostly Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	55 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

While Contractor resumes hauling fill from Borrow Pit C, they also continuing bridge lift in East end of Cell 14. Survey Contractor is setting up base station for Cell Project just across main Roadway east of Cell construction area. Contractor has set up Barricades for Flagger per request of Landfill. Survey has shot low spots where water is in East end of Cell 14 construction area. Elevations are 77'-78' range across East End. Contractor is bridging across wet area East end pushing material form South to North across East end. Proof Roll will commence on the existing subgrade just beyond the bridge lift area, heading West from East end of Cell 14 Footprint.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

273 Loads of Fill Material was placed at ~22 CY/Load = 6,006 CY of material placed. 23 density test were taken today with remaining test to be taken tomorrow. There was one failing test due to excessive moisture. Area was allowed to dry and retested with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 9, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	88 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor continues to spread lift 1 beyond Bridge lift this morning starting West of the East end using 7 haul trucks and 2 Excavators in Borrow Pit C. Total of 2 Dozers resume spreading material from East to West while Smooth Drum Pneumatic Roller works lift after rolling Subgrade out ahead of lift placement. Proof roll covers area from East Berm location to the west where ponded water is located in the west end approximately 400’ west of the East end. Prior to lunch, liner delivery trucks arrived onsite as the materials were inspected, inventoried and stored with the previously stored Liner material in the South Laydown yard approximately 100’ south of CELL 14 construction footprint.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

277 Loads of Fill Material was placed at ~22 CY/Load = 6,094 CY of material placed. 40 density test were taken today on placed materials along with completion of density testing from yesterday's placed materials. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 10, 2021 Saturday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

FES resumes placing LIFT 1 across Cell 14 floor using same Haul trucks along with single Dozer this morning. Trucks are dumping simultaneously with 2-3 at a time while keeping lifts to the required minimum of 1' loose and 8" compacted. Plan today is to reach the ponded area of cell floor approximately 300' from West end of Cell footprint. After reaching 640' to the West, the Contractor dropped back and began to place Lift 2.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

410 Loads of Fill Material was placed at ~22 CY/Load = 9030 CY of material placed. 42 density test were taken today on placed materials. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 12, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	59 at 7:00	a.m.		High (F)	85 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor began to blade off roads and perform site clean up and maintenance activities. Contractor used Dozer and Skid Steer to dress up and build elevated storage pad for GCL storage. Sock Drain installation continued in the Borrow Pit C area throughout the day today. Brantley worked on Documentation of testing today to keep up with placement quantities and required test frequencies. No areas ready for test today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

No materials placed today. No testing was performed.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 13, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	55 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has resumed placing Structural Fill material in the East end of Cell 14 area for LIFT #2 using 6 of the 8 Articulated Haul Trucks while one Excavator loads from stockpile today. Contractor is purposely using the dryer fill materials to help absorb some of the moisture the 1st lift received from all the rain on Sunday. By the end of day Contractor has placed 217 Loads of fill from Borrow Pit C. Area covered is approximately 170'x220'.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

217 loads of Fill Material was placed at ~22 CY/Load = 4774 CY of material placed. No testing was performed due to high moisture as materials were allowed to dry for testing tomorrow.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 14, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 2 in Southeast quadrant of cell using 6 of 8 Haul Trucks and 1 Excavator for today's structural fill activities. Contractor had Smooth drum Roller on the cell floor early today compacting Lift 2 and preparing next area for placement of Lift 1 which will be just North of low spot holding ponding water in the cell footprint. Contractor plans to dewater this tomorrow with use of pumps. By end of day, all of Lift 1 has been covered with LIFT 2 while all areas placed for both Lifts have been tested and are passing per specifications as testing frequency is up to date and documented.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

210 loads of Fill Material was placed at ~22 CY/Load = 4620 CY of material placed. 44 density test were taken today on placed materials along with completion of density testing from yesterday's placed materials. There was one failing test due to excessive moisture. Area was allowed to dry and retested with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 15, 2021 Thursday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Fill placement in Cell 14 using 7 of 8 Trucks and 1 of 2 Excavators in the New Borrow Pit C Just East of the Energy Plant. Today's lift starts with Lift 1 continuing to the west just south of Haul road that runs from the old Bronson Borrow Pit. Lift 1 resumes from 640' mark running parallel with Bronson Haul Road for a span of 160-180' between haul road and low spot in cell footprint with ponded water. Contractor has pump set up to dewater this area. Area will be evaluated with a proof roll prior to placement of fill materials.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

262 loads of Fill Material was placed at ~22 CY/Load = 5764 CY of material placed. 30 density test were taken today on placed materials. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 16, 2021 Friday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	62 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor continues Lift 1 Placement in Northwest quadrant of Cell 14 using 5 of the 8 Haul Trucks while 380 Hyundai Excavator begins loading the 6th Haul Truck with wet material from low point in cell in the Central West area of Cell 14. This material if being spread across the south outside of the Cell 14 footprint to dry out. Several loads of structural fill material from Borrow Pit C is being placed along the edges of this low area to fill in and help absorb moisture. The remainder of this low point will be de-mucked and backfilled through Sunday of this week to try to beat next weeks forecast of heavy rainfall. In the afternoon, the Contractor moved all 5 Trucks from Lift one placement to focus on placement of a bridge lift across this low area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

214 loads of Fill Material was placed at ~22 CY/Load = 4708 CY of material placed. No test were taken today on the bridge lift material placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 17, 2021 Saturday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	88 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor continues to focus on demucking of the low areas of Cell 14 where there is ponded water within the cell footprint. All Haul trucks were hauling the Borrow pit C material into the low area while it is being mixed with some of the wet material to help dry out. The excavator continues to load out 2 Haul trucks with the wetter material from the low point. By 2:15 pm all the wet material has been removed while both Dozers resume processing area and grading for the Smooth drum Roller to compact the area as lift one moves across the demucked area with structural fill material from Borrow Pit C throughout the afternoon and into the evening.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

299 loads of Fill Material was placed at ~22 CY/Load = 6587 CY of material placed. 37 density test were taken today on placed materials. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 18, 2021 Sunday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes running 8 Haul trucks today to continue placement of Borrow Pit C Material to build up the low areas. All areas have been hydrated and compacted and repeated to achieve desired densities and moisture as called out in the specs per each area and lift of structural fill placement. Once the elevation matches the surrounding areas, the Contractor graded and sealed off all placement areas in preparation of the forecasted rain predicted for tonight and into early next week.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

317 loads of Fill Material was placed at ~22 CY/Load = 6975 CY of material placed. 36 density test were taken today on placed materials. There was one failing test due to excessive moisture. Area was allowed to dry and retested with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 19, 2021 Monday

Weather Description

Sky Cover:	Cloudy/Showers	Amt. of Precip:	.9" at 7:30 am	Wind:	0-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	79 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Site is rained out. Areas were sealed off yesterday and low area brought to grade to prevent ponding of water.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Prepared daily report, and took project photographs. Brantley working on density test documentation reports.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 20, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy/Showers	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	65 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor spend morning working on haul road to cell and borrow pit. By 8:30 am, Contractor began hauling fill material from Borrow Pit C to the West end of Cell 14 to continue with Lift 1 across this area. A Dozer was used to help skim the standing water from the low area due to yesterday's rain. Additional materials were being spread throughout the haul road to fill in low spots and for continued maintenance.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

206 loads of Fill Material was placed at ~22 CY/Load = 4532 CY of material placed. No test were taken to today as materials were too wet and need to dry out.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 23, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-15	(mph)
Temp: Low (F):	59 at 7:00	a.m.		High (F)	77 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 1 placement in the far West end of Cell 14 using both Dozers this morning. By noon, Contractor Began Lift 3 back in the East end of Cell 14 starting in Northeast corner at inside corner of existing old Haul road from Bronson Pit. Area of Lift 3 placed today is approximately 75'x510'. Material coming in today from Borrow pit C is a Dark Brown silty sand that matches Proctor SF-12

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

213 loads of Fill Material was placed at ~22 CY/Load = 4686 CY of material placed. 15 density test were taken today with remaining test to be taken tomorrow. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 24, 2021 Saturday

Weather Description

Sky Cover:	Partly Sunny	Amt. of Precip:	0"	Wind:	5-15	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 3 in the East end of Cell 14 between existing haul road and Southeast corner of cell working from East to West direction. Contractor is using Single Dozer today in Cell and total of 6 Haul Trucks from Borrow Pit C.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

253 loads of Fill Material was placed at ~22 CY/Load = 5566 CY of material placed. No density test were taken today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 26, 2021 Monday

Weather Description

Sky Cover:	Partly Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	59 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 3 placement this morning from 240' West of the East end of Cell 14 working towards the West across the width of Cell from existing Bronson Pit Haul Road to outer edge of Southeast Corner of the Southern Berm.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

275 loads of Fill Material was placed at ~22 CY/Load = 6050 CY of material placed. 45 density test were taken today with remaining test to be taken tomorrow. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 27, 2021 Tuesday

Weather Description

Sky Cover:	Partly Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 3 placement headed West at 550' today using 6 Haul Trucks and a single Excavator in Borrow Pit C. while Contractor continues with 2 Dozers spreading material in Cell 14. Material continues as a mix of medium to Dark Brown Silty sand. At Approximately 600', Lift 3 becomes Lift 2 from 600' west throughout the remainder of Cell 14 to the West end. Lift 2 Area runs from 600' mark to just shy of 800' mark.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

323 loads of Fill Material was placed at ~22 CY/Load = 7106 CY of material placed. 45 density test were taken today with remaining test to be taken tomorrow. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 28, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	59 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 2 from 600' West of East end of Cell 14 using all 8 Haul Trucks and 2 Excavators as well as both Dozers spreading material. Water truck is also Hydrating placed areas while Smooth Drum Roller resumes compaction of all placed Fill material areas. Contractor received 1 truck load of 270 Composite with 27 Rolls. Contractor made it to 850' mark with Lift 2 today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

301 loads of Fill Material was placed at ~22 CY/Load = 6622 CY of material placed. 60 density test were taken today with remaining test to be taken tomorrow. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 29, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor begins to taper down Lift 2 in the west end of Cell 14 at the 1,000' mark using Single Dozer this morning preparing to drop back to East end of Cell for start of Lift 4 across the East end of cell. One more 270 Composite truck received and stored along with 2 more bags of Zip Ties. Lift 4 starts in East end of cell before lunch using Both Dozers to spread lift while all Haul trucks continue hauling from Borrow Pit C. Water truck is also Hydrating Lift 3 prior to Lift 4 Placement.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

363 loads of Fill Material was placed at ~22 CY/Load = 7986 CY of material placed. 44 density test were taken today. All tests were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: April 30, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 4 from approximately 250’ West of East end of Cell 14 today using a total of 9 Haul trucks which increased total Truck count on site to 9 as of Wednesday 4/28/21. Contractor placed and processed Lift 4 down to 650’ West by end of day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

356 loads of Fill Material was placed at ~22 CY/Load = 7832 CY of material placed. No test were taken today are materials are being processed and will be tested Saturday AM.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 1, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of lift 4 @ 650' west using 7 of 9 Haul trucks today and one Dozer spreading Lift 4 towards the West. This morning Contractor begins processing Placed Lift 4 yesterday from 250' to 650' West. Once processed and compacted with Smooth drum Roller, area was tested. Lift 4 has been tested out to 650' West.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

293 loads of Fill Material was placed at ~22 CY/Load = 6446 CY of material placed. 40 test were taken on previously placed materials. There was one failing test due to excessive moisture. Area was allowed to dry and retested with passing results. Additional test will be taken on remaining areas tomorrow morning.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 3, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor begins placing Lift 2 from 1000' west to where grade stops at Sump area. Also second dozer begins to shape up part of Berm in west end at corner of existing Haul Rd from Bronson Pit. Contractor skipped over 200' area from 800' to 1000' to start today's fill placement. Material continues with Medium to Dark Brown Sand.
Contractor begins stripper and demucking in low area between old haul road and Cell 12.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

333 loads of Fill Material was placed at ~22 CY/Load = 7326 CY of material placed. 31 test were taken on previously placed materials. All test were passing. Additional test will be taken on remaining areas tomorrow morning.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 4, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	99 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placing Lift 2 in far West end of Cell 14 using 8 of 9 Haul trucks and 1 of 3 Dozers while second Dozer works on stripping area between old Bronson Haul road and existing Cell 12 where Cell 14 will tie in. By noon, 2 more haul trucks went down due to mechanical issues. 6 trucks total running by noon.
The area of Lift 2 Placed yesterday is being tested today. By noon Contractor has started to place lift 1 in area between Bronson Haul Rd. and Cell 12 using all 6 trucks. Contractor has 2 workers walking Cell 14 to remove deleterious material such as roots from the fill areas.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

201 loads of Fill Material was placed at ~22 CY/Load = 4422 CY of material placed. 34 test were taken on previously placed materials. All test were passing. Additional test will be taken on remaining areas tomorrow morning.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 5, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 1 in Northwest Quadrant between Bronson Haul road and Cell 12 using 6 Haul trucks before increasing to 7 Haul Trucks. Contractor has two excavators in Borrow Pit C loading out trucks. Both Dozers are spreading from the West quadrant and East Quadrant inward towards each other to close the gap and to push standing water to the middle. Third lift was placed in the Northwest Quadrant by end of the day to 650' from West. The East end is at three lifts from East to 250'West.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

226 loads of Fill Material was placed at ~22 CY/Load = 4972 CY of material placed. 7 test were taken on previously placed materials and 30 test were taken on newly placed materials. There was one failing test due to low compaction. Area was reworked and tested. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 6, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumed placing Lift 4 in Cell 14 @ 830' today and transitions down to Lift 3 while continuing West across Cell 14 floor. Contractor is using 1 of 2 Dozers while second Dozer begins to regrade the North West Quadrant between Bronson Haul road and Cell 12. Mid morning both Dozers are spreading Lift 4 & 3 to the west across Cell. 14 floor. Lift 4 becomes Lift 3 @ approximately 850' and runs West to approximately 1,100' or 450' East to west end of cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

294 loads of Fill Material was placed at ~22 CY/Load = 6468 CY of material placed. 6 test were taken on previously placed materials and 40 test were taken on newly placed materials. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 7, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placing Lift 3 in the west end of cell 14 @ 450' East of West end. Contractor is using 9 Haul trucks today while continuing with both Excavators in Borrow Pit C today. Both Dozers start out spreading Lift 3. Once the first truckload of GCL arrives onsite, one of the dozer operators takes over on the skid steer (fitted with forks) to unload the GCL material using Straps that came attached to rolls. A second load of GCL also arrived (17 rolls). Contractor also begins to haul off deleterious materials such as muck, vegetation and roots from North end adjacent to Bronson Haul road using 315 C Cat Excavator. The contractor spread several loads of fill material with the dozer where deleterious materials were removed and graded in a slope along the edge of Bronson Haul Road in the West end.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

239 loads of Fill Material was placed at ~22 CY/Load = 5258 CY of material placed. 29 test were taken on previously placed materials. There was one failing test due to excessive moisture. Area was allowed to dry and reworked and tested. All test were passing. Additional test will be taken on Monday on newly placed materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 10, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 3 placement in West end of Cell 14 next to west berm area. 2 Dozers & 8 Trucks starting out for today along with the 2 Excavators in Borrow Pit C. Water Truck and Pneumatic Roller continues processing placed material throughout the day. After reaching West end Berm location with Lift 3, contractor began placing material outside of cell for construction of ramp at South West corner. Ramp will be future Perimeter access road Tie in location. After 2 Lifts, this brings the West Berm up to Lift 4. Contractor then moved back to East End and placed 2 Lifts in East Berm Area. This area will be tested tomorrow.

Additionally, at 8:05 am, 2 GCL Trucks arrived on site as the contractor began to unload trucks 3 & 4 using the front end loader with forks and a two man crew. 2 rolls were marked with high Visible paint and segregated as both rolls came off the truck with some minor hydration on one end of the roll where the plastic was torn. These rolls were set aside and will be evaluated further. It appears to be very minimal moisture at this time as the rolls should be able to be used. All GCL rolls are being placed under [illegible]

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

298 loads of Fill Material was placed at ~22 CY/Load = 6556 CY of material placed. 32 test were taken today as all test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 11, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of lift 5 from East towards the West using 8 of 9 Haul Trucks and same 2 Dozers. Water Truck and pneumatic roller for compaction and moisture also are used. Haul trucks are down to 6 for part of day with mechanical issues. Lift 5 has been placed to 450' West of East end of Cell14 by end of day.

GCL trucks started arriving at 8 am. We received trucks 6 and 7. All rolls were unloaded and placed in GCL laydown area and tarped. Contractor also worked on expanding the lay down yard for future synthetic materials.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

267 loads of Fill Material was placed at ~22 CY/Load = 5874 CY of material placed. 34 test were taken today as all test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 12, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 5 Placement running 7 of 9 Trucks this morning starting at 450' mark heading West down the entire width of cell 14. Crew resumes running both Dozers for placement and grading activities while water Truck and Roller continue to follow behind processing Lift for Compaction and Moisture. Contractor made it to 750' west with Lift 5.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

322 loads of Fill Material was placed at ~22 CY/Load = 7084 CY of material placed. 37 test were taken today as all test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 13, 2021 Thursday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 4 in West half of Cell floor today using 6 of 9 trucks while 2 of 9 Trucks are working for Landfill outside of cell today on the Landfill haul Road. Contractor used the 6 haul trucks to continue Lift 4 from 750'-1000' West. Using mostly one Dozer while 2nd Dozer would help spread part of day. Smooth drum Pneumatic Roller ran all day just behind dozers to compact Lift as normal for Lift Processing. Moisture is staying within range today coming straight from Pit C without needing to hydrate lift with the Water Truck.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

200 loads of Fill Material was placed at ~22 CY/Load = 4400 CY of material placed. 24 test were taken today as all test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 14, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	67 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has moved back to East end of Cell this morning using 6 Trucks to place Structural Fill material with 1 dozer spreading in low area while second Dozer and 2 Haul trucks resume working on Haul Road ramp relocation for Landfill. Pneumatic Roller resumes compacting placed lifts in North East Quadrant between Bronson Pit Haul road and Cell 3 Lifts placed by lunch and tested accordingly. Material is same cut from Pit C and is passing with similar results from yesterday's testing in West end of Cell Floor. After lunch, the contractor is using both Dozers to capture water between the East & West Quadrants North of the Bronson Pit Haul road where a pump is set up. Excavator continues loading trucks out with strippings and muck from this area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

201 loads of Fill Material was placed at ~22 CY/Load = 4422 CY of material placed. 26 test were taken today as all test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 15, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	67 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor continues placing Structural Fill in the North end of Cell 14 between Bronson Pit Haul road and Cell 12 while part of crew continues across Cell Floor from East end for Lift 6 placement.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

288 loads of Fill Material was placed at ~22 CY/Load = 6336 CY of material placed. 36 test were taken today. There were two failing test due to excessive moisture. The area was allowed to dry and reworked and retested. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 17, 2021 Monday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of fill in North end between Bronson Pit Haul road and Cell 12 starting with lift 6 from East end at Northeast Corner of Cell. Vegetation was stripped from the Cell 12 slope ahead of placement as lift extend towards Cell 12 Slope.

Two geosynthetic trucks arrived this morning with 1 load of 270 Geocomposite and one load of GCL. Materials were inspected when they were offloaded.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

273 loads of Fill Material was placed at ~22 CY/Load = 6006 CY of material placed. 32 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 18, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift #6 across the Northwest end of Cell 14 between Bronson Haul road and Cell 12. Both Dozers are in North end between Haul Road and Cell 12 while one spreads fill in the West end and continues to strip vegetation from Cell 12 slope up to Tie-in area. The second Dozer is stripping same area but towards the East. Pneumatic Roller continues with compaction efforts as Lifts are placed throughout today's construction process.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

356 loads of Fill Material was placed at ~22 CY/Load = 7832 CY of material placed. 44 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 19, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	10-15	(mph)
Temp: Low (F):	65 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor continued with lift placement from yesterday with one dozer while the other dozer moved over to finish up Lift in the Southwest quadrant of Cell 14 floor. Once first dozer completed the lift, both dozers worked simultaneously to finish lift placement in the SW quadrant. Completion of this lift will allow the contractor to work across the entire floor at one level. Once this is finished contractor will be able to come across entire floor as one elevation.

2 GCL Trucks #9 & #10 were received with 17 rolls each today. Material was off loaded and stockpiled and covered with Tarps.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

345 loads of Fill Material was placed at ~22 CY/Load = 7590 CY of material placed. 40 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 20, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	15-35	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placing Lift 6 from East end headed west using 8 of 9 Trucks and 2 Dozers pushing and grading. Water truck resumes hydration of previous lift ahead of new lift placement. Cell construction has now eliminated access to Bronson Pit from the old Haul road which ran through the Cell. Lift 6 placed from East to west and South to North as one lift up to 800' West. No more separation from Bronson Pit Haul Road.

2 Trucks of Geocomposite were received and checked against Certs.
48 Rolls in total which leaves 111 outstanding at this time.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

407 loads of Fill Material was placed at ~22 CY/Load = 9151 CY of material placed. 48 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 21, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	15-25	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 6 in the West half of Cell 14 using 8 of 9 Trucks again today starting approximately 800' west moving towards West end. High winds again today has water truck hydrating non stop ahead of lift placement and keeping previous lift from drying out.
3 trucks of GCL were delivered as they were unloaded, inventoried and tarped. Each truck had 17 rolls each.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

350 loads of Fill Material was placed at ~22 CY/Load = 7700 CY of material placed. 40 test were taken today of which there were two failing test due to low moisture. Areas were hydrated and reworked with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 22, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	15-25	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 6 in the North West corner today before moving over to the Southwest Quadrant to continue with Lift 6. Today only 1 Dozer was spreading in the Cell. Contractor began stockpiling fill materials in the Southwest corner of Cell 14. Lift 7 begins in East end of Cell before lunch.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

400 loads of Fill Material was placed at ~22 CY/Load = 8800 CY of material placed. 45 test were taken today of which there was one failing test due to low moisture. Area was hydrated and reworked with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 24, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 7 approximately 200' west of East end of Cell 14 today headed towards the west half of Cell floor spanning lift completely from South end to North end. Contractor is using 9 of 9 trucks along with both Dozers, 1 pneumatic Smooth drum Roller and the water Truck which continues to run full time hydrating areas ahead of Lift 7 placement throughout the day. From 200' West to 450'West.

2 trucks of GCL were delivered as they were unloaded, inventoried and tarped. Each truck had 17 rolls each.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

393 loads of Fill Material was placed at ~22 CY/Load = 8646 CY of material placed. 45 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 25, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 7 from 400' West to 765' West using 9 of 9 Trucks today and both Dozers across Cell 14 floor from North to South headed West. Water truck and Pneumatic Roller resumes working placed Lift 7 for Hydration and Compaction. Crew used 3rd Dozer to expand Liner Storage Area this morning.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

372 loads of Fill Material was placed at ~22 CY/Load = 8184 CY of material placed. 43 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 26, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Lift 7 from 765' West to 900' West using 5 of 9 Trucks today and 1 of 2 Dozers starting out across Cell 14 floor from North to South headed West. Water truck and Pneumatic Roller resumes working placed Lift 7 for Hydration and Compaction.
Surveyor has all Survey Stakes laid out and marked as of late yesterday Evening throughout Cell 14 in order to get an up-to-date number of in place materials.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

276 loads of Fill Material was placed at ~22 CY/Load = 6072 CY of material placed. 33 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 27, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	63 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of lifts 5-7 in West end of Cell 14 today using single Dozer to spread material while Water Truck and Pneumatic Roller continue to Process lifts for compaction and moisture. Crew is running 8 of 9 Trucks today while second Dozer is working on getting outside edge of Southeast Berm graded and shaping up. Contractor finished up West end placement of Cell 14 floor before switching back to Northeast corner of Cell for start of Lift 8.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

318 loads of Fill Material was placed at ~22 CY/Load = 6996 CY of material placed. 38 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: May 28, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 8 from the East end of Cell 14 to 200'West using Both Dozers and 8 of 9 Haul Trucks. Material is coming in on the dry side of optimum so water truck is hydrating ahead of Lift Placement as well as hydrating the previously placed Lift 7 further West.
4 Cetco GCL Trucks #17 - #20 were delivered, inventoried and stored on new expanded area of Storage Pad today using Front End Loader and Crew of Two. Material was tarped at the end of off loading.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

311 loads of Fill Material was placed at ~22 CY/Load = 6842 CY of material placed. 37 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 1, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift #8 in the East end of Cell 14 using 8 of 9 Haul Trucks today while both Dozers and Pneumatic Roller spread and Compact Material throughout Lift 8 placement. Placement area 200’ West of East end to 450’ West.

2 GCL Trucks unloaded today
#21 with 17 Rolls & #22 with 16 Rolls

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

258 loads of Fill Material was placed at ~22 CY/Load = 5676 CY of material placed. 32 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 2, 2021 Wednesday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 8 from the East end of Cell 14 from 450' West using Both Dozers and 8 of 9 Haul Trucks. Material is coming in Dry again so water truck is hydrating ahead of Lift Placement as well as hydrating the previously placed Lift 7 further West.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

265 loads of Fill Material was placed at ~22 CY/Load = 5830 CY of material placed. 32 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 3, 2021 Thursday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	64 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 8 from the East end of Cell 14 from 750' West using Both Dozers and 8 of 9 Haul Trucks. Material is coming in Dry again so water truck is hydrating ahead of Lift Placement as well as hydrating the previously placed Lift 7 towards West in front of Lift 8 Placement.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

260 loads of Fill Material was placed at ~22 CY/Load = 5720 CY of material placed. 35 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 4, 2021 Friday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	67 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 9 from the East end of Cell 14 using Both Dozers and 7 of 9 Haul Trucks. Material is coming in more hydrated but still on the dry side of optimum, so water truck is hydrating ahead of Lift Placement as well as hydrating the previously placed Lift 8 towards the West and out in front of Lift 9 Placement.

2 GCL Trucks were off loaded today. Materials were tarped after stockpiled.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

302 loads of Fill Material was placed at ~22 CY/Load = 6644 CY of material placed. 36 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 5, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 9 from the 225’ west of East end of Cell 14 using Single Dozer and 7 of 9 Haul Trucks. Water truck resumes hydrating ahead of Lift Placement as well as hydrating the previously placed Lift 8 towards West in front of Lift 9 Placement.

Lift 9 spread to 550’ West of East end of Cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

266 loads of Fill Material was placed at ~22 CY/Load = 5852 CY of material placed. 27 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 7, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	0-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 9 from the 550' west of East end of Cell 14 using Single Dozer in the morning and 7 of 9 Haul Trucks. Lift thickness was verified using Probe Rod with measuring marks. Lift 9 spread to 625' West of East end of Cell.

Final 2 GCL Liner Trucks today for grand total of 416 Rolls completing GCL materials shipped and stored and inventoried for Cell 14. All 416 Rolls of GCL have been verified against Manufacturers Certs and are tarped in the lay down area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

241 loads of Fill Material was placed at ~22 CY/Load = 5302 CY of material placed. 32 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 8, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 9 from the 550’ west of East end of Cell 14 using Single Dozer in the morning and 7 of 9 Haul Trucks.

Lift 9 spread to 550’ West of East end of Cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

218 loads of Fill Material was placed at ~22 CY/Load = 4796 CY of material placed. 27 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 9, 2021 Wednesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 10 from the East end of Cell 14 using Single Dozer in and 7 of 9 Haul Trucks. Lifts 7,8 & 9 are being graded out in lower west end today throughout Lifts towards final grade thickness in west end floor.
Lift 10 spread to 175' West of East end of Cell 14.
Truck #3 of (330-2-8) Primary Composite was received, stored and inventoried today.

Excavator begins moving Strippings above Cell 12 Tie-in today preparing for installation of Diversion Berm to Protect Cell 14 from storm water runoff from Cell 12.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

271 loads of Fill Material was placed at ~22 CY/Load = 4878 CY of material placed. 28 test were taken today. Two test failed due to moisture. Areas were reworked and retested and passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 10, 2021 Thursday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 10 from 175' West of the East end of Cell 14 using Single Dozer in and 8 of 9 Haul Trucks.
are being graded out in lower west end today throughout Lifts towards final grade thickness in west end floor.
Lift 10 spread to 430' West of East end of Cell 14. Excavator resumes moving Strippings above Cell 12 Tie-in today preparing for Diversion Berm to Protect Cell 14 from encroachment of Cell 12 Debris/Garbage as per Design Drawings.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

274 loads of Fill Material was placed at ~22 CY/Load = 4348 CY of material placed. 26 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 11, 2021 Friday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 10 from 430' West of the East end of Cell 14 using Single Dozer in and 7 of 9 Haul Trucks. Lift 10 spread to West of East end of Cell 14.
Excavator resumes moving Strippings above Cell 12 Tie-in today preparing for Diversion Berm to Protect Cell 14 from encroachment of Cell 12 storm water. Additional dozer is added to help removal of Strippings between Cell 14 & Cell 12.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

183 loads of Fill Material was placed at ~22 CY/Load = 3294 CY of material placed. 20 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 12, 2021 Saturday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 10 from 570' West of the East end of Cell 14 using Single Dozer and 7 of 9 Haul Trucks. Lift 10 spread to 750' West of East end of Cell 14 along North Tie-in before moving back to East for Lift 11 at Northeast corner. Contractor working in East Berm towards Southeast Corner with Lift 11.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

275 loads of Fill Material was placed at ~22 CY/Load = 4400 CY of material placed. 26 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 14, 2021 Monday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	2.5"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 11 from 100' West of the East end of Cell 14 using Single Dozer in and 7 of 9 Haul Trucks. Lift 11 spread to 350' West of East end. Contractor working in East Berm towards Southeast Corner with Lift 11. Contractor had to rehydrate lift 10 along the Northeast Quadrant for Saturday's placement to get moisture back up to acceptable range. Area was hydrated with 3 full loads of water to prepare for testing after lunch.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

224 loads of Fill Material was placed at ~22 CY/Load = 3584 CY of material placed. 21 test were taken today. All test were passing. Testing completed prior to late afternoon rains.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 15, 2021 Tuesday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	2.5"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor called early this morning to confirm no Cell construction activities today due to 4“ of rain late yesterday and overnight and has left site in unworkable condition. Crew hauling Strippings today in Borrow Pit C and helping landfill clean up main access roads to the landfill cells.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day.
No materials placed today due to activities being shut down. Brantley working on Documentation and Test Summary for Cell 14 Construction meeting tomorrow.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 16, 2021 Wednesday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor begins placement of Lift 12 from 1' West of the East end of Cell 14 using Single Dozer in and 8 of 9 Haul Trucks.
Lift 11 to 350' West of East end. Contractor working in East Berm towards Southeast Corner with Lift 12.
Rains started late in the afternoon.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs. Attended Weekly meeting.

178 loads of Fill Material was placed at ~22 CY/Load = 2848 CY of material placed. 18 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 17, 2021 Thursday

Weather Description

Sky Cover:	Sunny/Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

1" rain over night and throughout the morning. Site is too wet to Haul any material to cell. Contractor working on washouts and maintenance of the haul road.

No Cell Construction activities today.
Contractor begins hauling Strippings and using excavator and Dozer to work on repairing cell 12 Diversion berm which washed out in several places. Crew is also working on haul road from borrow Pit C in hopes of returning to Cell 14 construction tomorrow. Contractor also cute a diversion ditch between Main Paved road and live cells and Cell 14 construction area to help divert storm water from the main Haul Road from entering the Cell 14 entrance haul road.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities. Prepared daily report, and took project photographs.

No materials were placed today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 18, 2021 Friday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 12 from 220' West of the East end of Cell 14 using Single Dozer in morning and 7 of 9 Haul Trucks. Contractor reworks Southeast Corner with Lift 12 while excavator and Dozer grade Silt material into piles and hauls off to the live Landfill.
Moisture is good today and did not require any additional hydration.

Lift 12 to 340' West of East end.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

183 loads of Fill Material was placed at ~22 CY/Load = 3131 CY of material placed. 20 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 19, 2021 Saturday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	0-5	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 12 from 340' West of the East end of Cell 14 using 2 Dozers and 7 of 9 Haul Trucks. Lift 12 spread to 460' West of East end. Contractor reworks Southeast Corner with Lift 12.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

186 loads of Fill Material was placed at ~22 CY/Load = 2976 CY of material placed. 20 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 21, 2021 Monday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	2"	Wind:	0-5	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 12 from 460' West of the East end of Cell 14 using 2 Dozers and 7 of 9 Haul Trucks. Lift 12 spread to 0' West of East end. Contractor reworks Southeast Corner with Lift 12. Crew is putting out new survey stakes today. 5 Pm Heavy Rain & Thunderstorm w Strong Winds and Heavy Lightning.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

179 loads of Fill Material was placed at ~22 CY/Load = 2864 CY of material placed. 18 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 22, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor moved back to Northeast corner of Cell 14 to begin placement of Lift 13 using 1 of 2 Dozers and 7 of 9 Haul Trucks. The 2nd Dozer is blading roads this morning. Lift 13 spread down Cell 14 floor along North running parallel with Cell 12- Tie In Location. Contractor also began building new Access Road between Laydown yard for Geosynthetics and the South Berm area of Cell 14 using excavator to strip vegetation along area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

168 loads of Fill Material was placed at ~22 CY/Load = 2232 CY of material placed. 15 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 23, 2021 Wednesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

No Hauling to cell today as conditions were too wet. Contractor moved back to the Borrow site hauling Strippings from pit to place throughout Haul road for filtration to help maintain haul road during heavy rains using 7 of 9 Haul Trucks. The Dozer is blading roads and grading Strippings into road from pit. Process has been discussed in today's meeting as a trial to help speed up production of transporting structural fill to cell from pit.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

No materials placed and no test taken today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 25, 2021 Friday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Lift 13 today across East end of Cell today spreading lift approximately 125' west from East end of cell using 8 Haul Trucks. Crew also used second Dozer to grade areas in the west half of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

63 loads of Fill Material was placed at ~22 CY/Load = 1008 CY of material placed. 8 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 26, 2021 Saturday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	88 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor starts placement of Lift 14 today in Southeast corner of Cell today spreading lift approximately 125' west from East end of cell using 8 Haul Trucks. Crew also used second Dozer to grade areas in the west half of Cell 14. 3rd Excavator used to work on diversion Berm around Northeast corner outside of
Cell 14 to help divert all the storm water running through this area from Cell 12 and Access Road to live cell.

By 12:00 PM, 4/10th of an inch of rain shut haul road down causing crew to work on haul road for remainder of day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

64 loads of Fill Material was placed at ~22 CY/Load = 1024 CY of material placed. 8 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 27, 2021 Sunday

Weather Description

Sky Cover:	Mostly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 14 today Northeast corner of Cell today spreading lift approximately 400' west from East end of cell using 8 Haul Trucks. Crew also used second Dozer to spread Lift 14 across Southeast quadrant of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

287 loads of Fill Material was placed at ~22 CY/Load = 4592 CY of material placed. 26 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 28, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lift 14 today Northeast corner of Cell today spreading lift approximately 450' west from East end of cell using 8 Haul Trucks. Crew also used second Dozer to spread Lift 14 across Southeast quadrant of Cell 14. Mid morning Crew dropped back to start Lift 15 in Northeast corner

2 Truckloads of 270 Composite were received today, inventoried and stockpiled.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

289 loads of Fill Material was placed at ~22 CY/Load = 4628 CY of material placed. 26 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 29, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0.5"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lifts 15 & 16 today in Northeast corner of Cell 14 spreading lifts approximately 200' west from East end of cell using 8 Haul Trucks before dropping back to Southeast Quadrant and Eastern Berm area placing lift 16 in Berm Area. Crew also used second Dozer maintaining Haul Road from Pitt to Cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

246 loads of Fill Material was placed at ~22 CY/Load = 3936 CY of material placed. 22 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: June 30, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0.5"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes placement of Lifts 15 & 16 today spreading lifts approximately From 200' west from East end of cell using 8 Haul Trucks. Crew also used second Dozer maintain Haul road. After additional rain today, the crew shut down the haul trucks to the Cell around 2pm.
2 Truckloads of Geocomposite were received today, inventoried and stockpiled.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

180 loads of Fill Material was placed at ~22 CY/Load = 2880 CY of material placed. 10 test were taken today. All test were passing. Remainder of the area was too wet to test and will be tested once are is dried and reworked.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 2, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Due to the rains throughout the week, there was no hauling of fill material to the cell due to haul road conditions. Contractor resumes working on Haul Roads again today while part of crew is exposing the Cell 12 Tie-in throughout day with mini Excavator and crew of two with shovels.
5 loads of 330 composite came in and was offloaded and stockpiled during the morning. Testing was completed on remaining areas from last Wednesday placement of materials.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

8 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 3, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor working final section of cell floor today in the Southeast corner of Cell 14 today using 8 of 8 Haul trucks. Contractor resumes working on Haul Roads again today when rain came

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

143 loads of Fill Material was placed at ~22 CY/Load =3146 CY of material placed. No test were taken today due to rain event. Areas will be reworked and tested after the holiday.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 5, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes working final section in the southeast corner of cell 14 floor this morning using 8 of 8 Haul trucks. Placement of lifts 17, 18 & 19 finished up Floor in Southeast corner of Cell 14. Remainder of fill placement will be Cell Perimeter Berms. Contractor also resumes construction of diversion berm above Tie in to Cell 12 in Southeast corner of Cell 12 using 300 series Excavator.

Contractor resumes exposing Tie in along Cell 12 using same mini Excavator and crew of two on ground with shovels.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

222 loads of Fill Material was placed at ~22 CY/Load = 3552 CY of material placed. 22 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 6, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor begins placing Lift 17, 18 & 19 to remove ramp from East Berm today with plans to relocate entry ramp into cell and Southeast Corner of Cell 14 for main entrance into Cell 14 today.
1 Geocomposite truck was delivered today which leaves one more for the project.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

220 loads of Fill Material was placed at ~22 CY/Load = 3520 CY of material placed. 20 test were taken today. One test failed due to high moisture, but area was reworked and retested with passing results.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 8, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	2"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Site is too wet to haul to fill to the cell today due to Hurricane Elsa. Crew resumes working on Tie-in and exposing liner in West end of Cells 12 & 14 using mini Excavator and crew with shovels. Second Excavator resumes working on Diversion Berm above Tie-in in West half of Cell 12. Contractor has several trucks hauling material for Comanco's work trailer pad area next to Liner Materials storage area. Stone Samples were picked up from Vulcan in Orlando and have been shipped to lab Via Brantley Engineering.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

No materials placed today due to weather. Stone samples for the #4 stone and #57 stone were retrieved from Vulcan and sent to our offsite lab for conformance testing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 9, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has several trucks hauling material for Comanco's work trailer pad area next to Liner Materials storage area. Remainder of trucks resumes hauling into Cell 14 for South Berm Construction Lifts 19,20 & 21. Crew continues to compact using Smooth Drum Pneumatic Roller while moisture remains within optimum range. By end of day crew switched to Northeast end of East Berm starting Lift 22.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

180 loads of Fill Material was placed at ~22 CY/Load = 2880 CY of material placed. 18 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 10, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	2"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 6 trucks hauling to Cell14 resuming Lifts 22 and 23 this morning in Northeast end of the East Berm working East Berm to the south and will continue towards the South Berm working from East to West. Smooth Drum Roller continues to work lifts behind Dozer. Contractor also has 2 trucks Hauling to new Haul road and Comanco's construction trailer pad throughout day. Contractor cut out a section of ramp after lunch to install a 24" Pipe for storm water control next to East Berm of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

241 loads of Fill Material was placed at ~22 CY/Load = 2510 CY of material placed. 17 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 11, 2021 Sunday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	2"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 2 trucks hauling to Cell14 this morning in the South Berm working Towards the West Berm continuing from East to West. Smooth Drum Roller continues to work lifts behind Dozer. Contractor also has trucks Hauling to new Haul road between Comanco's construction trailer pad and Cell 14 Southern Berm throughout day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

12 partial loads of Fill Material was placed (~192 CY of material placed). No test were taken today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 12, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 8 trucks hauling to Cell14 resuming Lifts 24 & 25 in the East Berm working Towards the South Berm continuing with the South Berm construction from East towards West. Smooth Drum Roller continues to work lifts behind Dozer. Contractor also has 2 Dozers spreading lifts through both East & South Berms throughout day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

231 partial loads of Fill Material was placed (~2310 CY of material placed). 16 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 13, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has Dozer and 6 Haul Trucks continuing construction of the new Haul Road south of Cell 14 which provides access road to the geosynthetic material lay down storage Area. No materials placed in the cell today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

No test were taken today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 14, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 6 trucks hauling to Haul Road again this morning using one Dozer while Second Dozer resumes Grading in Cell 14 for final grade efforts of East and South Berms. Grading efforts also resume across Cell Floor to the West from approximately 200' East. Contractor also has crew of 3 Cutting in Leachate Leak Detection Trench starting in the East from survey point #915 at Toe of East Berm Slope. Crew consist of 2 laborers with shovels and rakes and one operator on Mini Excavator with custom Bucket built to excavate out trench as per design. Contractor also has 2nd Dozer and 6 Haul Trucks continuing construction of the West Berm from end of new Haul Road in the Southwest corner of Cell 14 for placement of Lifts 8 & 9 in West Berm.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

121 partial loads of Fill Material was placed (~1939 CY of material placed). 14 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 15, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 6 trucks hauling to West Berm again this morning using one Dozer for Lifts 10 & 11 of West Berm. Smooth drum Roller continues compaction of placed lifts behind Dozer for placement activities.
Second Dozer resumes Grading in Cell 14 for final grade efforts of East and South Berms. Grading efforts also resume across Cell Floor to the West from approximately 200' East. Contractor also has crew of 3 continue cutting in Leachate Leak Detection Trench approximately 200' west of East Berm. Crew consist of 2 laborers with shovels and rakes and one operator on Mini Excavator with custom Bucket.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

81 partial loads of Fill Material was placed (~1296 CY of material placed). 10 test were taken today. All test were passing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 16, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor has 6 trucks hauling to Haul Road again and West Berm for Cell 14 this morning using one Dozer for Lifts 12 & 13. Second Dozer resumes Grading in Cell 14 for final grade efforts of East and South Berms. Grading efforts also resume across Cell Floor to the West while crew hand rakes Slopes and floors in East half of cell that at final grade.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement. Prepared daily report, and took project photographs.

60 partial loads of Fill Material was placed (~960 CY of material placed). 10 test were taken today. All test were passing. All testing has been completed for Cell 14 except for the western berm.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 19, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor installed drain pipe under new Haul Road that runs between Cell 14 and material lay down Pad area.

Geosynthetics

Comanco arrived on site around 11:30 am and held their safety meeting. Comanco crew began filling sandbags in anticipation of GCL deployment tomorrow. A liner pre-construction meeting was held by Brantley along with representatives from Comanco.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics activities. Prepared daily report, and took project photographs.

Attended liner pre-construction meeting and began walking prepared surfaces of the subgrade in anticipation of GCL deployment tomorrow.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 20, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has 4 trucks hauling to West Berm again this morning using one Dozer to continue West Berm construction. Contractor installed drain pipe under new Haul Road that runs between Cell 14 and material lay down Pad area.

Geosynthetics

Comanco arrived on site around 6:00 crew held safety meeting. Crew is setting up Spreader bar to stage GCL Material in East end of cell today. Crew staged Material in Cell throughout morning (4 rolls North & 4 Rolls South of Center ditch line). At 10:30am Comanco started peeling back layers of Tie-in at Cell 12 at the Northeast corner of Cell 14. At 1:30 PM, the first rolls of GCL were placed. HDPE was then deployed over the GCL.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
11,810 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S1-S14.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 21, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor continues to prepare subgrade in front of geosynthetics deployment with smooth drum roller in the east end of the cell and continues preparing Subgrade for GCL deployment in the Southeast section of berm and part of cell floor next to toe of slope.

Geosynthetics

Comanco arrived on site around 6:00 AM And held safety meeting. Crew continues to stage materials. Comanco crew increased from a 6 person crew to a 12 person crew. Crew deployed GCL and 60 Mil HDPE Secondary Liner along the Southern half of the East Berm today with a full pull across the cell floor to the Tie-in to the berm to the floor while maintaining a 10’ minimum run out from toe of slope.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
33,791 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S15-S29.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 22, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has 4 trucks hauling to Landfill today. Continue to prepare subgrade in front of geosynthetics deployment with smooth drum roller in the east of the cell.

Geosynthetics

Comanco arrived on site around 6:00. Crew held safety meeting. After staging material for today's deployment, Comanco began begin deploying GCL in the East floor from panel 30 headed to the West. The crew deployed panels S30 - S34 at approximately 512' length each roll.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
57,915 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S30-S34.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 23, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has 4 trucks hauling to Landfill today. Continue to prepare subgrade in front of geosynthetics deployment with smooth drum roller in the east of the cell.

Geosynthetics

Comanco arrived on site around 6:00. Crew held safety meeting. After staging material for today's deployment, Comanco began begin deploying GCL in the East floor from panel 35 headed to the West. The crew deployed panels S35 - S39.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
57,870 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S35-S39.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 24, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor is performing landfill work and continues to prepare subgrade in front of geosynthetics deployment with smooth drum roller.

Geosynthetics

Comanco arrived on site around 6:00. Crew held safety meeting. After staging material for today's deployment, Comanco began begin with repair work and welding the tie-in between cell 14 and cell 12. The ten destructive test have been pulled and tested in the field.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
No materials placed today as the crew only worked on repairs and the tie-in.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 26, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has water truck hydrating Cell floor this morning before rolling Subgrade in preparation for today's deployment activities.

Geosynthetics

Comanco arrived on site around 8:00. Crew held safety meeting. After staging material for today's deployment, Comanco began to open up the additional tie-in areas by folding back the primary layers to prepare the area for the secondary layer tie-in. An additional destructive test has been pulled and tested in the field and are ready to shop to 3rd party laboratory. Crew continues to fill additional sand bags for future use. Comanco also started with the non-destructive testing of all the repairs using a vacuum box. No deployment again today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
No materials placed today as the crew only worked on repairs, the tie-in, and non-destructive testing.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 27, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has been Smooth drum Roller preparing Subgrade in preparation for today's deployment activities. Also repairing reel in ditch and shaping up edges of LCS trench to prepare for today's deployment using a Mini Excavator, Skid Steer and 3 man crew.

Geosynthetics

Comanco works on pulling liner back in preparation of more deployment. Comanco deployed panels S40 - S42 before the rain started in the afternoon. Destructive Samples to be marked tomorrow after weather dries up liner.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
34,830 Square Feet of GCL and Secondary HDPE Liner were installed today. Cumulative is 196,217 SF HDPE Panels deployed S40-S42.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 28, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0.5"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Crew also worked on LCS Trench and worked Tie In area towards the west cutting diversion drain to help contain stormwater from entering into Cell 14 just North of Tie-in area.

Geosynthetics

Comanco arrived on site around 6. Crew held safety meeting. Comanco works on pulling liner back in preparation of more deployment. Comanco deployed panels S43 - S45 before the rain started in the afternoon.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils placement and Geosynthetics placement. Prepared daily report, and took project photographs.
34,897 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S43-S45.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 29, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Crew also worked on LCS Trench and worked Tie In area towards the west cutting diversion drain to help contain stormwater from entering into Cell 14 just North of Tie-in area.

Geosynthetics

Comanco arrived on site around 6. Crew held safety meeting. Crew droped back today to perform detail work and dewater center trench. Working on tie in and repairs. Crew is also cutting out Destructive Samples today. No deployment activities today from recent rain events.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics repairs. Prepared daily report, and took project photographs.
No material deployed today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: July 30, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	73 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Shianne Navarre

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Crew also worked on LCS Trench and worked Tie In area towards the west cleaning off silt from the tie-in from the recent rain event.

Geosynthetics

Comanco arrived on site around 6. Crew held safety meeting. Crew resumes placing GCL for today's Secondary layer of HDPE placement throughout morning.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
34,965 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S46-49. Destructive samples DS12-15 and SDX-1 were shipped out today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 2, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andy Williams

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Crew also worked on LCS Trench and worked Tie In area towards the west cleaning off silt from the tie-in from the recent rain event.

Geosynthetics

Comanco arrived on site around 7:45 with crew of 10. Crew held safety meeting. QC will make 11 crew members starting tomorrow. Crew resumes cutting Secondary Layer of Tie in @ Cell 12 and begins deploying GCL at 9:30am followed by Secondary HDPE deployment using two fusion welding machines #027 Tech LV and #016 Tech LP. DS23,DS24 & DS25 were marked on the liner.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
46,395 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S50-53.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 3, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0.5"	Wind:	5-10	(mph)
Temp: Low (F):	78 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andy Williams

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Crew also worked on LCS Trench and worked Tie In area towards the west cleaning off silt from the tie-in from the recent rain event.

Geosynthetics

Comanco arrived on site around with crew of 11. Crew held safety meeting. Crew resumes cutting Secondary Layer of Tie in @ Cell 12 and begins deploying GCL followed by Secondary HDPE deployment using two fusion welding machines. DS26 to DS29 were marked on the liner.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
23,152 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S54-55.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 4, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1.0"	Wind:	5-10	(mph)
Temp: Low (F):	76 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andy Williams

Contractor(s) Construction Progress:

Contractor has been Smooth Drum rolling Subgrade in preparation for today's deployment activities. Rain event at 9 am put a hault on subgrade prepartion.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes working on Secondary Layer of Tie-in along panels S41 to S53. Tech LV is using Extrusion Gun #023 while part of crew cuts out Destructive Samples and begins lystering patches and grinding them in preparation for extrusion welding. QC is getting Destructive Samples tested and ready for Lab shipment. Remainder of crew spent remainder of day building up stockpile filling Sandbags. Destructive Samples : DS30 & DS31 need to be marked on last panels deployed once weather permits. Additional .5" of rain on top of the half inch received yesterday keeps us from cutting last two samples.
Destructive Samples DS16 - DS29 were shipped to lab this afternoon.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. No deployment occured today due to rain. Destructive samples DS 16-29 were shipped out this afternoon.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 5, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1.0"	Wind:	5-10	(mph)
Temp: Low (F):	76 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andy Williams

Contractor(s) Construction Progress:

Conractor is on site to prepare for what liner crew needs. The area ahead of Panels S54 & S55 were rolled yesterday prior to leaving site. Area slopes have been smoothed up with skid steer for today's liner deployment. Crew of 4 have resumed LCS center ditch line construction ahead of Liner crew to open additional area for panel placement progress.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes preparing leading liner edge of panel S55 for welding of next panel. GCL has been inspected and is good with no signs of hydration. Crew resumes deployment of GCL once area is walked and approved. Destructive Samples : DS30 & DS31 were marked on previous panels deployed. Marked DS30-DS34 today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
69,390 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S56-61.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 6, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	77 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andy Williams

Contractor(s) Construction Progress:

Conractor is on site to prepare for what liner crew needs. Area ahead of Panels were rolled yesterday prior to leaving site and area slopes have been smoothed up with skid steer for today's liner deployment. Crew has resumed Excavation of AnchorTrench construction ahead of Liner crew to open additional area for panel placement progress. Contractor is also working in Northwest corner of Cell 14 today removing unsuitable material where storm water has collected and cleaning up Subgrade area where Sump will be located for LCS, Leachate Collection System.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes preparing leading liner edge of panel S61 for welding of next panel. GCL has been inspected and is good with no signs of hydration. Crew resumes deployment of GCL once area is walked and approved. Destructive Samples marked DS35-DS38.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
35,190 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S62-64.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 9, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	83 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Conractor is on site to prepare Subgrade for liner crew. Area ahead of Panels have been Rolled this morning. Area slopes have also been smoothed up with skid steer for today's liner deployment. Crew has resumed Excavation of AnchorTrench construction ahead of Liner crew to open additional area for panel placement progress. Contractor is also working on Sump in West end of Cell 14 today removing unsuitable material where storm water has collected and cleaning up Subgrade area where Sump will be located for LCS, Leachate Collection System also worked out ahead of Liner crew deployment. Trench is also covered with 6 Mil plastic Visqueen to protect from erosion from Stormwater traveling across installed liner.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes preparing leading liner edge of panel S64 for welding of next panel. Crew resumes deployment of GCL

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
57,937 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S65-69.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 10, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	77 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Conractor is on site to prepare Subgrade for liner crew. Area ahead of Panels have been Rolled this morning. Area slopes have also been smoothed up with skid steer for today's liner deployment.
Crew has resumed Excavation of AnchorTrench construction ahead of Liner crew to open additional area for panel placement progress. Contractor is also working on Sump in West end of Cell 14 today removing unsuitable material where storm water has collected and cleaning up Subgrade area where Sump will be located for LCS, Leachate Collection System also worked out ahead of Liner crew deployment. Trench is also covered with 6 Mil plastic Visqueen to protect from erosion from Stormwater traveling across installed liner.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes preparing leading liner edge of panel S64 for welding of next panel. Crew resumes deployment of GCL once Subgrade area is walked and approved. Destructive Samples marked DS48-DS52

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
58,162 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S70-74.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 11, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Conractor is on site to prepare Subgrade for liner crew. Area ahead of Panels have been Rolled this morning. Area slopes have also been smoothed up with skid steer for today's liner deployment. Crew has resumed Excavation of AnchorTrench construction ahead of Liner crew to open additional area for panel placement progress. Contractor is also working on Sump in West end of Cell 14. Crew also worked out ahead of Liner crew deployment. Trench is also covered with 6 Mil plastic Visqueen to protect from erosion from Stormwater traveling across installed liner.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes preparing leading liner edge of panel S74 for welding of next panel. Crew resumes deployment of GCL once Subgrade area is walked and approved.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
46,620 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S75-78.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 12, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Conractor is on site to prepare Subgrade for liner crew. Area ahead of Panels have been Rolled this morning. Area slopes have also been smoothed up with skid steer for today's liner deployment. Crew has resumed Excavation of AnchorTrench construction ahead of Liner crew to open additional area for panel placement progress. Contractor is also working on Sump in West end of Cell 14. Crew also worked out ahead of Liner crew deployment. Trench is also covered with 6 Mil plastic Visqueen to protect from erosion from Stormwater traveling across installed liner.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew focuses on welding Tie-in to secure Liner to existing due to Storm headed this way over the upcoming weekend. Crew resumes cutting out Destructive samples and patching the Liner for these areas while crew works on repairs and extrusion seaming from Panels 44/Ext to 78/Ext. After lunch Crew resumes preparing leading liner edge of panel S78 for welding of next panel. Crew resumes deployment of GCL once Subgrade area is walked and approved after lunch. Panels S79 & S80 were deployed and fusion welded.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
23,220 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S79-80.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 13, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0.75"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Conractor is working on Sump in West end of Cell 14. Crew also cut additional 100' of LCS Center Trench and covered it with 6 Mil plastic Visqueen to protect from erosion from Stormwater traveling across installed liner.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes cutting out Destructive samples and patching the Liner for these areas with Gun #R023 while second Gun#014 works on Repairs and extrusion seaming from Panels 44/Ext to 78/Ext. Crew continue with repairs and vacuum testing of Repairs.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.

No deployment today due to rain. Destructive Samples Shipped Today : DS30 - DS58 and DSX2, DSX3 & DSX4

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 16, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	83 at 7:00	a.m.		High (F)	94 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Sam Nejad

Contractor(s) Construction Progress:

Conractor is is working on Sump in West end of Cell 14. Crew is adding additional pipe connection in Sump Underdrain to dewater Sump.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew is working on Sandbags in the morning and begins Deployment of Secondary Composite in the Southeast corner of Cell Floor after lunch.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
36,190 Square Feet of Seconday Geocomposite was installed today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 17, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Sam Nejad

Contractor(s) Construction Progress:

Conractor is is working on Sump in West end of Cell 14. Crew is adding additional pipe connection in Sump Underdrain to dewater Sump.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes Deployment of Secondary Composite in the Northeast corner of Cell 14 down the East Berm Slope working back towards south end of East Berm. Crew is using ATV for deployment over the HDPE.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
36,190 Square Feet of Seconday Geocomposite was installed today.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 18, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	82 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Sam Nejad

Contractor(s) Construction Progress:

Conractor is is working on Sump in West end of Cell 14. Crew is adding additional pipe connection in Sump Underdrain to dewater Sump.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes Deployment of Secondary HDPE with GCL. Marked DS59 - DS66 today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
82,270 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S81-87.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 19, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Sam Nejad

Contractor(s) Construction Progress:

Contractor works on Sump & LCS Trench as well as preparing Subgrade ahead of Liner Deployment.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes Deployment of Secondary HDPE with GCL. Marked DS67 - DS72 today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
69,930 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S88-93.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 20, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Sam Nejad

Contractor(s) Construction Progress:

Contractor works on Sump & LCS Trench as well as preparing Subgrade ahead of Liner Deployment.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew resumes Deployment of Secondary HDPE with GCL. Marked DSX5 and DSX6 and DS73 - DS75 today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
23,220 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S94-95.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 23, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is working on Sump in West end of Cell 14. Crew is Working on outside of Cell 14 South Berm and New Haul Road.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew is working on Sandbags in the morning and begins Deployment of Secondary Composite in the Southeast corner of Cell Floor after lunch. Crew also worked on cutting out Destructive Samples, repairs and Extrusion Seaming

Panels 94/EXT & 95/EXT. (DSX7) Marked today on 90/91 on Repair DS70 Extrusion Gun 049

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 24, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is working on Sump in West end of Cell 14. Crew is Working on prepping Subgrade ahead of Comanco for Liner deployment.

Geosynthetics

Comanco arrived on site this morning with crew of 14 today. Crew held safety meeting. Crew is working on Preparing leading edge of Panel S95 for Deployment of Secondary Liner HDPE.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
35,595 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S96-114.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 25, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is working on Sump in West end of Cell 14. Crew is Working on prepping Subgrade ahead of Comanco for Liner deployment. Rains came late in the evening.

Geosynthetics

Crew is working on Preparing for Secondary HDPE deploying GCL and cleaning up from previous days deployment. All panels placed and seamed today have been Pressure tested.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.
15,295 Square Feet of GCL and Secondary HDPE Liner were installed today.
HDPE Panels deployed S115-125. This complete all secondary for the cell.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 26, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	1"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor pumped the sump out due to rains over night.

Geosynthetics

Crew is worked on repairs and dropped back to deploy Geocomposite.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 27, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is maintaining pumps with crew of one.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew is working on Preparing Secondary HDPE for continuing Secondary layer of Composite in the Northeast Quadrant of Cell with crew of 14. Part of crew is cleaning up all deployment areas.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.
Also sent out final Destructive Samples for Lab Testing of Destructive Samples (DS59-DS83) and (DSX4 - DSX7). DS82 & DS83 replace DS62 as seam failed in field and was capped from end to end. Equipment issues caused failure and previous seam has been tested and passing of Destructive Sample.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 30, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	95 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is maintaining pumps with crew of one.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew is working on Preparing Secondary HDPE for continuing Secondary layer of Composite in the Northeast Quadrant of Cell with crew of 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: August 31, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	82 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is on site hauling and stockpiling Protective Cover Material to Cell 14 at south side outside of Cell.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew is working on Preparing Secondary HDPE for continuing Secondary layer of Composite into the West half of Cell with crew of 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 1, 2021 Wednesday

Weather Description

Sky Cover:	Mostly Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	82 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is on site hauling and stockpiling Protective Cover Material to Cell 14 at south side outside of Cell. The area for the East berm anchor trench was prepped for final deployment of secondary layers in the East end of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew is Deploying GCL this morning in East Berm for Panel Extension. The extension runs from Panels S5 - S26 which ties panel S126 to the East Berm Anchor trench. Crew then Resumed Secondary Composite placement in the West end of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 2, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Contractor is on site hauling and stockpiling Protective Cover Material to Cell 14 at south side outside of Cell. The area for the East berm anchor trench was prepped for final deployment of secondary layers in the East end of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew is Deploying GCL this morning in East Berm for Panel Extension. The extension runs from Panels S5 - S26 which ties panel S126 to the East Berm Anchor trench. Crew then Resumed Secondary Composite placement in the West end of Cell 14. All Secondary Liner placed today has been completed including all destructive and non destructive testing and repairs.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 3, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	81 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor is on site is on site maintaining Pumps.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew Resumed Secondary Composite placement in the West end of Cell 14 covering the West Berm from the Sump area down to the Southwest corner of Cell to complete the Secondary Composite placement in the West end by end of day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 7, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor is on site is on site Resumes placement of Protective Cover Material in stockpile area outside of Southeast quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew starts by pulling back Secondary Composite layer in Southeastern quadrant of South Berm.
Began deploying Primary HDPE in Northeast corner of Cell 14. Deployed Primary panels P1 - P22 in East Berm @ 25,875 SqFt Primary. Afternoon crew installed Secondary Panel S127 @ 534' x 8' @ 4,272 SqFt

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 8, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor is on site is on site Resumes placement of Protective Cover Material in stockpile area outside of Southeast quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew starts by pulling back Secondary Composite layer in Southwest quadrant of South Berm for FES to extend Anchor Trench Location. Crew then began deploying Primary HDPE in Northeast corner of Cell 14 starting at Northeast corner Tie in located in Cell 12. Crew starts deployment of Primary HDPE with panels P23 - P29 @ approximately 252' lengths per panel. Secondary HDPE S128,129,130 deployed in South Berm today

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 10, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	80 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor is on site is on site Resumes placement of Protective Cover Material in stockpile area outside of Southeast quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 15 today. Crew held safety meeting. Crew began pulling back Secondary Composite layer in Southwest quadrant of South Berm for FES to extend Anchor Trench Location. Crew resumes deploying Primary HDPE in Southeast corner of Cell 14 starting at Southeast corner. Deployed Primary HDPE with panels P35 -P4 in the Southeast corner of East Berm then drop back onto floor to tying in to P23 - P29 in the North end of cell. Secondary Pressure Test and Repairs in SouthWest was performed.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 14, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Justin Preston

Contractor(s) Construction Progress:

Contractor is on site is on site Resumes placement of Protective Cover Material in stockpile area outside of Southeast quadrant of Cell 14. Crew resumes with crew of 4 cleaning Silt and Debris from Secondary Layer of Composite from 2.5" Rain event over weekend

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Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary HDPE in the East end of Cell moving towards the west. Including pressure testing throughout deployment. Panels P44-P61 @ 105,300 SqFt. were deployed.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 15, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Justin Preston

Contractor(s) Construction Progress:

Crew resumes with crew of 4 cleaning Silt and Debris from Secondary Layer of Composite from 2.5" Rain event over weekend

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Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary HDPE in the East end of Cell moving towards the west. Including pressure testing throughout deployment. P62-P81 were deployed on this date.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 16, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Justin Preston

Contractor(s) Construction Progress:

Crew resumes with crew of 8 cleaning Silt and Debris from Secondary Layer of Composite from 2.5"
Rain event over weekend

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew resumed deploying Secondary Composite in the West end of Cell while part of crew drops back to Panel 27 working on repairs and cutting out destructive samples for lab testing. Tie in of panel 27/Existing to complete tie in of Primary HDPE from P27/Ext to Panel P81/Ext were fusion welded.
Destructive Samples DP7-DP33 and DPX-1 have been field tested and shipped to Lab.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Secondary and Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 17, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	93 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Justin Preston

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from Secondary Layer of Composite. Contractor is on site hauling and stockpiling Protective Cover Material to Cell 14 at south side outside of Cell

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Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew is working on repairs and details today to secure all of the previously Deployed Primary layer of HDPE liner.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 20 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	74 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from Primary Layer of HDPE.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew is working on removing the Primary and Secondary layers from the East and South Berms to Tie the two layers together.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 21 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	1.5"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from Primary Layer of HDPE.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew is deploying Primary Composite in the Southeast Quadrant of Cell 14. Part of crew is helping FES clean up the HDPE Primary Liner Layer in the Northeast Corner of Cell 14.
Shipped Destructive Samples DP34 & DSX2 today.Primary Composite covers P34-P55 just 8' into P55.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 22 2021 Wednesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	2"	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from Primary Layer of HDPE.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew is deploying Primary Composite in the Southeast Quadrant of Cell 14 continuing towards Panel P73 in the South half of cell. Part of crew is cleaning out Anchor Trench to weld both Primary and Secondary Layers of liner system together from P73-P81. Crew Deployed Primary Composite in the Northeast Quadrant of Cell 14 covering Panels P24-P27 before moving to Northeast Corner covering Panels P23 & P1-P7 in the East Slope.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 23 2021 Thursday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from the Primary Layer of HDPE In the Northeast Quadrant of Cell 14.
Crew built ramp into Northeast Corner of Cell and began Placing Protective Cover with 4-5' ramp and haul path.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew is deploying Primary Composite in the Southeast Quadrant of Cell 14 continuing towards Panel P73 in the South half of cell. Part of crew is cleaning out Anchor Trench to weld both Primary and Secondary Layers of liner system together from P73-P81. Primary Composite deployed in the Northeast Quadrant of Cell 14 covering Panels P24-P27.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams, Repairs of both Destructive and Non-Destructive Testing and repairs of all intersections and Tie in at Cell 12 & Cell 14 connection. Observed delployment and seaming of geocomposite materials. Observed placement of protective cover and construction of protective cover ramps.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 24 2021 Friday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	87 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from the Primary Layer of HDPE In the Northeast Quadrant of Cell 14.
Crew built ramp into Northeast Corner of Cell and began Placing Protective Cover with 4-5' ramp and haul path.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew resumes deploying Primary Composite in the Southeast Quadrant of Cell 14 continuing in the South half of cell. Panels covered up to Panel P69 in south half of Cell with Primary Composite by end of day.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed delployment and seaming of geocomposite materials. Observed placement of protective cover and construction of protective cover ramps.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 27 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	91 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from the Primary Layer of HDPE and CompositeIn the Northeast Quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary Composite in the Southeast Quadrant of Cell 14 continuing in the South half of cell. Area of Composite in LCS Trench was replaced with new due to excessive Silt in composite at leading edge of LCS trench. Replaced Composite area was 20'x30'. Panels P82-P 97 was deployed in Cell 14 today along with all seaming activities and Pressure test.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 28 2021 Tuesday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from the Primary Layer of HDPE and CompositeIn the Northeast Quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary Composite in the Southeast Quadrant of Cell 14 continuing in the South half of cell. PArea of Secondary Composite in Cell 14 was covered by deployed. Panels P98-P123 was deployed in Cell 14 today along with all seaming activities and Pressure test.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary and Secondary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams. Observed delployment and seaming of geocomposite materials.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 29 2021 Wednesday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	76 at 7:00	a.m.		High (F)	90 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew resumes cleaning Silt and Debris from the Primary Layer of HDPE and CompositeIn the Northeast Quadrant of Cell 14.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary HDPE in Cell 14 continuing in the West half of cell. Area of Secondary Composite in Cell 14 was covered by deployed Primary HDPE. Panels P124-P135 was deployed in Cell 14 today along with all seaming activities and Pressure test. Crew also had part of crew doing repairs and Vaccum Box testing of repairs welded with Extrusion Guns.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: September 30, 2021 Thursday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew resumes with crew of 7 cleaning Silt and Debris from the Secondary Composite Northwest Quadrant of Cell 14. Crew cleaned Composite in LCS Trench out ahead of Comanco's Deployment activities.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary HDPE in Cell 14 continuing in the West half of cell. Area of Secondary Composite in Cell 14 was covered by deployed Primary HDPE.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 1, 2021 Friday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew resumes with crew of 7 cleaning Silt and Debris from the Secondary Composite Northwest Quadrant of Cell 14. Crew cleaned Composite in LCS Trench out ahead of Comanco's Deployment activities.

Crew placed Protective Cover Sand in the Northeast half of Cell.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deploying Primary Composite in Cell 14 continuing in the West half of cell. In the North between LCS and Tie-In. Destructive samples cut and Repairs and detail work performed today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing of said seams. Observed the installation of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 4, 2021 Monday

Weather Description

Sky Cover:	Parlty Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	75 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Andrew Vickers

Contractor(s) Construction Progress:

Crew placed Protective Cover Sand in the Northeast half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed fro East to West as cell construction progresses.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew spent today working in anchor trench securing the Primary and Secondary layers in trench.
Crew also resumed placement of Primary Composite out ahead of Protective Cover Material placement by FES.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 5, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northeast half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed fro East to West as cell construction progresses. Crew has Jet Vac truck cleaning out Sump this evening.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes placement of Primary HDPE Liner in the West half of Cell with crew of 13. Panels deployed today are P135 - P159 @ 131,062.5 SF. Destructive Samples DP68-DP76 marked and field tested and shipped to Lab.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 6, 2021 Wednesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northeast half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed fro East to West as cell construction progresses. Crew has Jet Vac truck cleaning Composite in West end of Cell down to Sump again today.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes welding and Repairs of Primary HDPE Liner in the West half of Cell with crew of 13. Panels welding to secure Cell 12 Tie In covers Seaming of Panels P138 - P158 to Existing Liner from Cell 12. Crew also resumes Primary Composite placement in South. Destructive Samples DP69-DP80 & DPX4 field tested and shipped to Lab

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 7, 2021 Thursday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northeast half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed fro East to West as cell construction progresses. Crew has Jet Vac truck cleaning Composite in West end of Cell down to Sump again today.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes welding and Repairs of Primary HDPE Liner in the West half of Cell with crew of 13. Panels welding to secure Cell 12 Tie In covers Seaming of Panels P138 - P158 to Existing Liner from Cell 12. Crew also resumes Primary Composite placement in South. Destructive Samples DP69-DP80 & DPX4 field tested and shipped to Lab

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 8, 2021 Friday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northeast half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed fro East to West as cell construction progresses.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.

Crew resumes deployment of Primary Composite ahead of Protective Cover Sand placement. Mean while small crew finishes Repairs, Vacuum Testing and Air Test today in Southwest corner. Destructive Samples DP81-DP87 Field tested today and boxed for shipping to lab.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 11, 2021 Monday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	72 at 7:00	a.m.		High (F)	92 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed from East to West as cell construction progresses.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deployment of Primary Composite in South half of Cell 14

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 12, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed from East to West as cell construction progresses.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew starts out folding back Primary Composite layers in Center Ditchline so that FES can resume placing Rock & Pipe in The LCS Center Ditch. Crew resumes deployment of Primary Composite in South half of Cell 14 tying the South to the North with Primary Composite Layer to give FES more area to place Protective Cover material next to center ditch working towards the West half of Cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 13, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie in and the intercell berm in the south headed from East to West as cell construction progresses. Crew moved back to LCS center Ditch and installed 280' of the 8" Leachate Collection pipe that sits on top of Primary layers.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew starts out today Securing the Primary and Secondary layers in the Southwest Anchor Trench. Afternoon crew resumes deployment of Primary Composite in South half of Cell 14 starting at South Berm AnchorTrench and pulling the full 150' pulls working from East to West now that Anchor Trench is secured all the way to the Southwest corner of Cell.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 14, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell. Crew also incorporated the 6" Perf pipe in both North Berm at Cell 12 Tie-in all the way to the Northwest Corner of Cell 12.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes deployment of Primary Composite in the West Half of Cell tying the South and North ends together pulling from the North to the South working to the West end of Cell 14.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 15, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell. Crew is placing the 6" Perf Pipe and Rock & Textile for the LCS Secondary Leak Detection portion of project in the center ditch resuming at P62/63 headed west.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew is Tying in Primary panels from North and South over the LCS Trench starting with Panels P62 & P63 headed West behind FES Secondary Pipe and Rock Placement.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 18, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	89 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell as well as the Southeast corner. Crew is placing the 6" Perf Pipe and Rock & Textile for the LCS Secondary Leak Detection portion of project in the center ditch headed west.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew resumes Tying in Primary panels from North and South over the LCS Trench starting with Panels P110/111 to 124/125 headed West behind FES Secondary Pipe and Rock Placement.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 19, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	69 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes placement of Protective Cover Sand in the Northwest half of Cell as well as the Southeast corner. Crew is placing the 6" Perf Pipe and Rock & Textile for the LCS Secondary Leak Detection portion of project in the center ditch headed west.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting.
Crew resumes Tying in Primary panels from North and South over the LCS Trench starting with Panels P126/127 to 158/159 which puts us 2 panels from Sump in West behind FES Secondary Pipe and Rock Placement

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 20, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	83 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes grading of Protective Cover Sand in the Southeast quadrant of cell as well as the Northeast half of Cell using single Dozer for today's grading activities.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew sets up for Primary Composite along Center while part of crew resumes welding repairs and detail work for yesterday's center Ditchline Tie In at LCS in center of Cell14. 2 final Destructs for Center Tie in marked and taken to UPS for Shipping to Lab. DPX-6 and DP-90 pulled today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 21, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of cell as well as the Northeast half of Cell using single Dozer for today's grading activities. Crew begins to set up Sump Riser pumps @ Sump location in the West end Berm using Loader and SkidSteer with crew of 3. Sump was cleaned out of Sand bags in preparation for Riser Pipe installation and Rock as per specs.

Geosynthetics

Comanco arrived on site this morning with crew of 13 today. Crew held safety meeting. Crew sets up for Rain/Gas Flap installation in the East Berm location at the Crest of the East Berm. Later afternoon crew resumes housekeeping activities removing all miscellaneous pieces of Composite and any other loose Liner material Scraps throughout the Center and Sound half of Cell 14 to free up area for next section of LSC Collection Pipe/Rock Rock.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 22, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of Cell 14 using 2 Haul Trucks and single Dozer.

Geosynthetics

Comanco arrived on site this morning with small crew today. Crew held safety meeting. When FES has Risers in Sump ready crew will return to install final Primary HDPE Panel and weld pipe boots to Riser Pipes as per specs. So far the East Berm Flap has been installed.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams. Observed the deployment and seaming of geocomposite. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 25, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Justin Preston

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of Cell 14 using 2 Haul Trucks and single Dozer.
Today FES installed the Perforated Secondary Sump SDR-17 24" Riser Pipe in Sump which runs from Sump to the west end of Cell.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Justin Preston

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 26, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Justin Preston

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of Cell 14 using 2 Haul Trucks and single Dozer.
Today FES installed the Perforated Secondary Sump SDR-17 24" Riser Pipe in Sump which runs from Sump to the west end of Cell.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Justin Preston

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 27, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	71 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Justin Preston

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of Cell 14 using 2 Haul Trucks and single Dozer.
Today FES resumed installing 8" LCS perforated Leachate Collection Pipe, Rock and Fabric wrap in center of cell approximately halfway from the East end of Cell 14.
Crew cleaned silt from Primary Composite layer prior to installing collection pipe

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Justin Preston

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 28, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	70 at 7:00	a.m.		High (F)	83 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew resumes grading and Hauling Protective Cover Sand in the Southeast quadrant of Cell 14 using 2 Haul Trucks and single Dozer.
Today FES resumed installing 8" LCS perforated Leachate Collection Pipe, Rock and Fabric wrap in center of cell approximately halfway from the East end of Cell 14.
Crew cleaned Composite ahead of pipe installation again today.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Justin Preston

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 29, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew has crew of 4 working in Cell 14 Construction today. Today FES resumed installing 8" LCS perforated Low Grade Gas CollectionPipe with Fabric wrap in the Northwest corner of Cell Tying into the Base Grade Gas Pipe Manifold headed to the South along the Toe of the West Slope. After installing North Half of Base Grade pipe at Toe of West Slope crew moved to the South Berm to resume the 6" pipe at intercell Berm. Crew to install the 250" section of solid 6" that connects to the end of the Perf pipe in the West end of the South Berm. Single Dozer resumes grading Protective Cover in East half of Cell after working in Borrow Pitt in the morning.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: October 30, 2021 Saturday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	67 at 7:00	a.m.		High (F)	83 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 4 working in Cell 14 Construction today. Today FES resumed installing 8” LCS perforated Low Grade Gas CollectionPipe along the South Berm. Crew tied in the 8” Pipe in South half of Cell 14 that runs from South to the Sump along Toe of Slope of the West Berm. Low grade pipes are in place in the Northwest Corner and the Southwest Corner with the 8” reducer tying into the 6” Riser Pipes.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 1, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	62 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 4 working in Cell 14 Construction today. Today FES has Vac/Jet truck out to clean up Sump area for Comanco's final Primary Liner placement in Center ditch and Sump. Crew resumes Protective Cover Sand placement South half of Cell 14 that runs from South along Center Ditch and South Berm. 6" Low Grade Gas pipes are in welded together in the Northwest Corner for the West Berm.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 2, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	60 at 7:00	a.m.		High (F)	76 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 4 working in Cell 14 Construction today. Today FES Crew resumes Protective Cover Sand placement South half of Cell 14 that runs from South along Center Ditch and South Berm. Crew resumes welding 6" Low Grade Gas pipes outside of the West Berm.

Geosynthetics

No Geosynthetics work performed

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 3, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 4 working in Cell 14 Construction today. Today FES Crew resumes Protective Cover Sand placement in the South half of Cell 14.

Geosynthetics

Comanco onsite.
#4 Stone and Primary Risers installed and Primary Liner can be finalized in floor. Primary liner is now finished with Panels P190 & P191 finishing up the Primary layer. The Sump area was covered with GCL as per Drawings and Plans prior to Primary HDPE placement in Sump. Crew finished up with Primary Composite completed by end of day. Rain Flaps in South and West Berms and Pipe Boots on Riser Pipes are all that left to complete the Liner Portion of Project.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 4, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	63 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today crew uses crew of 6 to weld the 6" Perf GCS pipe at North & South halves of West Toe of Slope to Sump location which stops at Sump. Crew also works to complete the 8" LCS that feeds into the Sump. All Pipe welded today are installed in the 57stone burrito wrap with Fabric and stone. Primary portion of Sump is completed today with the #4 Stone placement as per specs including the 8" Riser between the 2 24" Risers.

Geosynthetics

Comanco onsite. Crew works on welding the Primary and Secondary layers together in the West AnchorTrench. Sealing layers together helping to prevent gas from escaping. Rain Flaps in South and West Berms and Pipe Boots on Sump Risers Remain to complete the Liner Portion of Project. Crew is working on the Primary Pipe Boot around the Secondary Riser from Sump at the AnchorTrench location.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement. Brantley resumes Documentation of Primary Layer layer of HDPE including Seaming verification and documentation, Pressure Testing, repairs and vaccum testing of repairs and seams Observed the deployment and seaming of geocomposite.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 8, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	60 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor uses single Dozer to continue spreading Protective Cover material throughout the south in the Southwest Quadrant of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.

Thursday was the last day of placement last week due to 2.5" of rainfall from Thursday Night Throughout the day Friday. Saturday was also to wet to haul so today's activities pickup where they they left off prior to Sump installation.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 9, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	55 at 7:00	a.m.		High (F)	79 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor uses single Dozer to continue spreading Protective Cover material throughout the south in the Southwest Quadrant of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 10, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor uses single Dozer to continue spreading Protective Cover material throughout the south in the Southwest Quadrant of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 11, 2021 Thursday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0"	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor uses single Dozer to continue spreading Protective Cover material throughout the south in the Southwest Quadrant of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 12, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	3"	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor uses single Dozer to continue spreading Protective Cover material though out the south in the Southwest Quadrant of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.
Crew is also welding final two pieces of 6” Perf Pipe for the Base grade Gas Collection pipe at the crest of the West Berm Slope today.
All Base Grade GasPipe is now installed and wrapped in the Geo Composite as per Plans/Drawings in the West Slope.
Protective Cover has been stockpiled in West end of Cell 14 but has not been spread due to excessive moisture.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed pipe welding and placement.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 15, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	48 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor continues using single Dozer to continue spreading Protective Cover material in the Southwest Berm of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today.
Crew is also picking up Sandbags along the edge of Protective cover placement.
Crew has cleaned off the rain flap installation area of the SouthBerm where Prorective Cover material was placed over the pipe into the RainFlap location.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 16, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	53 at 7:00	a.m.		High (F)	79 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor continues using single Dozer to continue spreading Protective Cover material in the Southwest Berm of Cell 14 using 3 Haul Trucks coming from the Haul Pitt. Crew used a single Excavator to load haul Trucks today. Crew is also picking up Sandbags along the edge of Protective cover placement.
Crew has single Excavator set up to key in RainFlap cutting key Trench ahead of Liner crew in Southeast corner at South Berm. Comanco is on site to start on Rain Flap installation this morning. Equipment issues caused slight delay this morning. Late morning trench is keyed in for rain flap installation in East half of South Berm. By 11am crew is on standby and ready to deploy 40mil HDPE RainFlap starting in the Southeast corner of South Berm.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed installation of rain flap.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 17, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	54 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor continues using single Dozer to continue spreading Protective Cover material in North and South ends of South Berm. Crew is also picking up Sandbags along the edge of Protective cover placement.
Crew has single Excavator set up to key in RainFlap cutting key Trench ahead of Liner crew in Southwest corner of South Berm to continue with Rain Flap installation in South Berm. Comanco is on site to continue Rain Flap installation this morning. Once trench is keyed in at the Southwest quadrant of South Berm crew
placed the 40 Mil HDPE Rain Flap and began preparing for welding.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed installation of rain flap.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 18, 2021 Thursday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	63 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor begins using an Excavator and 2 Haul trucks to flip Excess Protective Cover Material to the Toe of the South Berm inside slope in stockpiles for dressing up the outside slope of the South Berm. Comanco is on site to continue Rain Flap installation this morning.
Crew resumes welding the Rain flap in place at the Southwest quadrant of South Berm while part of crew works on welding Flap in the West Berm and installs Boots from Rain Flap to Riser Pipes from the Sump in the west end.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed installation of rain flap.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 19, 2021 Friday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Today Contractor begins placing Sacrificial Composite in the East Berm between RainFlap weld and AnchorTrench as per Drawing Details on page 7 section D in Drawings and Plans using crew of 5. Crew used 300 series Excavator to place Protective Cover over Sacrificial sheets of material in both the East Berm and the Southwestern section of the South Berm. Material placed was stockpiled yesterday along the inside Toe of South Berm in Southwest portion of Cell 14. Comanco is on site and resumes Rain Flap installation today in the West Berm at AnchorTrench. Crew resumes welding the Rain flap in place at the West Berm while part of crew works on welding Pipe Boots connecting pipes to RainFlap to capture gas in the West Berm at both Southwest and Northwest locations of the Base grade Gas Pipe where manifold pipe exits out of cell in the West end of Cell Perimeter Berm.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation and Geosynthetics activities. Prepared daily report, and took project photographs. Observed placement of protective cover. Observed installation of rain flap.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 22, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	81 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor commences final grading activities in the East and Southeast Berms today using single GPS Dozer for all grading activities. Contractor also set up to begin welding 8" SDR 11 Force main Pipe together today. Comanco finished all remaining RainFlap installation on Friday 11/19/21 thus completing all of the Geosynthetic Liner installation for the Jed Cell 14 Project.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, placement of protective cover, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 23, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	53 at 7:00	a.m.		High (F)	66 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes grading activities in the South Berm today using single GPS Dozer for all grading activities. Contractor uses Excavator to place Protective Cover over Sacrificial Composite at future Tie in along the Southeastern portion on the South Berm. Material used is from stockpile along the interior South Berms toe of slope in the East end. Contractor begins welding 8" SDR 11 Force main Pipe together today in the West Perimeter Berm Access Ramp. Protective Cover was Stockpiled along the West Berm in the future Perimeter Access Roadway North & South of the Cell 14 Sump Risers before leaving site today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, placement of protective cover, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 24, 2021 Wednesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	48 at 7:00	a.m.		High (F)	70 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor finished using Excavator to place Protective Cover over Sacrificial Composite along the Southeastern portion on the South Berm Toe of slope. Before Dozer could finish grading Protective Cover material throughout the East end of South Berm the GPS Dozer went down with Track issues. Dozer to be down for Track Replacement throughout remainder of week. Scheduled to be back on site next Monday to resume final grading activities. Contractor resumes welding 8" SDR 11 Force main Pipe together today in the West Perimeter Berm.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, placement of protective cover, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 29, 2021 Monday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	48 at 7:00	a.m.		High (F)	70 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Dozer to be back on site this morning for grading activities.Dozer resumes grading work in South Berm today. Contractor resumes welding 8" SDR 11 Manifold sections together with valves and elbows for the manifold assembly in the West end of Cell 14. Crew used Excavator to expose tie in point for 8" Leachate Transmission Line pipe in the west end at the Perimeter Berm to the West. Crew Shot location for Leachate Transmission Manhole structure before leaving site and placed structure near the final location.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, placement of protective cover, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: November 30, 2021 Tuesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	46 at 7:00	a.m.		High (F)	72 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor resumes Excavating trench for the 8" SDR 11 Leachate Transmission Line in the West perimeter Berm at west end of Cell 14. Crew used Excavator to excavate trench at a 5% minimum fall to the south. Crew used both Excavator and Mini X to place the 8" Transmission line in Trench from Perimeter Access Rd.
Part of crew installed Edge of Liner Marker Post in South and East Berms today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 1, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	51 at 7:00	a.m.		High (F)	77 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor secures the 8” SDR 11 Leachate Transmission Line at Tie in to existing Transmission Line coming south from the Cell 12 section of Landfill. Crew then set up to weld Elbows and blind flanges at the Southwest corner of cell. Crew used Excavator to transport storm water drainage structure for the the North West and also excavate placement area using single Haul truck to haul off excavation material.
Bottom piece of Northwestern Stormwater Structure / Down Drain Junction Box/ Energy Dissipater has been placed using GPS coordinates and the 30” Corrugated HDPE Pipe has been set at 5% fall and encased in a Brick & Mortar surrounding at the outfall section of Structure. Crew resumes grading work on outer South Berm grading from West to the East using the same Dozer with new tracks installed.
Sub Contractor on site working with crew of 4 from FES to layout subgrade and form for Sump Riser LCS Pumping Station Pad. Subcontractor began Sod placement in the East Berm. Part of crew

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 2, 2021 Thursday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	54 at 7:00	a.m.		High (F)	75 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew used Excavator to transport the second top structure for the Stormwater manhole in the Northwest Perimeter Road location. Excavator begins placement of material in outer west berm over Transmission line in Ditchline. 8" Sump risers Blind Flanges welded today. Subcontractor began Sod placement yesterday in the East Berm. Sub Contractor on site working with crew of 2 utilizing crew of 4 from FES to layout subgrade for Sump Riser LCS Pumping Station. Began building form for base of Pumping Station.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 3, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	53 at 7:00	a.m.		High (F)	78 at 3:00	p.m.

CQA's On Site: Kevin Lesley and Allan Brantley, PE

Contractor(s) Construction Progress:

Crew resumes work on top structure for the Stormwater manhole in the Northwest Perimeter Road location. Crew used Brick and Mortar to secure inlet and outlet Corrugated Stormwater Pipes. Excavator resumes placement of material in outer west berm over Transmission line in Ditchline. Crew of 2 works on LowGrade Gas Manifold today in the Northwest corner of Cell 14 welding Elbows and Valve assemblies into the system as per Drawings and Plans. Subcontractor resumes Sod placement today in the East & South Berms.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and welding of HDPE pipe. Prepared daily report, and took project photographs. A final walkthrough was perfromed with Allan Brantley, P.E. and client representatives.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 6, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	55 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 2 works on LowGrade Gas Manifold today in the Northwest corner of Cell 14 welding Cross pipes to Tie in all Elbows and Valve assemblies into the system as per Drawings and Plans.
Contractor is using Smoothdrum Roller to smooth off the New Access Road running from East to West parallel to the Cell 14 South Berm which gives access to the West Perimeter Road.
Southwest Manifold was assembled and tied into LowGrade Gas System by the end of day today using crew of 3 to complete today's construction. Subcontractor resumes Sod placement today in the South Berm from the Southeast portion moving towards the West.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and welding of HDPE pipe. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 7, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Sub Contractor is back reinforcment for pump station pad for today's concrete pour. Concrete Poured at 9:15am. FES crew is digging area for the Concrete encasement as per details on section A-A page 8 of Drawings & Plans. 1st section of Concrete Encasement over Transmission Line has been poured in North including #4 Rebar placement as per Drawing with 3 strings on each side of pipe and across top of pipe.
Contractor has crew of 2 walking Cell 14 to remove and deleterious material such as roots from the Protective Cover layer of Cell. Subcontractor resumes Sod placement today in the South Berm from the Southeast portion moving towards the West.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including soils preparation, and concrete placement. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 8, 2021 Wednesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	57 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Subcontractor resumes Sod placement today in the South Berm from the Southeast portion moving towards the West.

CQC/CQA (s) Monitoring Activities and Test Results:

Brantley packaged and stored HDPE Archives in the Blue Conex Container on Tire Yard as agreed upon by Landfill. Cleaned out Job trailer today. Checked on site and Concrete poured just yesterday to make sure animals and Birds did not track in it overnight.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 9, 2021 Thursday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	63 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor FES resumes Cell 14 Project construction today using 300 series Excavator to prepare area at west of Cell 14 for the Second Stormwater Structure in the Southwest. Excavation was verified using GPS for the placement of the Bottom piece of the Concrete Structure.the 1st section of 30' Corrugated HDPE pipe has been installed and secured with Brick & Mortar at the bottom structure outlet.
Crew also welded a missing flange to the Southwest 8" pipes from LGGS. Subcontractor resumes Sod placement today in the South Berm from the Southeast portion moving towards the West starting about 2/3 of the way west in the South Berm. Sod crew has made it to the West end of South Berm with Sod Placement today to Complete Sod in South Berm and Inside West Ramp slope.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including pipe placment, as well as HDPE pipe welding. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 10, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	62 at 7:00	a.m.		High (F)	88 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor FES resumes Cell 14 Project construction today using 300 series Excavator to continue installation of Second Stormwater Structure in the Southwest installing gasket and Top section of the Stormwater Structure . Pipe fall was verified using GPS for the placement of 30” Pipe placement. Total of 3 sections installed of the 30” HDPE Corrugated Pipe in the South Stormwater Structure with 2 for west outlet and 1 for East inlet.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including pipe placment, as well as HDPE pipe welding. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 13, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	61 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor FES resumes Cell 14 Project construction today using 300 series Excavator to extend the 30" corrugated pipe extensions to the West in Perimeter Ditch. Crew also used shovels to hand shape the form over the Southwest area of Transmission Line. Crew staked out for North and South Drainage Ditch to tie into Stormwater structures in Perimeter Access Road. Northwest Ditchline cut in from Northwest corner to to the Northern Concrete structure in West perimeter road area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including pipe placment, as well as HDPE pipe welding. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 14, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0	Wind:	5-10	(mph)
Temp: Low (F):	66 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor FES resumes Cell 14 Project construction today using 300 series Excavator to cut out for Drainage Ditches to tie into Stormwater structures in Perimeter Access Road. Northwest Ditchline cut in from North Stormwater Structure to the Pump Station Pad at Riser Pipes from Sump in West perimeter road area.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities.. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 15, 2021 Wednesday

Weather Description

Sky Cover:	Cloudy/Rain	Amt. of Precip:	0.5	Wind:	5-10	(mph)
Temp: Low (F):	67 at 7:00	a.m.		High (F)	82 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor today getting 300 series Excavator ready to haul off site. Concrete sub is scheduled today to build Wall forms for the pumping station with plans to pour walls on Friday of this week.
FES doing House cleaning and paperwork while waiting for concrete to arrive.
@ 2pm Brantley left site since Concrete sub pushed to Thursday to build forms due to inclement weather throughout today.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities.. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 16, 2021 Thursday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0.5	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor today welding 4” pipe which runs from Pump station 3” Primary Pipe exit at the South end of pad and 45s across Perimeter Road and ties into to the Leachate Transmission Manhole as the 4” ForceMain.
Crew used mini Excavator to install the 4” ForceMain Pipe in the Perimeter Road which will be the Tie In location for the Hydraulic Test of the new Force Main Transmission Line assembly.

Sub Contractor on site with Crew of 5 to build Forms for the Walls of the Pump Station which Encases the Sump Riser Pipes and Houses the Electrical portion of station.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including piping installation. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 17, 2021 Friday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0.5	Wind:	5-10	(mph)
Temp: Low (F):	58 at 7:00	a.m.		High (F)	86 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew used 300 series Excavator to prepare for the 4” ForceMain for the Hydraulic Test of the new Force Main Transmission Line assembly. Crew assembled a Test Port at the East end of the 4” Force Main Tie in coming from Pump Station location.
TEST: @12:30 160 psi Hydrostatic Pressure test on ForceMain System..
Test lost pressure through Pressure Test Pump. Reduce scheduled for Monday
Sub Contractor on site with Crew of 4 to resume building Forms for the Walls of the Pump Station which Encases the Sump Riser Pipes and Houses the Electrical portion of station.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor constructionactivities includiung hydrostatic testing of forcemain. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 20, 2021 Monday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0.5	Wind:	5-10	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	84 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor today welding 4” pipe which runs from Pump station 3” Primary Pipe exit at the South end of pad and 45s across Perimeter Road and ties into to the Leachate Transmission Manhole as the 4” ForceMain.
Crew used mini Excavator to install the 4” ForceMain Pipe in the Perimeter Road which will be the Tie In location for the Hydraulic Test of the new Force Main Transmission Line assembly.
Sub Contractor on site with Crew of 5 to build Forms for the Walls of the Pump Station which Encases the Sump Riser Pipes and Houses the Electrical portion of station.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including piping installation. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 21, 2021 Tuesday

Weather Description

Sky Cover:	Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	68 at 7:00	a.m.		High (F)	80 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Contractor on site with crew of 3 today. Crew used Excavator and Single Haul truck to Cut down Perimeter Access Road in West Berm from North Concrete Stormwater Structure to the South Stormwater Structure.
By 1pm the 1st of two Concrete Trucks arrived on site for the Thrust Blocks in front of both Stormwater Structures and the inlet pipes at the North and South End of both Concrete Structures. Also the South Transmission line Encasement was poured and included the required #4 Rebar to duplicate the North Encasment at the 30” HDPE corrugated Storm water outlet pipes.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities including concrete installation. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 22, 2021 Tuesday

Weather Description

Sky Cover:	Partly Cloudy	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	65 at 7:00	a.m.		High (F)	79 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 3 worked on Subgrade preparation for Perimeter Road in West Berm of Cell 14 today using Excavator and GPS Rover. Plan is to place the Compacted Road Base tomorrow on Thursday 12/23/21. No other construction for today. 1 Single Haul Truck was used in hauling off cut material from West Berm Subgrade while preparing Perimeter road for Compacted Road Base.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

Brantley Engineering, LLC

CQC/CQA Daily Field Monitoring Summary

Project Number: 2021-002	Owner: Omni Waste of Osceola County, LLC
Project Name: JED Cell 14 Construction	Contractor: Gulfstream Building Group, Inc.
Location: St. Cloud, Florida	Installer: Comanco
	Date: December 23, 2021 Wednesday

Weather Description

Sky Cover:	Sunny	Amt. of Precip:	0	Wind:	0-5	(mph)
Temp: Low (F):	46 at 7:00	a.m.		High (F)	70 at 3:00	p.m.

CQA's On Site: Kevin Lesley

Contractor(s) Construction Progress:

Crew of 3 used Excavator at Road Base Material Stockpile while using a Single OffRoad Haul Truck to transport Road Base material to the Perimeter Road in West Berm of Cell 14. Crew is using SkidSteer and GPS Rover to place the Road-base Material throughout the West Berm today. Plan is to used Smoothdrum Roller to Compact today's placed material.

CQC/CQA (s) Monitoring Activities and Test Results:

The site was visited at the request of the client to perform full time CQA/CQC services for the JED Cell 14 Construction Project. Reviewed the site conditions for the day. Continue to monitor contractor construction activities. Prepared daily report, and took project photographs.

CQA/CQC Specialist Kevin Lesley

APPENDIX K
Project Photos

Photographs

Initial Clearing of Wet Materials, Topsoil, and Vegetation

Clearing of Vegetation Along Tie-in To Cell 12

Laydown Area for 60-Mil HDPE

Placement and Spreading of General Fill Materials

Compaction of General Fill Material

Moisture Conditioning of General Fill Material

Nuclear Density Gauge Standard Count Prior to Compaction Testing

Continued Placement Activities and Compaction Testing of General Fill Material

Preparation of Subbase Prior to Geosynthetics Deployment

Continued Preparation of Subbase Prior to Geosynthetics Deployment

Excavation of Leak Detection Trench

Survey of Leak Detection Trench

Excavation of Anchor Trench

Initial GCL Deployment

Progression of GCL and Secondary HDPE

Secondary HDPE Deployment Over GCL

Use of Supplemental Bentonite on GCL Seam Overlap

Identification of HDPE Destructive Seam Sample

Progression of Secondary HDPE Placement

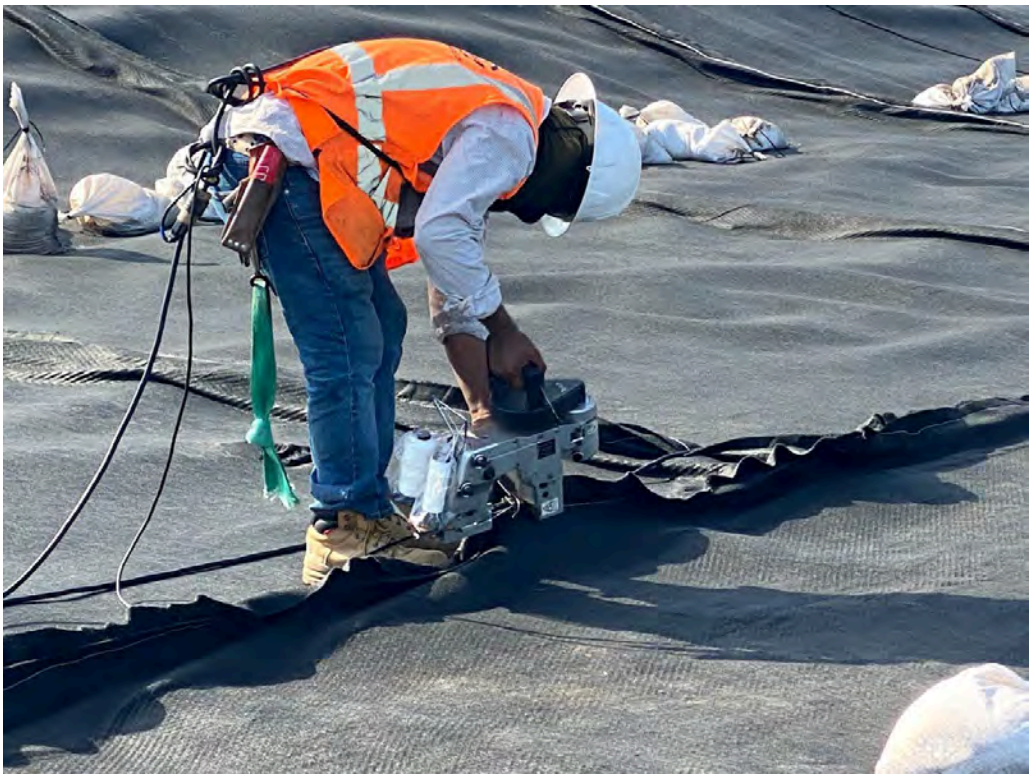
Geosynthetic Tie-in to Cell 12

Liner Termination at Intercell Berm

Cleaning of HDPE Prior to Placement of Geocomposite

Deployment of Geocomposite over HDPE

Fastening of Geonet Seams with Zip Ties



Sewing Geotextile Seams on Geocomposite

Grinding Prior to Extrusion Weld

Extrusion Welding of a Patch

Non Destructive Vacuum Testing of Extrusion Weld

Cleaning of HDPE Seam Prior to Fusion Weld

Fusion Weld of HDPE Seams

Pressure Testing of Fusion Welded Seam

Placement of Protective Cover Material

Continued Placement of Protective Cover Material

Placement of Gravel over Leak Detection Pipe

Construction of Leachate Collection System with Pipe and Stone Wrapped in Geotextile

Butt Fusion Weld of Leachate Collection Pipe

Installation of 24-inch HDPE Secondary Sump Riser with Stone

40-mIl Geomembrane Flap along Western Perimeter Berm

Completion of Gas Collection Manifold in Southwest Corner

Completion of Gas Collection Manifold in Northwest Corner

Installation of Manhole (MH-14)

Installation of Storm Water Drainage Outlet Structure

Grouting of HDPE Outlet Pipe to Storm Water Drainage Outlet Structure

Installation of HDPE Pipe Boots Around Sump Riser Pipes

Formwork For Concrete Sump Pad

Placement of Concrete at Sump Pad

Progression of Sump Pad and Sump Riser Pipes

Placement of Sod on Southeast Berm

Completed Drainage Ditch and Stormwater Outlet Structure

Rip-Rap Outlet Protection

Completed Perimeter Berm on West Side with Drainage Ditch and Perimeter Road

Final Completion of Cell Construction and Grassing

APPENDIX L
Sump Pump and Control Panel Functionality Certification Letter