SCS ENGINEERS

Certification of Construction Completion Report
Hardee County Class I Landfill
Wauchula, Florida
Phase 1 Closure

Volume 1 of 2

Presented to:

Hardee County

Board of County Commissioners
c/o Teresa Carver, Solid Waste Director
685 Airport Road
Wauchula, Florida 33873
(863) 773-5089

Presented by:

SCS ENGINEERS
4041 Park Oaks Blvd., Suite 100
Tampa, Florida 33610
(813) 621-0080
Fax: (813) 623-6757

Florida Board of Professional Engineers
Certification No. 00004892

June 1, 2011
File No. 09199033.21

Offices Nationwide
www.scsengineers.com

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Attachments

Attachment 1-1	FDEP Form 62-701.900(2) Certification of Construction Completion of a Solid Waste Management Facility
Attachment 1-2	Hardee County Class I Landfill Phase I Closure Construction Permit Number 38414-012-SF/01 Dated November 9, 2009
Attachment 2-1	Hardee County Class I Landfill Phase I Closure Record Drawings (Bound Separately)
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SECTION 1 PROJECT OVERVIEW

The Florida Department of Environment Protection (FDEP) issued construction permit number 38414-012-SF/01 dated 11/09/2009 for the Hardee County Class I Landfill – Phase I Closure located in Hardee County Florida. The FDEP construction permit authorized Hardee County to construct the Phase I Closure project that involves a permanent closure on the north and east slopes of Phase I. The south and west slopes will serve as the backfill area for the Phase II disposal areas. These areas have different closure standards.

In accordance with Specific Condition B.2.a.1) through 4) of construction permit 38414-012-SF/01, and on the behalf of Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) has prepared the certificate of Construction Completion Report. Please refer to Attachment 1-1 for FDEP Form 62-701.900(2) Certification of Construction Completion of a Solid Waste Management Facility for construction of the Hardee County Class I Landfill Phase I Closure project.

Notice to Proceed for the construction of the Phase I Closure project was issued by the Hardee County BOCC to ERC General Contracting Services, Inc. (ERC) to begin work on the project on or before October 4, 2010. The approved project schedule is as follows:

a) South Slope Construction

- Substantial Completion 120 Calendar Days from NTP - Start October 4, 2010
- Final Completion 145 Calendar Days from NTP - To February 1, 2011

b) Remainder of Construction

- Substantial Completion 180 Calendar Days from NTP - Start October 4, 2010
- Final Completion 210 Calendar Days from NTP - To May 2, 2011

1.1 CONSTRUCTION PERMIT

The Florida Department of Environmental Protection (FDEP) in Tampa, Florida issued Construction Permit Number 38414-012-SF/01 dated November 9, 2009 authorizing Hardee County to construct the final cover system and a passive gas collection system and conduct monitoring and maintenance for close portions (approx 13.6 acres) of Class I landfill, referred to as the Hardee County Class I Landfill Phase I. A copy of Construction Permit Number 38414-012-SF/01 dated November 9, 2009 is contained in Attachment 1-2 of this section.

Construction Permit Number 38414-012-SF/01 dated November 9, 2009 included excavating, filling, fine grading, construction anchor trenches and stormwater appurtenances, installation of a 40 mil textured Linear Low Density Polyethylene (LLDPE) geomembrane liner, installation of a 60 mil textured High Density Polyethylene (HDPE) geomembrane liner, geocomposite, associated quality assurance testing, and tie-ins to existing conditions.

Substantial completion of the south slope of the Hardee County Class I Landfill Phase I was achieved on February 1, 2011 and the final completion on February 11, 2011.

Substantial completion of the entire Hardee County Class I Landfill Phase I was achieved on March 1, 2011 and the final completion on March 17, 2011.

1.2 PROJECT ORGANIZATIONS AND FUNCTION

Table 1 provided below lists key organization and their function during construction of the Hardee County Class I Landfill Phase I Closure construction project.

Table 1 Organizations and Function for the Hardee County Class I Landfill Phase I Closure Construction

Organization	Function
Hardee County Board of County Commissioners	Owner
SCS Engineers	Engineering and Construction Quality Assurance (CQA)
ERC General Contracting Services, Inc.	General Contractor
National Lining Systems, Inc.	Geosynthetics Installer
Universal Engineering Sciences	Soil Construction Quality Control (CQC) Testing
Peavey and Associates Surveying and Mapping	Surveying
Quality Drilling Inc.	Landfill Gas Well Installer
SKAPS Industries	Geosynthetics Manufacturer and Supplier
TRI/Environmental, Incorporated (TRI)	CQA Conformance Testing

1.3 CONTACT LIST

On behalf of the Hardee County BOCC, SCS had personnel located on site at the Hardee County Class I Landfill full-time during the construction of the Phase I Closure Construction project. Table 2 provided below lists key project personnel, including those persons on-site during construction of the project.

Table 2 Responsible People Assigned to the Hardee County Class I Landfill Phase I Closure Construction

Name	Representing	Title
Teresa Carver	Hardee County	Solid Waste Director

Name	Representing	Title
C. Ed Hilton, P.E.	SCS Engineers	Project Director
Shane R. Fischer, P.E.	SCS Engineers	Project Manager, Engineer of Record
Dennis DuPont	SCS Engineers	Construction Quality Assurance Representative
Kurt Peterson	SCS Engineers	Construction Quality Assurance Representative
Vaden Pollard	ERC	Project Manager
Jack Wiggins	ERC	Construction Superintendent
Stuart Taylor	NLS	Liner Superintendent

Attachment 1-1

FDEP Form 62-701.900(2)
Certification of Construction Completion of a Solid Waste Management Facility

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

DEP Application No. _____
(Filled by DEP)

Florida Department of Environmental Protection

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: **38414-012-SF/01** County: **Hardee**

Name of Project: **Hardee County Class I Landfill – Phase I Closure**

Name of Owner: **Hardee County Board of County Commissioners**

Name of Engineer: **SCS Engineers**

Type of Project: **Landfill Closure**

Cost: Estimate $ **2,493,609** Actual $ **2,493,609**

Site Design: Quantity: _____ ton/day Site Acreage: **13.6** Acres

Deviations from Plans and Application Approved by DEP: **The project was constructed in general conformance with the permitted plans and specifications. Refer to Section 2 of the Construction Certification Report for any deviations to the plans and specifications.**

Address and Telephone No. of Site: **685 Airport Road, Wauchula, Florida 33873**

Name(s) of Site Supervisor: **Teresa Carver**

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. **38414-012-SF/01** Dated: **November 9, 2009**

Date: 5/31/11

58026
Signature of Professional Engineer

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

Attachment 1-2

Hardee County Class I Landfill
Phase I Closure
Construction Permit Number 38414-012-SF/01
Dated November 9, 2009

Florida Department of
Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

CERTIFIED MAIL #7008 0150 0003 4894 2944
RETURN RECEIPT REQUESTED

November 9, 2009

NOTICE OF PERMIT

Ms. Teresa Carver, Director
Hardee County Solid Waste Department
685 Airport Road
Wauchula, Florida 33873

RE: Hardee County Class I Landfill Phase I Closure
Permit No. 38414-012-SF/01, Hardee County
WACS No. SWD/25/40612

Dear Ms. Carver:

Enclosed is permit number 38414-012-SF/01, issued pursuant to Section(s) 403.087(1), Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Blvd., Mail Station 35, Tallahassee, 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Deborah A. Getzoff
District Director
Southwest District

Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

PERMITTEE
Hardee County Solid Waste Department
685 Airport Road
Wauchula, Florida 33873
C/o Ms. Teresa Carver, Director

PERMIT/CERTIFICATION
WACS Facility ID No: SWD/25/40612
Permit No: **38414-012-SF/01**
Date of Issue: **11/09/2009**
Expiration Date: **11/09/2014**
County: Hardee
Lat/Long: 27°34'17"N
81°46'58"W
Sec/Town/Rge: 35/33S/25E
Project: Hardee County Class I Landfill
Phase I Closure

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 62-4, 62-302, 62-330, 62-522, 62-550, and 62-701. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or referenced in Specific Condition #A.2., and made a part hereof and specifically described as follows:

To **construct** a final cover system and a passive gas collection system and conduct monitoring and maintenance for closed portions (approx 13.6 acres) of a Class I landfill, referred to as the **Hardee County Class I Landfill - Phase I**, subject to the specific and general conditions attached, located at **685 Airport Road, east of the City of Wauchula, Hardee County, Florida.** The specific conditions attached are for the construction and operation of:

1. Final cover system
2. Passive gas venting system within the lined landfill area

Replaces Permit No.: New

This permit contains compliance items summarized in **Attachment 1** that shall be complied with and submitted to the Department by the dates noted. If the compliance dates are not met and submittals are not received by the Department on the dates noted, enforcement action may be initiated to assure compliance with the conditions of this permit.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

(a) Have access to and copy any records that must be kept under conditions of the permit;

(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

GENERAL CONDITIONS:

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

4. **Permit Renewal. On or before April 15, 2014** the permittee shall notify the Department in writing or electronically of its intent to apply for renewal of this permit and of the anticipated date of submittal of the permit renewal application. **No later than August 15, 2014**, the permittee shall apply for a renewal of a permit on forms and in a manner prescribed by the Department, in order to assure conformance with all applicable Department rules. Permits shall be renewed at least every five years as required by Rule 62-701.320(10)(b), F.A.C. Long-term care permit renewal shall include, but not be limited to; an updated long-term care plan; an assessment of the effectiveness of the landfill design, including the surface water and stormwater management, leachate management, gas management and final cover systems; a gas migration evaluation; a water quality monitoring plan evaluation; and revised (not inflation-adjusted) financial assurance cost estimates.

5. **Professional Certification.** Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), Florida Statutes, applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

6. **General Conditions.** The permittee shall be aware of and operate under the "General Conditions." General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes.

7. **Permit Acceptance.** By acceptance of this Permit, the Permittee certifies that he/she has read and understands the obligations imposed by the Specific and General Conditions contained herein and also including date of permit expiration and renewal deadlines. It is a violation of this permit for failure to comply with all conditions and deadlines.

8. **Regulations.** Chapter 62-701, F.A.C., effective May 27, 2001, is incorporated into this permit by reference. In the event that the regulations governing this permitted operation are revised, the Department shall notify the permittee, and the permittee shall request modification of those specific conditions which are affected by the revision of regulations to incorporate those revisions.

9. **Prohibitions.** The prohibitions of Rule 62-701.300, F.A.C., shall not be violated by the activities at this facility.

a. In the event that limestone is encountered during excavation or construction activities, the excavation/construction activities shall cease and the Department shall be notified **within 24 hours of discovery**. Written notification shall be submitted **within 7 days of discovery**. The written notification shall include the location, elevation, and extent of limestone noted on a plan sheet, a description of the materials encountered, and a plan of action which ensures that groundwater will not be adversely affected by the continued construction and operation of the facility. Excavation or construction activities shall not resume in the affected area until the Department-approved plan of action has been completed.

SPECIFIC CONDITIONS: PART B - Construction Requirements

1. **Construction.** All significant construction activities shall be approved by the Department prior to initiating work, unless specifically authorized otherwise.

a. This permit authorizes the construction of the Phase I Closure, including the final cover system and passive gas venting system in the closure area.

2. **Certification of Construction Completion.** All information required by this Specific Condition shall be signed and sealed by a registered professional engineer or land surveyor as appropriate.

a. **Within sixty (60) days** after the specified construction has been completed, the following activities shall be completed and submitted by the permittee for Department approval:

1) The owner or operator shall submit a Certification of Construction Completion, Form 62-701.900(2), signed and sealed by the professional engineer in charge of construction and quality assurance to the Department for approval, and shall arrange for Department representatives to inspect the construction in the company of the permittee, the engineer, and the facility operator.

2) The owner or operator shall submit Record Drawings/Documents showing all changes (i.e. all additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations). The Record Documents shall include as-built plans, details and elevations (survey) as appropriate.

3) The owner or operator shall submit a narrative indicating all changes in plans, the cause of the deviations, and certification of the Record Drawings/Documents by the Engineer to the Department.

4) The professional engineer of record shall submit to the Department a final report to verify conformance with the plans and specifications in accordance with Rules 62-701.400(7) and (8), F.A.C.

3. **Record Drawings/Documents.**
a. The Record Drawings/Documents shall include, but not be limited to, the following information:

1) Location of all anchor trenches, i.e. limits of liner.

2) As-built locations and details of liner tie-ins as shown on Sheet 12 of 16 [ref. SC#A.2.a.(4)];

3) Daily construction reports;

4) As-built drawings showing the geomembrane panel installation layout, locations of fabricated and field seams, type of seams, destructive sampling locations, locations of all repairs, panel designations, geomembrane booting and connection details;

5) All geomembrane destructive test results;

6) A compact disc or other electronic media that includes all available photographs documenting all stages of the construction project [ref. CQAP, Sec. 7.2];

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.4., cont'd)

d. To allow for observation, at least 72 hours prior to initiation, the Department shall be notified of any spark testing.

5. **Pre-Construction Meeting Notification.** Department Solid Waste Permitting staff shall be notified **at least one (1) week prior** to all pre-construction meetings [CQAP 4.1]. Prior to initiating construction activities, the permittee shall make arrangements for the Engineer of Record to meet on site and discuss all plan changes with Department Solid Waste Permitting Staff of the Southwest District Office. A copy of the minutes from the pre-construction conference shall be submitted to the Department within two (2) weeks of the conference.

6. **Construction Schedule and Progress Report.**

a. **No later than two (2) weeks after** the pre-construction conference, the owner or operator shall submit a construction schedule, which includes estimated dates for each portion of the construction to the Department. The Engineer of Record or another qualified professional engineer shall make periodic inspections during construction to ensure that design integrity is maintained.

b. An updated construction schedule and progress report shall be submitted to the Department **monthly, by the 15th of each month.** The monthly progress report should be submitted in an appropriately labeled three-ring binder of sufficient size to store the monthly progress reports for the entire project, or may be submitted electronically. The monthly progress reports shall include, but not be limited to:

1) A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.),

2) A summary of submittals and change order requests,

3) Weekly progress meeting minutes [CQAP 4.2] and

4) Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (e.g., liner penetrations, bottom liner tie-in, gas vent installation, etc.).

7. **Construction Tolerances.**

a. The construction tolerance for elevations and grades shall be ±0.20 ft. (vertical) and ±0.50 ft. (horizontal) [Spec. 01050-3.01.H.].

b. As-built topographic surveys shall demonstrate that the liner and protective soil cover were constructed within the tolerance required by the Drawings and Specifications. Grid spacing shall be no greater than a 50 ft. grid [Spec. 01050-1.04.C].

c. All soil layers shall be constructed to the thicknesses listed in the Specifications and CQA Plan, which are minimum requirements.

d. Surveys for piping shall be conducted at 100-foot intervals along the pipeline [Spec. 31 20 00-3.05.A.].

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.8., cont'd)

d. Defective work. Unsatisfactory, defective or non-conforming work shall be reported to the Engineer and shall be corrected, or the reasons for not correcting the work shall be recorded and maintained on-site for reference and inspections. Documentation of the corrections or reasons for not correcting the work shall be submitted with the Record Documents required by Specific Conditions #B.2 and #B.3. All areas not meeting the requirements of the contract specifications and CQA Plan shall be reworked by the Contractor to meet the specifications, CQA Plan and requirements of this permit.

e. Night work. Construction activities such as geomembrane seaming, QA/QC testing of the geosynthetics or soil materials, surveying, etc. shall not be carried out in non-daylight hours without prior Department approval [see CQAP 6.1.8.6.]. If these activities will be conducted during nighttime hours, the Department shall be notified **at least 1 week** in advance for schedule makeup, and 1 day for weather emergencies, to allow for Department observation. This notification shall include a description of the methods which will be used to provide adequate illumination to ensure that the quality of the construction is not compromised.

f. Where sod is used over lined areas, pegging of sod shall not damage the liner. Sod shall be used on the entire surface of the top, north, and east slopes of the Phase I closure area [ref. SC#A.2.a, §P.5.a.].

g. All portions of the final cover system and gas management system construction, shall be observed and documented by the CQA Consultant.

h. CQA daily reports shall include weather conditions (e.g., precipitation, temperature).

i. Runoff from stockpiled soils shall not discharge to surface water bodies or wetlands such that Department surface water standards are violated at the point of discharge.

j. Dewatering.

1) All excavations shall be maintained free from standing water. Except for the stormwater management system construction, no construction, including pipe laying, shall be allowed in water. The surface shall be graded such that there is no ponding of water

2) All liquids encountered within the landfill footprint are considered to be leachate and shall not be discharged to the stormwater management system [Spec. 01568-1.01.F and G., 02220-3.03.A.].

k. All waste exposed by excavations or other construction activity shall be covered or removed for disposal daily [Spec. 02220-3.04.F. and 3.06.B.]. All wastes generated during the construction shall be disposed of within the on-site permitted disposal areas or a permitted off-site Class I landfill. No solid waste shall be used for backfill [Spec. 02220-3.06.A.].

l. Runoff that has contacted excavated waste shall be managed as leachate and shall not be discharged to the stormwater management system [Spec. 01568-1.01.F and G.].

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.10., cont'd)

f. Earthwork shall be tested by the CQCC for the tests and frequencies specified in Specification Section 02220-Table 02220-1.

g. The gravel used for the toe drain system and gas vent system installations shall be FDOT No. 4 or No. 57 aggregate [ref. SC#A.2.a.(4), Sheet 12, Detail 3; Spec. 02220-2.08]. The gravel used for the gas vent system installations shall be FDOT No. 4 [ref. SC#A.2.a.(4), Sheet 15, Details 1 & 5].

h. Prior to placement of geosynthetic materials on the subbase, an as-built topographic survey shall be provided to the Engineer to verify conformance with the Drawings and Specifications. The subgrade shall be accepted by the Liner Installer and Engineer in writing before placement of the next layer [CQAP, 6.1.3.; Spec. 02220-3.08.G.].

i. During the construction of, and until the geomembrane is placed on the subbase, the subbase shall be inspected daily for signs of desiccation, excessive moisture, or other damage. In the event that the condition of the subbase deteriorates, corrective actions shall be implemented immediately. Washouts or erosion of the subbase shall be repaired immediately. The CQAR shall observe the condition of the subbase and note areas of inadequacy, erosion or other deterioration in the Daily Reports.

j. Loose granular materials shall be stored on solid surfaces in a well-drained area and shall be prevented from mixing with foreign matter [Spec. 01600-1.05.C.].

11. **Geosynthetic Materials.**

a. Conformance testing.

1) The CQA Consultant or designee (independent from the Contractor) shall take conformance samples of the geosynthetics materials in accordance with the test methods and frequencies referenced in Specific Condition B.11.a(3) below. [Spec. 02077-2.02; 02700-2.02; 02776-2.02; 02930-3.02; CQAP 6.1.2.2., 6.2.2., 6.3.5., 6.4.2] In all cases, the test results shall meet or exceed the property values in the Specifications and CQAP.

2) The geosynthetic materials shall not be accepted for use on the project until the results of the CQA conformance testing that indicate that the geosynthetics meet the specifications have been received.

3) The geosynthetic materials shall conform to the following:

a) Non-woven geotextile in geocomposite (CDN): Spec. 02930-Table 02930-2
b) 300-mil Bi-planar Geocomposite: Spec. 02930-Tables 02930-1 through 02930-3
c) 40-mil LLDPE: Spec. 02700-Table 02700-1
d) 60-mil HDPE: Spec. 02776-Table 02776-1
e) Geosynthetic Clay Liner (GCL): Spec. 02077-2.01 E. & F.

4) Certificates of Compliance from the Manufacturer are acceptable in lieu of CQA testing for resin certificates for raw materials for geosynthetics, water vapor transmission rates through geomembranes, Oxidation Induction Time (OIT), general chemical compatibility ratings.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.11.c., cont'd)

4) All areas that fail nondestructive testing shall be marked by the on-site CQA inspector [CQAP, 6.1.9.2.].

5) All welds shall be tested in shear and peel. Geomembrane seams shall not be tested by "hand" exclusively.

d. Transmissivity.

1) The transmissivity test results required by the Specifications shall be submitted to the CQA Consultant for review before the proposed materials are approved for use on the project. [Spec. 02930-1.03.B.2.]

2) The transmissivity of the geocomposite for the top, north, and east slopes of Phase I shall be a minimum of 1.6×10^{-3} m^2/sec based upon a gradient of 0.33 and a normal load of 800 psf. [Spec. 02930-Table 02930-3] The transmissivity of the geocomposite for the south and west slopes of Phase I shall be a minimum of 8.0×10^{-4} m^2/sec based upon a gradient of 0.33 and a normal load of 5000 psf [Spec. 02930-Table 02930-3]. Transmissivity testing shall be conducted on the actual materials that will be used in the project.

e. Interface friction angles.

1) The minimum interface friction angle (peak) for all interfaces (geomembrane/soil, geomembrane/geocomposite, geocomposite/soil) shall be **25.1 degrees with no adhesion** [Spec. 02700-2.01.D.& E.; 02776-2.01.D.& E., 02930-3.02.C.]. Deviation from this requirement shall require a permit modification and shall demonstrate that adequate slope stability will be achieved.

f. Wrinkles. The construction methods used shall minimize wrinkles in the geomembrane and geocomposites. Excessive wrinkles are wrinkles that fold over when stepped on or are at least 12 inches high. Excessive wrinkles shall be removed, and the areas repaired. Areas where wrinkles are removed shall be repaired and re-tested in accordance with the Specifications and CQA Plan.

g. The liner system shall not be damaged by excessive traffic.

h. The geocomposite drainage net (CDN) material and geotextile shall be handled (stored, placed, etc.) in a manner which prevents the infiltration of dirt and protects the CDN and geotextile from abrasion, punctures and excessive moisture. Geocomposite that is clogged by dirt shall be cleaned prior to placement [CQAP 6.3.6; Spec. 02930-3.05.A.].

i. In areas where stakes are used, stakes shall not be of a type or used in a way that may damage the geomembrane.

j. The geomembrane shall always be kept dry and protected from wind damage [CQAP §6.1.7.]. Temporary loading and/or anchoring devices (such as sand bags) shall be removed prior to placing the next layer (i.e., geocomposite or soil) over the geomembrane.

SPECIFIC CONDITIONS: PART C - Operation Requirements

1. **Facility Operation Requirements.**
   a. The permittee shall operate the active portions of this facility in accordance with Chapter 62-701, F.A.C., and Operation Permit 38414-011-SO/01 (including modifications, if any), or its successors.

   b. This permit does not authorize the disposal of waste on the closed south and west slopes of Phase I.

   c. After issuance of this permit (including the time period during construction of the final cover until the certification of closure construction is approved by the Department), and throughout the operating life of the active portions of this facility, the top, north and east slopes of Phase I shall be inspected and maintained as required in the Long-Term Care Plan [ref. SC#A.2.a(3)].

2. **Facility Personnel.** The owner or operator shall provide adequate personnel for constructing, operating, monitoring and maintaining the facility in an orderly, safe, and sanitary manner.

3. **Control of Access.** Access to, and use of, the facility shall be controlled as required by Rule 62-701.500(5), F.A.C.

4. **Monitoring of Waste.** The permittee shall not accept hazardous waste or any hazardous substance at this site. Hazardous wastes are wastes listed in 40 CFR 261 Subpart D as hazardous or are wastes characterized in 40 CFR 261 Subpart C as hazardous. Hazardous substances are those defined in Section 403.703, Florida Statute or in any other applicable state or federal law or administrative rule. Sludges or other wastes which may be hazardous should be disposed of in accordance with Rules 62-701.300(4) and 62-701.500(6)(b), F.A.C. In the event that hazardous wastes are discovered, the Department shall be notified in accordance with Specific Condition C.6.b. below.

5. **Control of Nuisance Conditions.** The owner or operator shall control odors, vectors (mosquitoes, other insects, rodents), and fugitive particulates (dust, smoke) arising from the construction and operation so as to protect the public health and welfare. Such control shall minimize the creation of nuisance conditions on adjoining property. Complaints received from the general public, and confirmed by Department personnel upon site inspection, shall constitute a nuisance condition, and the permittee must take immediate corrective action to abate the nuisance.

6. **Facility Maintenance and Repair.**
   a. The site shall be properly maintained including maintenance of access roads, equipment, stormwater and leachate management systems (including tanks and piping), cover systems and berms, gas venting and/or monitoring and management systems, surface water management system, and groundwater monitoring system. Erosion and ponded water within landfill footprint shall be prevented.

   b. In the event of damage to any portion of the landfill site facilities, unauthorized leachate discharges, failure of any portion of the landfill systems (including damaged or dry groundwater monitoring wells), fire, explosion, the development of sinkhole(s) or other subsurface instability at the site, the permittee shall **immediately (within 24 hours)** notify the Department explaining such occurrence and remedial measures to be taken, method to prevent reoccurrence, and time needed for repairs. **Written, detailed notification shall be submitted to the Department within seven (7) days following the occurrence.** Routine maintenance does not require notification but shall be noted on daily reports.

SPECIFIC CONDITIONS: PART D - Recordkeeping

1. **Report Submittals.** Unless otherwise specified, all submittals, notifications, requests for permit modification, reports for compliance with this permit, etc. shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, Fl. 33637-0926.

2. **Operation Plan and Operating Record.** Each landfill owner or operator shall have an operational (long-term care, monitoring and maintenance) plan. A copy of the Department approved permit, plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. Operating records as required by Rule 62-701.500(3), F.A.C., shall be maintained at the site.

3. **Construction Records.** The permittee shall maintain all records required by the construction specifications, CQA Plan and this permit on-site during construction, and shall provide copies to the Department upon request, unless specified otherwise.

4. **Financial Assurance.** The permittee shall provide adequate financial assurance for this facility and related appurtenances in accordance with Rule 62-701.630, F.A.C.

   a. All costs for closure shall be adjusted and submitted annually, by September 1st each year to: Solid Waste Manager, Solid Waste Section, Department of Environmental Protection, 13051 North Telecom Parkway, Temple Terrace, Fl. 33637-0926.

   b. Proof that the financial mechanism has been adequately funded shall be submitted annually to: Financial Coordinator, Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, MS#4565, Tallahassee, Florida 32399-2400.

SPECIFIC CONDITIONS: PART G - Closure and Long-Term Care Requirements

1. **Closure Requirements.**

a. Long-Term Care Requirements.

1) The owner or operator shall perform long-term care for the closed portions of the site in accordance with Rule 62-701.620, F.A.C., the *Long-Term Care Plan* [ref. SC#A.2.a(3)], and the conditions of Operation Permit 38414-011-SO/01 (including modifications, if any), or its successors.

2) Long-term care includes, but is not limited to, water quality, leachate and gas monitoring, maintenance of the final cover system, maintenance of the leachate collection and removal system and gas management system, erosion control, and the prevention of ponding within disposal areas.

b. Closing Requirements.

1) **No later than ninety (90) days** prior to the date when wastes will no longer be accepted for portions of the landfill which have reached closure design dimensions, the landfill owner or operator shall submit a closure permit application to the Department, in order to assure conformance with all applicable Department rules. A closure permit is required prior to implementing closure related activities.

2. **Future Use of Closed Landfill Areas.**

a. There are no current Department-approved uses of the portions of Hardee County Class I landfill closed under this permit for activities other than those associated with conducting the monitoring and maintenance of the facility in accordance with the long-term care plan.

b. Use of closed landfill and waste disposal areas requires consultation with and approval by the Department prior to conducting these activities in accordance with Rules 62-701.610(7) and 62-701.610(8), F.A.C. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the final cover materials (soil and vegetation), monitoring systems or stormwater controls. A plan detailing the proposed activities and the potential effects on the facility systems (e.g., final cover soils and vegetation), including engineering designs, calculations and plans, as appropriate, shall be submitted for Department review. The Department's document entitled "Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida", dated May 3, 2001, or successor document, may be used as guidance. Authorization to use the closed portions of the Hardee County Class I landfill for activities other than those described in Specific Condition #G.2.a., may require a modification of this permit to comply with Specific Condition #A.3.a.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Deborah A. Getzoff
District Director
Southwest District

ATTACHMENT 1 cont'd

Specific Condition	Submittal Due Date	Required Item
C.6.b.	Within 24 hours of discovery	Notification of: hazardous waste receipt, failure of landfill systems or equipment
	Within 7 days of verbal notification	Written notification & corrective action plan
C.6.c.	Within 60 days of written notification	Complete corrective actions for gradient or groundwater monitoring system
C.6.d.	Within 30 days of written notification	Implement corrective actions for leachate management system
D.4.a.	Annually, by September 1st each year	Submit revised cost estimates
D.4.b.	Annually	Submit proof of funding
F.4.	Within 7 days of detection	Submit gas remediation plan
	Within 60 days of detection	Complete corrective actions
G.1.b.	No later than 90 days prior to the date when wastes will no longer be received	Submit Closure Permit application

SECTION 2 RECORD DRAWINGS AND PERMIT DEVIATIONS

2.1 PERMIT SPECIFICATIONS DEVIATIONS

The following minor deviations were implemented during construction of the completion of the Phase I closure. It is the professional opinion of SCS that these minor deviations did not significantly impact the original permitted concept or design.

2.1.1 Access Ramp

The Conformed Construction Drawings identified the access ramp inclining the east side of the Phase I Closure was to be surfaced with crushed concrete or gravel but was constructed of asphalt. This minor deviation did not alter or modify the original landfill design concept and was done to facilitate long-term site operational activities. Please refer to the Record Drawings located in Attachment 2-1 of this section.

2.1.2 Concrete Rubble Rip-Rap

Concrete rubble rip-rap has been placed along the access ramp stormwater swale as opposed to grout fill fabric formed revetment (GFFR) to eliminate possible future settlement and cracking issues with the GFFR. Concrete rubble rip-rap has been placed along the western stormwater flumes.

2.1.3 Down Chute Redirected

The Conformed Construction Drawings identified a down chute on the east side slope bisecting the access ramp and out falling to the north/south swale along the east side perimeter road. The proposed down chute was redirected to the concrete rubble rip-rap swale instead of the border swale. It was discovered during construction that due to an elevation conflict with the access road and the down chute, sufficient cover could not be provided to route the down chute under the access road.

2.1.4 Western Side Slope of the Project Area

The western side slope of the project area was sodded as opposed to placement of the ConCover material based on a meeting that was conducted with a manufacturer's representative. The application as proposed by the manufacturer would not work sufficiently to provide the required erosion prevention.

2.1.5 Additional Outfall

An additional 6 inch ADS outfall pipe was provided at the Northeast corner of the landfill and a 24-inch culvert was added to allow flow under the boundary road.

2.1.6 Abandonment of Piezometer

Piezometers designated as P-1, P-2 and P-15 have been properly abandoned (by grouting from the top to bottom until surface returns were noted) by Huss Drilling, Inc on November 1, 2010 for preparation of liner installation per correspondence with FDEP. Subsequent documentation of proper abandonment of these piezometers is located in Attachment 2-2 of this section.

2.2 RECORD DRAWINGS

Please refer to Attachment 2-1 for the Hardee County Class I Landfill Phase 1 Closure Record Drawings.

Attachment 2-1

Hardee County Class I Landfill Phase I Closure
Record Drawings

(Bound Separately)

Attachment 2-2

Piezometer Abandonment Documentation

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☐ Delegated Authority (If Applicable) _____

PLEASE FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 808434
Florida Unique ID _____
Permit Stipulations Required (See Attached)
04
62-524 Quad No. Q2915 Delineation No. _____
CUP/WUP Application No. _____

ABOVE THIS LINE FOR OFFICIAL USE ONLY

1. SOUTH FT MEADE PARTNERSHIP L C/O CARGILL INC P O BOX 5628 | MINNEAPOLIS | MN | 55440 | _____
*Owner, Legal Name if Corporation | *Address | *City | *State | *ZIP | *Telephone Number

2. 685 Airport Rd | Wauchula
*Well Location - Address, Road Name or Number, City

3. 263336000012600000
*Parcel ID No. (PIN) or Alternate Key (Circle One) | Lot | Block | Unit

4. 36 | 33 | 25 | HARDEE | _____ | Check if 62-524: ___ Yes X No
*Section or Land Grant | *Township | *Range | *County | Subdivision

5. STEPHANIE S STALLSMITH | 9342 | (352) 424-4510 | stephanie@hussdrilling.com
*Water Well Contractor | *License Number | *Telephone Number | E-mail Address

6. 35920 STATE ROAD 52 | DADE CITY | FL | 33525
*Water Well Contractor's Address | City | State | ZIP

7. *Type of Work: ___ Construction ___ Repair ___ Modification X Abandonment NOT IN USE
*Reason for Repair, Modification, or Abandonment

8. *Number of Proposed Wells 8

9. *Specify Intended Use(s) of Well(s):

___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
___ Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage

Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) _____

X Other (Describe) PLUGGED (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
Received:
Oct 29, 2010 1:04 pm
Official Use Only

10. *Distance from Septic System if ≤200 ft. _____ 11. Facility Description _____ 12. Estimated Start Date 11/01/2010

13. *Estimated Well Depth 20 ft. *Estimated Casing Depth _____ ft. *Primary Casing Diameter 2 in. Open Hole: From _____ To _____ ft.

14. Estimated Screen Interval: From _____ To _____ ft.

15. *Primary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Not Cased ___ Other: _____

16. Secondary Casing: ___ Telescope Casing ___ Liner ___ Surface Casing Diameter _____ in.

17. Secondary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other _____

18. *Method of Construction, Repair, or Abandonment: ___ Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic ___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push) ___ Horizontal Drilling X Plugged by Approved Method ___ Other (Describe) _____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:
From 0 To 20 Seal Material (___ Bentonite X Neat Cement ___ Other _____)
From _____ To _____ Seal Material (___ Bentonite ___ Neat Cement ___ Other _____)
From _____ To _____ Seal Material (___ Bentonite ___ Neat Cement ___ Other _____)
From _____ To _____ Seal Material (___ Bentonite ___ Neat Cement ___ Other _____)

20. Indicate total number of existing wells on site 3 List number of existing unused wells on site 3

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes X No If yes, complete the following: CUP/WUP No. _____ District Well ID No. _____

22. Latitude 27 34 06.28 Longitude 81 46 28.79

23. Data Obtained From: ___ GPS X Map ___ Survey Datum: ___ NAD 27 X NAD 83 ___ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if required, has been or will be obtained prior to commencement of well construction. I further certify that all information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

Digitally Signed | 9342 | Digitally Signed | 10/29/2010
*Signature of Contractor | *License No. | *Signature of Owner or Agent | *Date

DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Automatically Issued Issue Date 10/29/2010 Expiration Date 01/27/2011 Hydrologist Approval _____ Initials

Fee Received $ .00 Receipt No. _____ Check No. _____

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

FORM: 62-532.900(1) EFFECTIVE DATE:

This permit is valid for 90 days from the date of issue.

STATE OF FLORIDA WELL COMPLETION REPORT

Date Stamp
Received:
Nov 10, 2010 2:10 pm

Official Use Only

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☐ Delegated Authority (If Applicable) _____

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

1.*Permit Number 808434 *CUP/WUP Number _____ *DID Number _____ 62-524 Delineation No. _____

2.*Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 5

3.*Owner's Name SOUTH FT MEADE PARTNERSHIP L P 4.*Completion Date 11/01/2010 5. Florida Unique ID _____

6. 685 Airport Rd Wauchula
*Well Location - Address, Road Name or Number, City, ZIP

7. *County HARDEE *Section 36 Land Grant _____ *Township 33 *Range 25

8. Latitude 27 34 06.28 Longitude 81 46 28.79

9. Data Obtained From: ___GPS X Map ___Survey Datum: ___NAD 27 X NAD 83 ___WGS 84

10.*Type of Work: ___Construction ___Repair ___Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
___Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return
Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
X Other (Describe) PLUGGED

12.*Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic ___Horizontal Drilling ___Hydraulic Point (Direct Push) X Other PLUGGED BY APPROVED METHOD

13.*Measured Static Water Level 0 ft. Measured Pumping Water Level ___ ft. After ___ Hours at ___ GPM

14.*Measuring Point (Describe) _____ Which is ___ ft. ___ Above ___ Below Land Surface *Flowing: ___ Yes ___ No

15.*Casing Material: ___Black Steel ___Galvanized X PVC ___Stainless Steel ___Not Cased ___Other _____

16.*Total Well Depth 19 ft. Cased Depth 19 ft. *Open Hole: From ___ To ___ ft. *Screen: From ___ To ___ ft. Slot Size ___

17.*Abandonment: ___Other (Explain) _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___

18.*Surface Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___

19.*Primary Casing Diameter and Depth:
Dia 2 in. From 0 ft. To 19 ft. No. of Bags 1/2 Seal Material (Check One): X Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___

20.*Liner Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___

21.*Telescope Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___

22. Pump Type (If Known):
___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower ___ Pump Capacity (GPM) ___
Pump Depth ___ ft. Intake Depth ___ ft.

23. Chemical Analysis (When Required):
Iron ___ ppm Sulfate ___ ppm Chloride ___ ppm
___ Laboratory Test ___ Field Test Kit

24. Water Well Contractor:

*Contractor Name STEPHANIE S STALLSMITH *License Number 9342 E-mail Address stephanie@hussdrilling.com

*Contractor's Signature Digitally Signed (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Sean Whalen

FORM: 62-532.900(2) EFFECTIVE DATE:

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

***Detailed Site Map of Well Location**

N

Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well.

FORM: 62-532.900(2) EFFECTIVE DATE:

STATE OF FLORIDA WELL COMPLETION REPORT

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☐ Delegated Authority (If Applicable) _____

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp
Received:
Nov 10, 2010 2:10 pm

Official Use Only

1. *Permit Number **808434** *CUP/WUP Number _____ *DID Number _____ 62-524 Delineation No. _____

2. *Number of permitted wells constructed, repaired, or abandoned **3** *Number of permitted wells not constructed, repaired, or abandoned **5**

3. *Owner's Name **SOUTH FT MEADE PARTNERSHIP L P** 4. *Completion Date **11/01/2010** 5. Florida Unique ID _____

6. **885 Airport Rd** **Wauchula**
*Well Location - Address, Road Name or Number, City, ZIP

7. *County **HARDEE** *Section **36** Land Grant _____ *Township **33** *Range **25**

8. Latitude **27 34 06.28** Longitude **81 46 28.79**

9. Data Obtained From: ____GPS **X** Map ____Survey Datum: ____NAD 27 **X** NAD 83 ____WGS 84

10. *Type of Work: ____Construction ____Repair ____Modification **X** Abandonment

11. *Specify Intended Use(s) of Well(s):
____Domestic
____Bottled Water Supply
____Public Water Supply (Limited Use/DOH)
____Public Water Supply (Community or Non-Community/DEP)
____Class I Injection
____Landscape Irrigation
____Recreation Area Irrigation
____Agricultural Irrigation
____Livestock
____Nursery Irrigation
____Commercial/Industrial
____Golf Course Irrigation
____Site Investigation
____Monitoring
____Test
____Earth-Coupled Geothermal
____HVAC Supply
____HVAC Return
Class V Injection: ____Recharge ____Commercial/Industrial Disposal ____Aquifer Storage and Recovery ____Drainage
Remediation: ____Recovery ____Air Sparge ____Other (Describe) _____
X Other (Describe) **PLUGGED**

12. *Drill Method: ____Auger ____Cable Tool ____Rotary ____Combination (Two or More Methods) ____Jetted ____Sonic ____Horizontal Drilling ____Hydraulic Point (Direct Push) **X** Other **PLUGGED BY APPROVED METHOD**

13. *Measured Static Water Level **0** ft. Measured Pumping Water Level _____ ft. After _____ Hours at _____ GPM

14. *Measuring Point (Describe) _____ Which is _____ ft. _____ Above _____ Below Land Surface *Flowing: ____Yes ____No

15. *Casing Material: ____Black Steel ____Galvanized **X** PVC ____Stainless Steel ____Not Cased ____Other _____

16. *Total Well Depth **16** ft. Cased Depth **16** ft. *Open Hole: From _____ To _____ ft. *Screen: From _____ To _____ ft. Slot Size _____

17. *Abandonment: ____Other (Explain) _____

From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other	
From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other	
From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other	
From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other	
From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other	

18. *Surface Casing Diameter and Depth:

Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other

19. *Primary Casing Diameter and Depth:

Dia 12.25 in.	From 0 ft.	To 16 ft.	No. of Bags 25	Seal Material (Check One):	X Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other

20. *Liner Casing Diameter and Depth:

Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other

21. *Telescope Casing Diameter and Depth:

Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other
Dia ____ in.	From ____ ft.	To ____ ft.	No. of Bags ____	Seal Material (Check One):	____Neat Cement	____Bentonite	____Other

22. Pump Type (If Known):
____Centrifugal ____Jet ____Submersible ____Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth _____ ft. Intake Depth _____ ft.

23. Chemical Analysis (When Required):
Iron _____ ppm Sulfate _____ ppm Chloride _____ ppm
____Laboratory Test ____Field Test Kit

24. Water Well Contractor:

*Contractor Name **STEPHANIE S STALLSMITH** *License Number **9342** E-mail Address **stephanie@hussdrilling.com**

*Contractor's Signature **Digitally Signed** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) **Sean Whalen**

FORM: 62-532.900(2) EFFECTIVE DATE:

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

***Detailed Site Map of Well Location**

N

Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well.

FORM: 62-532.900(2) EFFECTIVE DATE:

STATE OF FLORIDA WELL COMPLETION REPORT

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☐ Delegated Authority (If Applicable) _____

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp
Received:
Nov 10, 2010 2:10 pm
Official Use Only

1.*Permit Number 808434 *CUP/WUP Number _____ *DID Number _____ 62-524 Delineation No. _____

2.*Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 6

3.*Owner's Name SOUTH FT MEADE PARTNERSHIP L P 4.*Completion Date 11/01/2010 5. Florida Unique ID _____

6. 685 Airport Rd Wauchula
*Well Location - Address, Road Name or Number, City, ZIP

7. *County HARDEE *Section 36 Land Grant _____ *Township 33 *Range 25

8. Latitude 27 34 06.26 Longitude 81 46 28.79

9. Data Obtained From: ____GPS X Map ____Survey Datum: ____NAD 27 X NAD 83 ____WGS 84

10.*Type of Work: ____Construction ____Repair ____Modification X Abandonment

11.*Specify Intended Use(s) of Well(s):
____Domestic
____Bottled Water Supply
____Public Water Supply (Limited Use/DOH)
____Public Water Supply (Community or Non-Community/DEP)
____Class I Injection
____Landscape Irrigation
____Recreation Area Irrigation
____Agricultural Irrigation
____Livestock
____Nursery Irrigation
____Commercial/Industrial
____Golf Course Irrigation
____Site Investigation
____Monitoring
____Test
____Earth-Coupled Geothermal
____HVAC Supply
____HVAC Return

Class V Injection: ____Recharge ____Commercial/Industrial Disposal ____Aquifer Storage and Recovery ____Drainage
Remediation: ____Recovery ____Air Sparge ____Other (Describe) _____
X Other (Describe) PLUGGED

12.*Drill Method: ____Auger ____Cable Tool ____Rotary ____Combination (Two or More Methods) ____Jetted ____Sonic ____Horizontal Drilling ____Hydraulic Point (Direct Push) X Other PLUGGED BY APPROVED METHOD

13.*Measured Static Water Level 0 ft. Measured Pumping Water Level _____ ft. After _____ Hours at _____ GPM

14.*Measuring Point (Describe) _____ Which Is _____ ft. ____Above ____Below Land Surface *Flowing: ____Yes ____No

15.*Casing Material: ____Black Steel ____Galvanized X PVC ____Stainless Steel ____Not Cased ____Other _____

16.*Total Well Depth 16.5 ft. Cased Depth 16.5 ft. *Open Hole: From ____ To ____ ft. *Screen: From ____ To ____ ft. Slot Size ____

17.*Abandonment: ____Other (Explain) _____
From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____

18.*Surface Casing Diameter and Depth:
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____

19.*Primary Casing Diameter and Depth:
Dia 1.25 in. From 0 ft. To 16.5 ft. No. of Bags 25 Seal Material (Check One): X Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____

20.*Liner Casing Diameter and Depth:
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____

21.*Telescope Casing Diameter and Depth:
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
Dia ____ in. From ____ ft. To ____ ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____

22. Pump Type (If Known):
____Centrifugal ____Jet ____Submersible ____Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth _____ ft. Intake Depth _____ ft.

23. Chemical Analysis (When Required):
Iron _____ ppm Sulfate _____ ppm Chloride _____ ppm
____Laboratory Test ____Field Test Kit

24. Water Well Contractor:

*Contractor Name STEPHANIE S STALLSMITH *License Number 9342 E-mail Address stephanie@hussdrilling.com

*Contractor's Signature Digitally Signed (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Sean Whalen

FORM: 62-532.900(2) EFFECTIVE DATE:

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

***Detailed Site Map of Well Location**

N

Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well.

FORM: 62-532.900(2) EFFECTIVE DATE:

SECTION 3 CONSTRUCTION OBSERVATION

3.1 CONSTRUCTION QUALITY ASSURANCE SERVICES

In accordance with the FDEP approved Construction Quality Assurance (CQA) Plan and per Specific Condition Number B.8.2 of FDEP Construction Permit Number 38414-012-SF/01 for the construction of the Hardee County Class I Landfill Phase I Closure, Hardee County provided a full-time CQA representative on-site to observe construction activities of the Phase I Closure. SCS provided full-time field CQA services including observation and testing during the completion of the Hardee County Class I Landfill Closure liner system including testing, installation of the Geosynthetic Clay Liner (GCL), 40 mil textured Linear Low Density Polyethylene (LLDPE) geomembrane liner, 60 mil textured High Density Polyethylene (HDPE) geomembrane liner, geocomposite drainage layer, placement of the two-foot thick sand drainage/protective layer, stormwater downchute installation and sodding.

SCS, as the County's CQA representative, verified material for compliance with the technical specifications, observed all field testing, observed construction for compliance with the permit conditions, and documented the various phases of construction as necessary for final certification purposes. Sections 5 and 7 of this report discuss the HDPE and LLDPE geomembrane liner and geocomposite CQA activities in further detail. Please refer to Attachment 3-1 for copies of the SCS Daily Field Reports created by the SCS CQA representative during construction.

In addition, per Specific Condition Number B.6.b of the construction permit, monthly progress reports were required to be submitted to FDEP during the duration of the project. Please refer to Attachment 3-2 for copies of these SCS Monthly Progress Reports also previously provided to FDEP as required.

Attachment 3-1

SCS Daily Field Reports

DAILY FIELD REPORTS LOG
HARDEE COUNTY LANDFILL, PHASE 1 CLOSURE

Notice to Proceed	10/4/2010
Substantial Completion (120 Calendar Days) South Slope	2/1/2011
Final Completion (145 Calendar Days) South Slope	2/26/2011
Substantial Completion (180 Calendar Days) South Slope	4/2/2011
Final Completion (210 Calendar Days)	5/2/2011

DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES
10/4/2010	0	Included	11/1/2010	28	Included	12/1/2010	58	Included	1/1/2011	89	SATURDAY, no work
10/5/2010	1	Included	11/2/2010	29	Included	12/2/2010	59	Included	1/2/2011	90	SUNDAY, no work
10/6/2010	2	Included	11/3/2010	30	Included	12/3/2010	60	Included	1/3/2011	91	Included
10/7/2010	3	Included	11/4/2010	31	Included	12/4/2010	61	Included	1/4/2011	92	Included
10/8/2010	4	Included	11/5/2010	32	Included	12/5/2010	62	SUNDAY, no work	1/5/2011	93	Included
10/9/2010	5	SATURDAY, no work	11/6/2010	33	SATURDAY, no work	12/6/2010	63	Included	1/6/2011	94	Included
10/10/2010	6	SUNDAY, no work	11/7/2010	34	SUNDAY, no work	12/7/2010	64	Included	1/7/2011	95	Included
10/11/2010	7	Included	11/8/2010	35	Included	12/8/2010	65	Included	1/8/2011	96	Included
10/12/2010	8	Included	11/9/2010	36	Included	12/9/2010	66	Included	1/9/2011	97	SUNDAY, no work
10/13/2010	9	Included	11/10/2010	37	Included	12/10/2010	67	Included	1/10/2011	98	Included
10/14/2010	10	Included	11/11/2010	38	Included	12/11/2010	68	Included	1/11/2011	99	Included
10/15/2010	11	Included	11/12/2010	39	Included	12/12/2010	69	SUNDAY, no work	1/12/2011	100	Included
10/16/2010	12	SATURDAY, no work	11/13/2010	40	Included	12/13/2010	70	Included	1/13/2011	101	Included
10/17/2010	13	SUNDAY, no work	11/14/2010	41	SUNDAY, no work	12/14/2010	71	Included	1/14/2011	102	Included
10/18/2010	14	Included	11/15/2010	42	Included	12/15/2010	72	Included	1/15/2011	103	Included
10/19/2010	15	Included	11/16/2010	43	Included	12/16/2010	73	Included	1/16/2011	104	SUNDAY, no work
10/20/2010	16	Included	11/17/2010	44	Included	12/17/2010	74	Included	1/17/2011	105	Included
10/21/2010	17	Included	11/18/2010	45	Included	12/18/2010	75	Included	1/18/2011	106	Included
10/22/2010	18	Included	11/19/2010	46	Included	12/19/2010	76	SUNDAY, no work	1/19/2011	107	Included
10/23/2010	19	SATURDAY, no work	11/20/2010	47	Included	12/20/2010	77	Included	1/20/2011	108	Included
10/24/2010	20	SUNDAY, no work	11/21/2010	48	SUNDAY, no work	12/21/2010	78	Included	1/21/2011	109	Included
10/25/2010	21	Included	11/22/2010	49	Included	12/22/2010	79	Included	1/22/2011	110	SATURDAY, no work
10/26/2010	22	Included	11/23/2010	50	Included	12/23/2010	80	Included	1/23/2011	111	SUNDAY, no work
10/27/2010	23	Included	11/24/2010	51	Included	12/24/2010	81	Included	1/24/2011	112	Included
10/28/2010	24	Included	11/25/2010	52	Holiday, no work	12/25/2010	82	SATURDAY, no work	1/25/2011	113	Included
10/29/2010	25	Included	11/26/2010	53	Included	12/26/2010	83	SUNDAY, no work	1/26/2011	114	Included
10/30/2010	26	Included	11/27/2010	54	Included	12/27/2010	84	Included	1/27/2011	115	Included
10/31/2010	27	SUNDAY, no work	11/28/2010	55	SUNDAY, no work	12/28/2010	85	Included	1/28/2011	116	Included
			11/29/2010	56	Included	12/29/2010	86	Included	1/29/2011	117	SATURDAY, no work
			11/30/2010	57	Included	12/30/2010	87	Included	1/30/2011	118	SUNDAY, no work
						12/31/2010	88	Included	1/31/2011	119	Included

DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES	DATE	CONTRACT DAY	NOTES
2/1/2011	**120**	**Included**	3/1/2011	148	Included	4/1/2011	179	-	5/1/2011	209	-
2/2/2011	121	Included	3/2/2011	149	Included	**4/2/2011**	**180**	-	**5/2/2011**	**210**	-
2/3/2011	122	Included	3/3/2011	150	Included	4/3/2011	181	-			
2/4/2011	123	Included	3/4/2011	151	Included	4/4/2011	182	-			
2/5/2011	124	SATURDAY, no work	3/5/2011	152	SATURDAY, no work	4/5/2011	183	-			
2/6/2011	125	SUNDAY, no work	3/6/2011	153	SUNDAY, no work	4/6/2011	184	-			
2/7/2011	126	Included	3/7/2011	154	Included	4/7/2011	185	-			
2/8/2011	127	Included	3/8/2011	155	Included	4/8/2011	186	-			
2/9/2011	128	Included	3/9/2011	156	Included	4/9/2011	187	-			
2/10/2011	129	Included	3/10/2011	157	Included	4/10/2011	188	-			
2/11/2011	130	Included	3/11/2011	158	Included	4/11/2011	189	-			
2/12/2011	131	SATURDAY, no work	3/12/2011	159	SATURDAY, no work	4/12/2011	190	-			
2/13/2011	132	SUNDAY, no work	3/13/2011	160	SUNDAY, no work	4/13/2011	191	-			
2/14/2011	133	Included	3/14/2011	161	Included	4/14/2011	192	-			
2/15/2011	134	Included	3/15/2011	162	Included	4/15/2011	193	-			
2/16/2011	135	Included	3/16/2011	163	Included	4/16/2011	194	-			
2/17/2011	136	Included	3/17/2011	164	last report, Included	4/17/2011	195	-			
2/18/2011	137	Included	3/18/2011	165	-	4/18/2011	196	-			
2/19/2011	138	SATURDAY, no work	3/19/2011	166	-	4/19/2011	197	-			
2/20/2011	139	SUNDAY, no work	3/20/2011	167	-	4/20/2011	198	-			
2/21/2011	140	Included	3/21/2011	168	-	4/21/2011	199	-			
2/22/2011	141	Included	3/22/2011	169	-	4/22/2011	200	-			
2/23/2011	142	Included	3/23/2011	170	-	4/23/2011	201	-			
2/24/2011	143	Included	3/24/2011	171	-	4/24/2011	202	-			
2/25/2011	144	Included	3/25/2011	172	-	4/25/2011	203	-			
2/26/2011	**145**	**SATURDAY, no work**	3/26/2011	173	-	4/26/2011	204	-			
2/27/2011	146	SUNDAY, no work	3/27/2011	174	-	4/27/2011	205	-			
2/28/2011	147	Included	3/28/2011	175	-	4/28/2011	206	-			
			3/29/2011	176	-	4/29/2011	207	-			
			3/30/2011	177	-	4/30/2011	208	-			
			3/31/2011	178	-						

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/4/2010 **Contract Day:** 0 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site	**Equipment Not Used/Down:**
Excavator	Roller
CAT D-6N	
Truck (2)	

Personnel on site:

No. of Superintendents	**No. of Skilled**	**No. of Laborers**
1		

Description of Construction Activity
South Slope excavating. Stripping grass and pushing waste 2 ft below liner elevation on south slope
Moving waste from south slope to top of cell. Hauling grass strippings.

List of Subcontractors

List of Materials Delivered
97 loads (Fill) hauled from
Darwin Pit

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/4/10

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/5/2010 **Contract Day:** 1 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** _____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site
Excavator
CAT D-6N
Truck (2)

Equipment Not Used/Down:
Roller

Personnel on site:
1
No. of Superintendents **No. of Skilled** **No. of Laborers**

Description of Construction Activity
South Slope excavating. Stripping grass and pushing waste 2 ft below liner elevation on south slope
Moving waste from south slope to top of cell. Hauling grass strippings.

List of Subcontractors

List of Materials Delivered
128 loads (Fill) hauled from
Darwin Pit

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/5/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County LF Ph. 1 Closure Project No. 09199033.21

Owner: Hardee County Contractor: _____

Date: 10/6 Contract Day: 2 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) _____ (PM) 79 ° Rain: No Duration of Rain: No

Description of Weather: Sunny, warm, no clouds

List of Equipment on site: (A) for active (I) for idle

Personnel on site:

2		
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity

Arrived on site @ 1:30 pm. Met with Shane & Jack

Driller installing V-1, V-8 and HC 1A1, 1B1, HC, 8.1 & HC 7.1.

Rough Grading along South & west slopes, fusing and drilling HDPE pipe for trenching and vertical component of horizontal collectors, slotting pipe for LFG Vents.

Drill rig down at about 4:30 due to broken kelly cable. Ended drilling at V-7. Left site at about 5:00 pm.

List of Subcontractors:

Quality Drilling

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
SEE Drill Logs		

Field Representative Roger Hogg **Date** 10/6/10

SCS ENGINEERS DAILY FIELD REPORT

Project: HARDEE COUNTY LF Ph. 1 Closure Project No. 09199033.21

Owner: HARDEE COUNTY Contractor: ERC

Date: 10/7/10 Contract Day: 3 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 61°F (PM) 84°F Rain: N Duration of Rain: —

Description of Weather: _____

List of Equipment on site: (A) for active (I) for idle

SK 330 Track Hoe (A)		
Drill Rig (A		
Dozer X2		

Personnel on site:

2	3	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Arrived on site @ 8:15 am
Drill rig is still down. ERC to pick up new cable to repair rig; expect to resume drilling later this afternoon.

Grading work is proceeding on western lower slope
Drilling resumed at V-7 @ 2:00 pm

Completed V-7, V-3, V-4

List of Subcontractors:

Quality Drilling

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
See Drill logs		

Field Representative Roger Hogg **Date** 10/7/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County LF Ph. 1 Closure Project No. 09199033.21

Owner: Hardee County Contractor: ERC

Date: 10/8/10 Contract Day: 4 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 61°F (PM) 80°F Rain: N Duration of Rain: —

Description of Weather: Sunny, no clouds.

List of Equipment on site: (A) for active (I) for idle

Drill Rig	Dozer for Grading x2	
Track Hoe		
Loader (F/E)		

Personnel on site:

2	3	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Arrived onsite @ 8, Drilling continued.

Completed V-2, V-6, V-5 and remaining ~~Horizont~~ vertical components of horizontal collectors.

Pothoing SE corner of LF around Stormwater chute to locate depth of waste.

List of Subcontractors:

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
See Drill Logs		

Field Representative Roger Hogg **Date** 10/8

SCS ENGINEERS DAILY FIELD REPORT

Page _____ of _____

Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/9/2010 **Contract Day:** 5 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site
Excavator
CAT D-6N
Truck (2)

Equipment Not Used/Down:
Roller

Personnel on site:
1
No. of Superintendents **No. of Skilled** **No. of Laborers**

Description of Construction Activity
Stockpiled imported fill.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/9/10

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/10/2010 **Contract Day:** 6 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site

Equipment Not Used/Down:
Roller
Excavator
CAT D-6N
Truck

Personnel on site:
1
No. of Superintendents **No. of Skilled** **No. of Laborers**

Description of Construction Activity
No work performed.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/10/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase I Closure Project No. 09199033.21

Owner: Hardee County Contractor: ERC

Date: 10/11/10 Contract Day: 7 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 65°F (PM) 87°F Rain: N Duration of Rain: —

Description of Weather: Partly Cloudy, warm, medium Humidity

List of Equipment on site: (A) for active (I) for idle

Personnel on site:

2	5	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Arrived onsite @ 11:30 am.
Fusing/drilling pipes for horizontal trenches.
Trash being disposed @ top of ph. I.

Kobelco excavator for 2' treech delivered but not operable
Trenching for horizontals expected to begin Tomorrow
clearing of west slope. Could not begin S trenching due to leachate build-up in LF

List of Subcontractors:

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
—	—	—
—	—	—
—	—	—
—	—	—

Field Representative Roger Hogg **Date** 10/11/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County LF Phase I Closure Project No. 09190033.21

Owner: Hardee County Contractor: ERC

Date: 10/12/10 Contract Day: 8 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 66°F (PM) 88°F Rain: N Duration of Rain: —

Description of Weather: _____

List of Equipment on site: (A) for active (I) for idle

Kobelco excavator x2 (A)	Kubota 4x4	
VoNo. Dump Truck (A)x2	Gator 6x4	
Caterpillar Dozer x 2 (A)		

Personnel on site:

2	5	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Arrived onsite @ 7:45 am ; Grading of West Slope

Trenching of HC-1A began, going up slope. Trench from bottom of slope to HC-1A.1 complete, filled w/ clean fill.

Began excavating MH-7 @ 4:30pm

Resolved issue re - tie-in to MH-7:
Continuing 3-1 slope from LF to MH would result in a 10'+ cut into existing access road. Resolved by Shane + Vaden to gently reduce slope of trench from 3:1 to minimum 3% slope and tie into manhole at resulting elevation or as required.

List of Subcontractors:

N/A

List of Materials Delivered:

5 rolls of Geotextile	690' x 180"	New

Serial #s - 17915.1 ; 17915.5; 17915.4; 17915.2 ; 17915.3

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
Geotextile (HC-1A)	150 LF x 15'	150
4" HDPE pipe		

Field Representative Roger Hogg **Date** 10/12/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase I Closure Project No. 09199033.21

Owner: Hardee County Contractor: ERC

Date: 10/13/10 Contract Day: 9 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 67°F (PM) _____ Rain: N Duration of Rain: —

Description of Weather: _____

List of Equipment on site: (A) for active (I) for idle

(A) Kobelco Excavator x2	Dozer x 2 (A)	
(A) Komatsu Mini Excavator	Gator 6x4 (A)	
(A) Volvo Dump Truck x2	Kubota 4x4 (A)	

Personnel on site:

2	5	4
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity (Arrived on site @ 800 am)

Began Excavating HC-1B trench, starting @ MH7. Placed perforated pipe and stone in trench. Completed HC-J1.
Also began exposing geotextile liner at southern limit of Phase I.

Surveyor performing ongoing topographical survey, marking limits of Phase I.

List of Subcontractors:

Haulers
Surveyors

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
Geotextile. (HC-1B)		
4" HDPE Pipe		

Field Representative Roger Hogg **Date** 10/13/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase I Project No. 09199033.21

Owner: Hardee County Contractor: ERC

Date: 10/14/10 Contract Day: 10 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 74°F (PM) 87°F Rain: N Duration of Rain: —

Description of Weather: Cloudy AM, Partly Cloudy PM

List of Equipment on site: (A) for active (I) for idle

(A) 330 excavator x 2	Dozer x 2 (A)	
(I) Komatsu mini	Gator 6x4 (A)	
(A) Volvo Dump Truck x 2	Kubota 4x4 (A)	

Personnel on site:

2	5	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Stripping/Grading @ North face, removing grass

Excavating Trench of HC-2, installed pipe, rock & geotextile, completed installation of HC-2 w/ riser next to V-2, except for manhole tie-in @ MH-6, due to discrepancy with scheduled elevation of manhole cover @ tie-in location on plans.

List of Subcontractors:

Haulers

Surveyors

List of Materials Delivered:

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
Geotextile (HC-2)		
4" HDPE Pipe		

Field Representative Roger Hogg **Date** 10/14/10

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/15/2010 **Contract Day:** 11 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site	**Equipment Not Used/Down:**
Excavator	Roller
CAT D-6N	
Truck (2)	
Dozer, loader	

Personnel on site:

1		
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity
Loading fill dirt from south stockpile. Completed 50% of HC-4 before loader broke down.
Stripping grass on east slope. Spreading intermediate cover on south and west slope.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/15/10

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/16/2010 **Contract Day:** 12 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site	**Equipment Not Used/Down:**
Excavator	
CAT D-6N	
Truck (1)	
Roller	

Personnel on site:

1		
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity
Repairing haul road for street trucks to travel.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description:

Field Representative Shane Fisher **Date** 10/16/10

SCS ENGINEERS DAILY FIELD REPORT

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Project: Hardee County LF Phase 1 Closure **Project number:** 09199033.21
Owner: Hardee County **Contractor:** ERC

Date: 10/17/2010 **Contract Day:** 13 **Contract Duration** _____

Weather
Temperature: (AM) _____ **(PM)** ____ **Rain** No **Rainfall (inches)** _____
Description of weather: Clear

List of Active Equipment on site **Equipment Not Used/Down:**

Personnel on site:
1 _____ _____
No. of Superintendents **No. of Skilled** **No. of Laborers**

Description of Construction Activity
No work performed.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description: _____

Field Representative Shane Fisher **Date** 10/17/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase I Closure Project No. 09199033.21

Owner: Hardee County Board of CC. Contractor: ERC

Date: 10/18/10 Contract Day: 19 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 68°F (PM) _____ Rain: N Duration of Rain: —

Description of Weather: Bright, sunny, no clouds

List of Equipment on site: (A) for active (I) for idle

(A) 2 × Volvo dump truck	(A) 1 × F/E Loader	
(A) 2 × Caterpillar Dozer	(I) Komatsu Mini excavator	
(A) 2 × Excavator		

Personnel on site:

2	5	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Completing tie in to MH-6 via cut into Manhole cover as discussed during the Construction meeting and approved by SRF.
Filling and grading along South slope.
Trenching for new horizontal collector HC-3 along West slope.
New Horizontal collector trench HC-3 installed and completed with riser.
Intermediate fill and grade of South slope 40% complete.
Intermediate fill and grade of West slope continued.

List of Subcontractors:

—
—

List of Materials Delivered:

Clean soil fill

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
Geotextile		
4" HDPE Solid		
4" HDPE perf.		

Field Representative Roger Hogg **Date** 10/18/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase I Closure Project No. 09199033.21

Owner: Hardee County BOCC Contractor: ERC

Date: 10/19/10 Contract Day: 15 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 64°F (PM) 81°F Rain: N Duration of Rain: —

Description of Weather: Cloudy in AM, Partly cloudy PM

List of Equipment on site: (A) for active (I) for idle

(A) 2 x Volvo Dump Truck	(A) 1 x Hyundai F/E Loader	
(A) 2x Cat Doze	(I) Komatsu Mini Excavator	
(A) 2 x Kobelco Excavator		

Personnel on site:

1	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Intermediate fill and grade of south and west slopes continued.

Completed ~~HC~~- installation of HC-4 and HC-5 on North slope of landfill.

List of Subcontractors:

Clean soil Fill

List of Materials Delivered:

—

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
4" Perf HDPE		
4" Solid HDPE		
10' wide Geotextile		

Field Representative Roger Hogg **Date** 10/19/10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Phase 1 Closure Project No. 09199033.21

Owner: Hardee County BOCC Contractor: ERC

Date: 10/20/10 Contract Day: 16 Contract Duration (days): _____

Days Remaining: _____

Temperature: (AM) 66°F (PM) 81°F Rain: N Duration of Rain: —

Description of Weather: Partly Cloudy AM / PM

List of Equipment on site: (A) for active (I) for idle

(A) 2 x Kobelco Excavator	(A) Hyundai F/E Loader	
(A) 2 x Caterpillar Dozer	(I) Komatsu Mini Excavator	
(A) 2 x Volvo Dump Truck	(I) John Deere Gator	

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

Arrived onsite @ 7:30 am
Began Trench & installation of HC-8 (at MH-1) on SE Corner.

Continued intermediate fill of South and West Slopes.

Installed HC-8, but contractor ran out of perforated pipe. Remaining solid pipe being perforated on-site by personnel; Personnel went to pick up additional 4" pipe.

List of Subcontractors:

—

List of Materials Delivered:

Rain Tarp (12 mil) 60x230, 60x460, 60x460 (3 rolls, 1150' overall)

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
4" HDPE Solid Pipe		
4" HDPE Perf. Pipe		
Geotextile (16' wide)		

Field Representative Roger Hogg **Date** 10/20/10

SCS ENGINEERS DAILY FIELD REPORT

Page 1 of 1

Project: Hardee County Landfill Phase I Closure **Project Number:** 09199033.21

Owner: Hardee County **Contractor:** ERC

Date: 10/21/10 **Contract Day:** 17 **Contract Duration** ____

Weather
Temperature: (AM) 66°F **(PM)** 82°F **Rain** N **Rainfall (inches)** —
Description of weather: Partly Cloudy AM, Partly Cloudy PM

List of Active Equipment on site
(A) 2 x Kobelco Excavator
(A) 2 x Caterpillar Dozer
(A) 2x Volvo dump Truck
(A) Hyundai F/E Loader

Equipment Not Used/Down:
(I) Komatsu Mini Excavator.

Personnel on site:

2	6	4
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity
Arrived onsite @ 7am
Completed installation of 4C-7 and Riser
Continued intermediate fill of south & west slopes (South slope nearly complete).
Stripped Soil/Grass/Trash from east slope, digging to locate liner along east edge of landfill.

List of Subcontractors

List of Materials Delivered

Contract Issues/Conflicts
Description:

Field Representative Dennis G. DuPont Roger Hogg **Date** 10/21/10

SCS ENGINEERS DAILY FIELD REPORT

Page _____ of _____

Project: Hardee County Landfill Phase I Closure **Project Number:** 09199033.21

Owner: Hardee County **Contractor:** ERC

Date: 10-22-10 **Contract Day:** 18 **Contract Duration** _____

Weather
Temperature: (AM) 63 **(PM)** 86 **Rain** 0 **Rainfall (inches)** _____
Description of weather: clear

List of Active Equipment on site **Equipment Not Used/Down:**

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

0700
Description of Construction Activity ERC has Trucks bringing material, ERC installing gas perf pipe between HC-61 & MH-2, clear & grub SW side of haul Rd to top, ERC continues To excavate solid waste and install fill material, Surveyors - survey 3:1 slope.
Progress Meeting No. 3

List of Subcontractors
Surveyors

List of Materials Delivered
fill Material

Contract Issues/Conflicts
Description:

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-22-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-28-10 **Contract Day:** 19 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 87 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC moved equipment – no activity on cell.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-25-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-24-10 **Contract Day:** 20 **Contract Duration:** 210

Weather
Temperature: (AM) 68 **(PM)** 88 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity on cell

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-25-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-25-10 **Contract Day:** 21 **Contract Duration:** 210

Weather
Temperature: (AM) 71 **(PM)** 90 **Rain:** 0 **Duration of rain:** _____
Description of weather: Partly Cloudy

List of Active Equipment on site

2 – excavators	A	
2 – bull dozers	A	
1 – water truck	A	

Personnel on site:

1	7	
No. of Superintendents	No. of Skilled	No. of Laborers

0700
Description of Construction Activity ERC hauling fill material to site, grading site N & E, to grade. Exposing liner for tie in at down chute, revetment, Fill being placed Top S. end and along S. Slope & Tie-in area.

List of Subcontractors

List of Materials Delivered
Fill material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-25-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-26-10 **Contract Day:** 22 **Contract Duration:** 210

rain 1836 –

Weather
Temperature: (AM) 77 **(PM)** 91 **Rain:** Trace **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1 – excavator A		
1 – bull dozer A		
1 – water Truck A		
4 – offroad dumps A		

Personnel on site:

1 + (V.P. part of day)	7	1
No. of Superintendents	No. of Skilled	No. of Laborers

0700

Description of Construction Activity ERC - grading s. slope, cut/fill W. slope finished out day on W. slope. Head dug To expose around down chute

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-26-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-27-10 **Contract Day:** 23 **Contract Duration:** 210

Yesterday Trace

Weather
Temperature: (AM) ~~77~~ 72 **(PM)** 91 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear to Partly Cloudy

List of Active Equipment on site

1- excavator A		
4- offroaddumps A		
1- Bulldozer A		
1- Water Truck I		

Personnel on site:

1 + VP	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity #730 ERC continues to place General fill ~~cover~~ on West side of cell and working around to on North side

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-27-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-28-10 **Contract Day:** 24 **Contract Duration:** 210

Weather
Temperature: (AM) 71 **(PM)** 90 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1 – excavator A		
2 – ball dozers A		
3 – offroad dumps A – (1 Trak ± day)		
1 – water truck A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1 + (V.P. ± day)	7 (V.P. on ± day excavator)	

Description of Construction Activity 0730 ERC continues to install General fill ~~intermediate~~ ~~cover~~ ~~and~~ on the East slope, hand digging at Man hole #7 to make Tie-in

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-28-10

1830

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-29-10 **Contract Day:** 25 **Contract Duration:** 210

Weather
Temperature: (AM) 69 **(PM)** 85 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- excavator, A		
4- offroad dumps A		
2- bull dozers A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
VP	6	

Description of Construction Activity 0715 ERC continues to install general fill on East slope, hand digging around Man holes to prepare for concrete caps.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 10-29-10

1745

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-30-10 **Contract Day:** 26 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 86 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC placed some intermediate General Fill ~~cover~~ on East slope, mostly equipment maintenance.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-1-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 10-31-10 **Contract Day:** 27 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 86 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-1-10

November 2010 December 2010 >

	High	Low	Precip(in)	Snow(in)	Forecast	Avg. High	Avg. Low
Mon 11/1/2010	86°	64°	0.10	0.0		81°	61°
Tue 11/2/2010	82°	69°	0.05	0.0		81°	60°
Wed 11/3/2010	87°	65°	0.21	0.0		81°	60°
Thu 11/4/2010	78°	67°	1.22	0.0		81°	60°
Fri 11/5/2010	68°	53°	0.00	0.0		81°	60°
Sat 11/6/2010	66°	47°	0.00	0.0		80°	60°
Sun 11/7/2010	71°	48°	0.00	0.0		80°	60°
Mon 11/8/2010	75°	49°	0.00	0.0		80°	59°
Tue 11/9/2010	79°	46°	0.00	0.0		80°	59°
Wed 11/10/2010	82°	48°	0.00	0.0		80°	59°
Thu 11/11/2010	81°	55°	0.00	0.0		80°	59°
Fri 11/12/2010	81°	60°	0.00	0.0		79°	59°
Sat 11/13/2010	78°	58°	0.00	0.0		79°	58°
Sun 11/14/2010	79°	56°	0.00	0.0		79°	58°
Mon 11/15/2010	81°	54°	0.00	0.0		79°	58°
Tue 11/16/2010	83°	60°	0.00	0.0		79°	58°
Wed 11/17/2010	84°	64°	0.20	0.0		79°	57°
Thu 11/18/2010	79°	57°	0.00	0.0		78°	57°
Fri 11/19/2010	78°	55°	0.00	0.0		78°	57°
Sat 11/20/2010	79°	58°	0.00	0.0		78°	57°
Sun 11/21/2010	81°	62°	0.01	0.0		78°	57°
Mon 11/22/2010	82°	63°	0.00	0.0		78°	56°
Tue 11/23/2010	82°	61°	0.00	0.0		78°	56°
Wed 11/24/2010	82°	59°	0.00	0.0		77°	56°
Thu 11/25/2010	83°	62°	0.00	0.0		77°	56°
Fri 11/26/2010	81°	68°	0.03	0.0		77°	55°
Sat							

11/27/2010	76°	63°	0.03	0.0	77°	55°
Sun 11/28/2010	80°	58°	0.00	0.0	77°	55°
Mon 11/29/2010	85°	66°	0.05	0.0	76°	55°
Tue 11/30/2010	85°	68°	0.00	0.0	76°	54°

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-1-10 **Contract Day:** 28 **Contract Duration:** 210

rain at night

Weather
Temperature: (AM) 64 **(PM)** 86 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

2 - excavators ≈ A	3 - off road dumps A	
1 - bull dozers ≈ A		
1 - water Truck A		
1 - mini excavator ≈ A (spotchecks)		

Personnel on site:

1 + V.P. — No. of Superintendents
6 — No. of Skilled
2 — No. of Laborers

Description of Construction Activity 0730 ERC fine grading south slope. ERC spot checking with rover. ERC is stalling ~~general fill~~ intermediate cover west slope. Huss drilling on site to abandon Piezometers P-15, P2, P1. Universal on site for density/moisture test at designated points South Slope. ~~ERC installing~~

List of Subcontractors
Huss Well drilling.
Universal Testing

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-1-10

1800

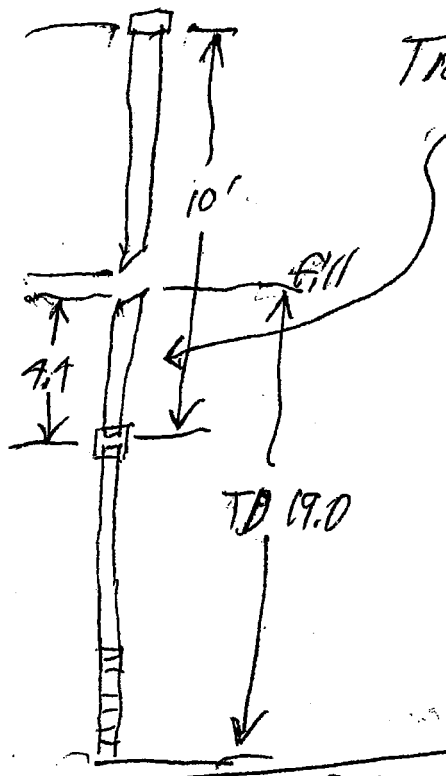
0840

11-1-10

Dennis A. Dufort

~~MW~~ P-15 2" bottom Tremie to Top removed 4.4

well TD 19.0 − 4.4 = 14.6 ft



used ≈ 7-8 gal neat cement ≈ 2/3 bag portland.

1¼" P-2 TD - 16.4'

≈ 2.5 gal neat cement

1" P-1 TD - 16.1'

≈ 2.5 gal.

1000

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-2-10 **Contract Day:** 29 **Contract Duration:** 210

Lt. rain start 1630 cont.

Weather
Temperature: (AM) 69 **(PM)** 82 **Rain:** 0.75 in. **Duration of rain:** _____
Description of weather: partly cloudy to cloudy - rain late

List of Active Equipment on site

1 – excavator A	1 – mini excavator I	
2 – bull dozers A	1 – Front loader ±A	
1 – offroad dumps A		
1 – water Truck ±A		

Personnel on site:

1 + V.P.	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

0730

Description of Construction Activity ERC grading cut/fill S.W. of cell, Intermediate cover to top.

List of Subcontractors
Truckers

List of Materials Delivered
Intermediate cover

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-2-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-3-10 **Contract Day:** 30 **Contract Duration:** 210

rain start @ 1715

Weather
Temperature: (AM) 65 **(PM)** 87 **Rain:** 1.01" **Duration of rain:** _____
Description of weather: clear to cloudy

List of Active Equipment on site

1- excavator A	1- front loader A	
1- mini excavator A	1- water truck E	
1- off road dump A		
1- bull dozer A		

Personnel on site:

1 + V.P.	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

0730

Description of Construction Activity ERC c/casing/prepping roads from rain. Trucks delivering intermediate cover material. Alert on site to core drill manholes for gas collection pipes, starting with MH-7, cored 5. Installing general fill. Completed Tie-ins to Man holes.

List of Subcontractors
Trucks
Alert Core Drilling, Inc.

List of Materials Delivered
Intermediate cover

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-3-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-4-10 **Contract Day:** 31 **Contract Duration:** 210

expect more rain Today

Weather
Temperature: (AM) 67 **(PM)** 78 **Rain:** 1.77 in **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity Rain day, roads Too wet to haul, no activity. GCL delivered, stored inside county building

List of Subcontractors

List of Materials Delivered
GCL - 5 rolls

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-4-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-5-10 **Contract Day:** 32 **Contract Duration:** 210

Weather
Temperature: (AM) 53 **(PM)** 68 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity Rain day — Too wet To work site needs to dry.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-8-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-6-10 **Contract Day:** 33 **Contract Duration:** 210

Weather
Temperature: (AM) 47 **(PM)** 66 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity Site needs today - no activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-6-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-7-10 **Contract Day:** 34 **Contract Duration:** 210

Weather
Temperature: (AM) 68 **(PM)** 71 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-8-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-8-10 **Contract Day:** 35 **Contract Duration:** 210

Weather
Temperature: (AM) _____ **(PM)** _____ **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

2 - bull dozer A	1 - mini excavator A	
1 - excavator A		
1 - Front loader A		
2 - offroad dump A		

Personnel on site:

1 + V.P.	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

0700
Description of Construction Activity ERC repairing roads, slopes from erosion and wash outs from rain last week. ERC preparing area for liner materials. Segregated CPP for Toe drain system. ERC began forming + Rebar for Manhole caps. Began preparing area for sand.

List of Subcontractors

List of Materials Delivered
CPP one Truck load
Hay bales - 30

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-8-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-9-10 **Contract Day:** 36 **Contract Duration:** 210

Weather
Temperature: (AM) _____ **(PM)** _____ **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- excavator A	1- mini excavator ≈A	
2- bull dozers A	2- off road dumps	
1- water Truck A		
1- front loader ≈A		

Personnel on site:

1 + V.P.	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 County requested all Manholes vaccumed out & Jetted, Intermediate cover material be delivered & installed on Top of cell. White sand being delivered and stockpiled. Formed up & poured concrete caps Manholes 746, used extra concrete to make cap larger & thicker.

List of Subcontractors

On road dump Trucks		
Concrete Truck		

List of Materials Delivered

Intermediate Cover	10yd. CY Concrete	
White sand		

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-9-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-10-10 **Contract Day:** 37 **Contract Duration:** 210

Weather
Temperature: (AM) 68 **(PM)** 82 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1 – excavator A	1 – mini excavator I	
2 – off road dumps IA, II		
3 – bull dozers A		
1 – water truck A		

Personnel on site:

1 + VP	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues hauling in cover sand and Intermediate material. Constructing form for cap on manhole #5. ERC continues to install intermediate cover on cell. ERC poured concrete for manhole #5. ERC sawcut GFR for liner tie in.

List of Subcontractors
Trucks
Concrete Truck

List of Materials Delivered
Cover sand
Intermediate Cover
concrete
12 rolls 60 mil Textured microspike liner

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-10-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-11-10 **Contract Day:** 38 **Contract Duration:** 210

Weather
Temperature: (AM) 55 **(PM)** 81 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

3 – bull dozers A	1 – off road dump A	
1 – excavator ≈A	1 – mini excavator ≈A	
1 – front loader ≈A		
1 – water truck A		

Personnel on site:

1 + V.P.	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to haul in protective sand cover & stock pile, haul in and install intermediate material on cell and grade working from top. ERC continues saw cut of GFPR, NLS on site filling sand bags, ERC removed GFPR as needed.

List of Subcontractors
Trucks
NLS

List of Materials Delivered
Intermediate cover material 12 rolls 60 mil Tex
Protective cover sand 12 rolls 40 mil Tex

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-11-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-12-10 **Contract Day:** 39 **Contract Duration:** 210

Weather
Temperature: (AM) 60 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- excavator A	1- Front loader A	
1- offroad dump A	1- mini excavator A	
2- bull dozers A		
1- water Truck A		

Personnel on site:

1+ VIP	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC continues to haul in intermediate cover material and install, haul in protective cover material and stock pile. Fine grading intermediate cover top to east. Intermediate cover material in SE ~~SW~~ corner.

Progress Meeting No. 5

List of Subcontractors
Trucks

List of Materials Delivered
Intermediate cover material
protective cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-12-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-13-10 **Contract Day:** 40 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 78 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

1		
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity ERC maintanence on equipment + delivery of Intermediate cover material + protective sand material No work on cell.

List of Subcontractors
Trucks

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-15-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-14-10 **Contract Day:** 41 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 79 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-15-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-15-10 **Contract Day:** 47 **Contract Duration:** 210

Weather
Temperature: (AM) 54 **(PM)** 81 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-mini excavator A	
2-off road dumps A	1-front loader 2 A	
2-bull dozers A		
1-water truck A		

Personnel on site:

1 + V.P.	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to install intermediate material & grade, constructing berms on south slope, making room at South ~~Fan~~ liner Tie-in.

List of Subcontractors
Trucks

List of Materials Delivered
5 rolls 40 mil liner
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-15-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-16-10 **Contract Day:** 43 **Contract Duration:** 210

Weather
Temperature: (AM) 60 **(PM)** 83 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear to Partly cloudy

List of Active Equipment on site

1- excavator A	1- mini excavator A	
2- offroad dumps A	1- Front loader ≥A	
2- bull dozers A		
1- water Truck A		

Personnel on site:

1 + V.P.	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC continues to bring in intermediate cover material and install, constructing berm SW. ~~of~~ corner of cell, grading Intermediate cover West slope of cell.

List of Subcontractors
Trucks

List of Materials Delivered
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-16-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-17-10 **Contract Day:** 44 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 84 **Rain:** 0 **Duration of rain:** _____
Description of weather: Fog early, partly cloudy

List of Active Equipment on site

1- excavator E	1- mini excavator A	
1- Front loader A	1- off road dump A	
2- Bull dozers A		
1- Water Truck A		

Personnel on site:

1+ V.P.	6	1
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC continues to bring in intermediate cover material & install, install general fill North sideslope, ERC continues to grade ~~pad~~ berms & prepare for survey for south liner installation.

List of Subcontractors
Trucks

List of Materials Delivered
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-17-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-18-10 **Contract Day:** 45 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 79 **Rain:** 0 **Duration of rain:** _____
Description of weather: early Fog, Overcast AM · clear PM

List of Active Equipment on site

2-bull dozers A	1- mini excavator	
1- off road dump A	1- excavator I	
1- front loader A		
1- water truck A		

Personnel on site:

1	5	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630
Description of Construction Activity ERC continues To bring in intermediate Cover material and install, Fine grading South slope & therms & corners getting phase I area ready for Topo. Surveyors on site for Topo South Slope

List of Subcontractors
Trucks
Peavey Surveying

List of Materials Delivered
Intermediate cover Material
-rolls Gracomposite

27

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
rolls Geo		

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-18-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-19-10 **Contract Day:** 46 **Contract Duration:** 210

Weather
Temperature: (AM) 55 **(PM)** 78 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy to clear

List of Active Equipment on site

1-excavator X I	1-water Truck A	
1-front loader A	1-mini excavator 2-A	
2-off road dumps A		
2-bull dozers A		

Personnel on site:

1+VP	5	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to install grade intermediate cover material, surveyors for west slope fine pacts for phase I South slope.

Progress Meeting No. 6

List of Subcontractors
Trucks
Peavey Surveyors

List of Materials Delivered
2 Trucks – 54 rolls Geocomposite
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-19-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-20-10 **Contract Day:** 47 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 79 **Rain:** 0 **Duration of rain:** _____
Description of weather: Partly cloudy To cloudy

List of Active Equipment on site

1-excavator A		
1- Front loader A		
1- mini-excavator A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	~~X~~ 3	

0700

Description of Construction Activity EKC installing 6" HDPE pipe Through berms on terraces, adjusting berms at liner tie-in south side. Intermediate ~~fill~~ cover material being hauled in and stockpiled.

List of Subcontractors
Trucks

List of Materials Delivered
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-20-10

1630

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 11-21-10 **Contract Day:** 48 **Contract Duration:** 210

Weather
Temperature: (AM) 62 **(PM)** 81 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-22-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-22-10 **Contract Day:** 49 **Contract Duration:** 210

Weather
Temperature: (AM) 63 **(PM)** 82 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear To partly cloudy

List of Active Equipment on site

1-excavator	A	1-Front loader	A	
1-mini excavator	A	2-bulldozers	A	
2-off road dumps	A			
1-water Truck	A			

Personnel on site: NLS 2 tampers 12 techs

1+ V.P.	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630
Description of Construction Activity Liner Pre ~~Const~~ Installation Meeting. ERC bringing in protective cover sand. NLS mobilizing both sites to begin installation of Liner. Universal on site for density/moisture Tests. ERC continues To install intermediate cover material, Peavey Surveyors on site for Topo.

List of Subcontractors

Trucks	Universal	
NLS	Peavey	

List of Materials Delivered
Protective Cover Sand
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE	93667.5	93667.5

Dennis G. DuPont
Field Representative Dennis G. DuPont **Date** 11-22-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-23-10 **Contract Day:** 50 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 82 **Rain:** 0 **Duration of rain:** _____
Description of weather: Clear

List of Active Equipment on site

1- excavator A	1- front loader A	
1- mini excavator A	2- off-road dumps A	
2- bull dozers A		
1- water truck A		

Personnel on site: ~~clear~~ NLS 2 Supv 12 Techs

1	8	3
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC continues to install 4" grade Intermediate cover material. NLS continues to install 60 mil HDPE South slope.

List of Subcontractors
Trucks
NLS

List of Materials Delivered
Protective sand cover
Intermediate cover material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE	98,436	192,098.5

Dennis G. DuPont

Field Representative Dennis G DuPont **Date** 11-23-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-24-10 **Contract Day:** 67 **Contract Duration:** 210

Weather
Temperature: (AM) 59 **(PM)** 82 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-water truck A	
1-mini excavator A		
2-offroad dumps A		
2-bull dozers A		

Personnel on site:

1+VIP.	8	NLS1 super 1 Laborer
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC bringing in protective sand, digging anchor trench for NLS. NLS begin installing 40 mil LLDPE on SE corner.

List of Subcontractors
Trucks
NLS.

List of Materials Delivered
Protective Sand material

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		192,098.5
40mil LL HDPE	51,155	51,155

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-24-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-25-10 **Contract Day:** 52 **Contract Duration:** 210

Weather
Temperature: (AM) 62 **(PM)** 83 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity - Holiday

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-26-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-24-10 **Contract Day:** 53 **Contract Duration:** 210

0900 – 1145
1615 – cont.

Weather
Temperature: (AM) 68 **(PM)** 81 **Rain:** 0.2 in **Duration of rain:** 2.75 hr+
Description of weather: cloudy & Rain

List of Active Equipment on site

Personnel on site: NLS 1 super 12 techs

1	3	
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC just doing equipment maintenance started anchor trench until rain start. NLS – detailing until rain start. No liner material deployed.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		192,098.5
40mil LLDPE		57,155

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-24-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-27-10 **Contract Day:** 54 **Contract Duration:** 210

drizzle 0850 start off on

Weather
Temperature: (AM) 63 **(PM)** 76 **Rain:** Trace 0.01 **Duration of rain:** _____
Description of weather: cloudy

List of Active Equipment on site

1-mini excavator A		

Personnel on site:

NLS 1 super

1	2	
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC constructing anchor Trench for liner installation and doing maintenance on equipment. 0630
NLS on site installing liner and detailing
NLS left site @1100 hrs.

ERC cont. maintenance on equipment

List of Subcontractors

NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE	41,670	233,768.5
40mil LLDPE		51,155

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-27-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-28-10 **Contract Day:** 55 **Contract Duration:** 210

Weather
Temperature: (AM) 58 **(PM)** 80 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity on cell

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		233,768.5
40 mil LLDPE		51,155

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-29-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-29-10 **Contract Day:** 56 **Contract Duration:** 210

Weather
Temperature: (AM) 66 **(PM)** 85 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- excavator A	1- Front loader A	
1- mini excavator A		
1- bulldozer A		
1- Water Truck A		

Personnel on site:

1+ V.P.	5 +2 labor	NLS 1 super 12 techs
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity @630 ERC constructing AT toe of West slope. Hauling in Protective/drainage sand. NLS - deploying & detailing liner. Universal on site for Moisture/density test. N & E slopes.

List of Subcontractors

Trucks — Universal
NLS

List of Materials Delivered

Protective/drainage sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE	80,077.5	313,846
40 mil HDPE		51,755

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-29-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-30-10 **Contract Day:** 57 **Contract Duration:** 210

Weather
Temperature: (AM) 68 **(PM)** 85 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1-excavator A	2-bulldozers 1-A	
1-mini excavator A		
1-front loader A		
1-water Truck A		

Personnel on site:

1 + V.P.	5 2 Labor	NHS Super 12 Techs
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC ~~con~~ constructing anchor trenches for liner, Grading Intermediate at Top- pre paring for liner NHS - placed 2 panels and detailing all material placed

List of Subcontractors
Trucks

List of Materials Delivered
Protective/drainage Sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE	10,912.5	324,758.5
40 mil LLDPE		57,155

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-30-10

1800

December 2010 January 2011 >

	High	Low	Precip(in)	Snow(in)	Forecast	Avg. High	Avg. Low
Wed 12/1/2010	71°	49°	0.01	0.0		76°	54°
Thu 12/2/2010	67°	42°	0.00	0.0		76°	54°
Fri 12/3/2010	69°	42°	0.00	0.0		76°	54°
Sat 12/4/2010	71°	42°	0.00	0.0		75°	53°
Sun 12/5/2010	73°	52°	0.03	0.0		75°	53°
Mon 12/6/2010	58°	40°	0.00	0.0		75°	53°
Tue 12/7/2010	57°	36°	0.00	0.0		75°	53°
Wed 12/8/2010	62°	35°	0.00	0.0		75°	53°
Thu 12/9/2010	62°	45°	0.39	0.0		75°	52°
Fri 12/10/2010	73°	45°	0.00	0.0		75°	52°
Sat 12/11/2010	69°	50°	0.00	0.0		74°	52°
Sun 12/12/2010	72°	50°	0.02	0.0		74°	52°
Mon 12/13/2010	53°	38°	0.00	0.0		74°	52°
Tue 12/14/2010	53°	30°	0.00	0.0		74°	51°
Wed 12/15/2010	60°	31°	0.00	0.0		74°	51°
Thu 12/16/2010	73°	32°	0.00	0.0		74°	51°
Fri 12/17/2010	79°	48°	0.00	0.0		74°	51°
Sat 12/18/2010	70°	50°	0.66	0.0		74°	51°
Sun 12/19/2010	61°	49°	0.00	0.0		73°	50°
Mon 12/20/2010	66°	41°	0.00	0.0		73°	50°
Tue 12/21/2010	72°	42°	0.00	0.0		73°	50°
Wed 12/22/2010	74°	47°	0.00	0.0		73°	50°
Thu 12/23/2010	68°	46°	0.00	0.0		73°	50°
Fri 12/24/2010	69°	43°	0.00	0.0		73°	50°
Sat 12/25/2010	73°	44°	0.00	0.0		73°	50°
Sun 12/26/2010	64°	39°	0.03	0.0		73°	50°
Mon							

12/27/2010	54°	33°	0.00	0.0	73°	49°
Tue 12/28/2010	59°	31°	0.00	0.0	73°	49°
Wed 12/29/2010	68°	32°	0.00	0.0	73°	49°
Thu 12/30/2010	74°	45°	0.00	0.0	73°	49°
Fri 12/31/2010	77°	57°	0.00	0.0	73°	49°

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-1-10 **Contract Day:** 58 **Contract Duration:** 210

Trace rain early AM

Weather
Temperature: (AM) 49 **(PM)** 71 **Rain:** Trace **Duration of rain:** _____
Description of weather: Cloudy AM – clear PM

List of Active Equipment on site

1- excavator A	1- front loader A	
1- mini excavator A	2- offroad dumps	
2- bull dozers A		
1- water truck A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1+V.P	7 2 Labor	NLS 1-super 12 techs

Description of Construction Activity 0630 ERC preparing areas for liner material Trenches (Anchor), grading; NLS installing Geocomposite ERC began installing drainage/coversand on South slope

List of Subcontractors
Trucks

List of Materials Delivered
Protective/coversand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		32+ 75B.5
40mil LLDPE		51, 155
Geocomposite	84,475	84,475

Field Representative Dennis G. DuPont Dennis G DuPont **Date** 12-1-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-2-10 **Contract Day:** 59 **Contract Duration:** 210

Weather
Temperature: (AM) 42 **(PM)** 67 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear, cold AM

List of Active Equipment on site

1-excavator A	1-water truck A	
2-offroad dumps A		
1-front loader A		
2-bull dozers A		

Personnel on site:

1 + V.P.	6 +2 labor	NLS, 1 super 12 techs
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity 0630 ERC continues installing sand South Slope, NLS continues installing Geocomposite South Slope

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		324,758.5
40mil HDPE		51,155
Geocomposite	48,787.5	153,762.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-2-10

1600

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-3-10 **Contract Day:** 60 **Contract Duration:** 210

Weather
Temperature: (AM) 42 **(PM)** 69 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-water Truck A	
2-bull dozers A	2-off road dumps A	
1-mini excavator A		
1-front loader A		

Personnel on site:

1+V.P.+P	8 +2 Labor	NLS 1; 17 Techs
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues fill + grade Top of cell and prepare for liner, construct anchor trench for ERC, place sand on South slope. NLS continues in stalling liner NW corner to NE corner and detailing liner. Trucks hauling in drainage/protective sand.

List of Subcontractors
Truck
NLS

List of Materials Delivered
drainage Protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE	17,347.5	342,106.5
40mil LLDPE	21,430	72,575
Geocomposite		133,762.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-3-10

1700

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-4-10 **Contract Day:** 61 **Contract Duration:** 210

Weather
Temperature: (AM) 42 **(PM)** 71 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator	1-water Truck	
2-bull dozers	1-mini excavator	
2-offroad dumps		
1-front loader		

Personnel on site:

1 + V.P.	8	2 Labor NLSI, 12 Techs
No. of Superintendents	**No. of Skilled**	**No. of Laborers**

Description of Construction Activity 0630 ERC continues to install drainage/protective sand S. slopes, bringing in drainage/protective sand by trucks, NLS completed 60 mil HDPE installation on West slope, continue with 40 mil LLDPE on North slope.

List of Subcontractors
Trucks
NLS

List of Materials Delivered
drainage/Protective Sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342,106.5
40 mil LLDPE		192,575
Geocomposite		133,762.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-4-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-5-10 **Contract Day:** 62 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 73 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		342,106.5
40mil LLDPE		77,975
Geocomposite		133,762.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-6-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-6-10 **Contract Day:** 63 **Contract Duration:** 210

Weather
Temperature: (AM) 40 **(PM)** 58 **Rain:** 0 **Duration of rain:**
Description of weather: clear, cool

List of Active Equipment on site

2- bull dozers A	1- water truck A	
2- offroad dumps A		
1- excavator A		
1- front loader A		

Personnel on site:

1	8- 2 labor	1 super 12 Techs
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to install sand on South slope, bring in drainage/Protective sand

List of Subcontractors
Trucks
4- Geocomposite Trucks ~~rolls~~

List of Materials Delivered
Geocomposite 108 rolls

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342,106.5
40 mil LLDPE		73,575
Geocomposite	110,123.75	243,806.25

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-6-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 17-7-10 **Contract Day:** 64 **Contract Duration:** 210

Weather
Temperature: (AM) 36 **(PM)** 57 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear cool

List of Active Equipment on site

1-excavator A	1-frontloader A	
2-bull dozers A	1-mini excavator	
2-off road dumps A		
1-water Truck A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	8 2 labor	NLS 7 super 12 Techs

Description of Construction Activity 0630 ERC Continues to haul in sand, install drainage/protective sand South slope and install Toe drain system North Toe of slope. ~~ET~~ NLS continues to install Geocomposite West slope

List of Subcontractors
Trucks 2 Trucks Geocomposite
NLS

List of Materials Delivered
Geocomposite 54 rolls

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		342,106.5
40 mil LLDPE		72,575
Geocomposite	92,358.75	336,245

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 17-7-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-8-10 **Contract Day:** 65 **Contract Duration:** 210

Weather
Temperature: (AM) 35 **(PM)** 62 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

2- bull dozers A	1- water truck ≈ A	
2- off road dumps A	1- mini excavator I	
1- excavator A		
1- front loader A		

Personnel on site:

1 + V.P.	6 + 2 labor	NLS 1 super 12 techs
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC continues to bring sand, install drainage/protective sand on south slope. NLS installing Geocomposite NW corner then SE corner and detailing. ERC preparing road to top of cell

List of Subcontractors
Trucks
NLS

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342 106.5
40 mil LLDPE		72,575
Geocomposite	57,777.5	394,082.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-8-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-9-10 **Contract Day:** 66 **Contract Duration:** 210

Weather
Temperature: (AM) 45 **(PM)** 67 **Rain:** 0.10 **Duration of rain:** rain started early AM cont to 0139 in ~~city~~ Wauchula 11AM
Description of weather: rain/cloudy to clear PM onsite

List of Active Equipment on site

1- excavator A	1- mini excavator A	
2- offroad dumps A	1- water truck E	
2- bulldozers A		
1- front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1 + V.P.	8 2-labor	N.S not working

Description of Construction Activity 0630 N.S no activity due to rain, light rain – no liner installation. Rain day. ERC is able to move sand, equipment is enclosed – not raising too hard. ERC continues to install toe drain North Toe of slope, Grade drainage/ protective sand South slope.

List of Subcontractors
Trucks

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342,106.16
40 mil LLDPE		72,575
Geocomposite		394,012.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-9-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-10-10 **Contract Day:** 67 **Contract Duration:** 210

Weather
Temperature: (AM) 45 **(PM)** 73 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- mini excavator A	1- water truck 2A	
1- excavator E	2- offroad dumps IAIE	
2- bull dozers A		
1- front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1 + VP.	6 2 labor	NLS 1 + 12 Trcks

0630
Description of Construction Activity: ERC not running trucks, ERC fine grading South slope and Top for survey, dig anchor trench for liner, NLS installing geocomposite then more liner

Look at OFFR, bullards at monitor wells ? need to be raised ? swale/ditch.

List of Subcontractors
NLS
Surveyors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE co		342,106.5
40 mil HDPE	15,221.25	115,617.5
Geo composite	36,410	430,432.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-10-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-11-10 **Contract Day:** 68 **Contract Duration:** 210

Weather
Temperature: (AM) 50 **(PM)** 69 **Rain:** 0 **Duration of rain:** _____
Description of weather: Foggy all day

List of Active Equipment on site

2 - bulldozers A	1 - excavator A	
1 - front loader A	1 - water truck I	
1 - offroad dump A		
1 - mini excavator I		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	2 labor	NLS 1 super 17 Techs

0630

Description of Construction Activity ERC continues To fine grade South slope and prepare top for liner, NLS installing geocomposite ~~South~~ East slope, NLS began installing Rain Tarp South slope ERC continues to install drainage sand

List of Subcontractors
NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE - completed.		342,106.5
40mil LLDPE		115,617.5
Geocomposite	38940	469,372.5
Rain Tarp		

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-11-10

60X230 13,800
2X60X460
124,200
0

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-13-10 **Contract Day:** 69 **Contract Duration:** 210

Weather
Temperature: (AM) 50 **(PM)** 72 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
		347,106.5
		115,617.5
		469,372.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-13-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-13-10 **Contract Day:** 70 **Contract Duration:** 210

Weather
Temperature: (AM) 38 **(PM)** 53 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy To clear very windy

List of Active Equipment on site

1-excavator A	1-water Truck I	
1-mini excavator A	2-off road dumps A	
1-front loader A		
2-bulldozers A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1 + V.P.	7 + 2 Labor	NLS 1 super 12 techs

Description of Construction Activity 0630 ERC continues to install anchor Trench for liners. ERC continues to install drainage/protective sand. West slope, NLS not working Too windy to install liner materials

List of Subcontractors
NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE completed		342,106.5
40 mil HDPE		115,617.5
Geocomposite		469,372.5
Rain Tarp		

Dennis G. DuPont
Field Representative Dennis G. DuPont **Date** 12-13-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-14-10 **Contract Day:** 71 **Contract Duration:** 210

Weather 30°@0700, 36°@1100 at East slope

Temperature: (AM) 30 **(PM)** 53 **Rain:** 0 **Duration of rain:** _____

Description of weather: clear

List of Active Equipment on site

1-excavator A	1-water truck A	
1-mini-excavator A	1-front loader A	
2-bulldozers A		
2-offroad dumps A		

Personnel on site:

1 + V.P.	9	2 labor	NLS 2 + 12 techs
No. of Superintendents	No. of Skilled		No. of Laborers

Description of Construction Activity 0630 ERC continues to install drainage/protective sand. NLS installing liner on East slope & Top.

List of Subcontractors

Trucks
NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342,106.5
40 mil HDPE	107,081	222,696.5
Geo composite		469,272.5
Rain Tarp		

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-14-10

1900

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-15-10 **Contract Day:** 72 **Contract Duration:** 210

Weather
Temperature: (AM) 32° **(PM)** 60 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear cool.

List of Active Equipment on site

1 – excavator A	1 – front loader A	
1 – mini excavator A	1 – water truck I	
2 – off road dumps A		
2 – bulldozers A		

Personnel on site: NLS 2 supers 8 Techs

1 + V.P.	7 + 2 labor	
No. of Superintendents	No. of Skilled	No. of Laborers

0645
Description of Construction Activity ERC continues installing drainage/protective sand West slope. ERC installing toe drain East slope. NLS installing 40 mil LLHPE on East slope and Top. NLS completed LLDPE installation.

List of Subcontractors
NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE		342,106.5
40 mil LLDPE	96,786	318,498.5
Geocomposite		469,372.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-15-10

1815

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-16-10 **Contract Day:** 73 **Contract Duration:** 210

Weather
Temperature: (AM) 32 **(PM)** 73 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-waterTruck 2A	
1-mini excavator A	1-front loader 2A	
1-bulldozer A		
2-offroad dumps A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1+V.P.	6 2 Labor	NLS-Supvs. 8 Techs

0630
Description of Construction Activity ERC bring in drain/protective sand, installing material on West slope & Grading, installing toe drain East slope side of cell. NLS-detailing liner on East slope.

List of Subcontractors
Trucks

List of Materials Delivered
drain/Protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE		342,106.5
40 mil LLDPE		318,998.5
Geocomposite		469,372.5

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-16-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-17-10 **Contract Day:** 74 **Contract Duration:** 210

Weather
Temperature: (AM) 45 **(PM)** 74 **Rain:** 0 **Duration of rain:** _____
Description of weather: Clear

List of Active Equipment on site

1-excavator	1-water truck	
2-bull dozers	1-front loader	
2-offroad dumps		
1-mini excavator		

Personnel on site:

1+ VP	6 + 2 Labor	NLS Isuper 6 Techs
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC bringing in drainage/protective sand, continue to install on West slope. NLS installing geocomposite on East slope

List of Subcontractors
Trucks

List of Materials Delivered
drain/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE	complete	342,106.5
40mil LLDPE	complete	318,998.5
Geocomposite	69,478.75	538,851.25

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-17-10

~~1730~~ 1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-16-10 **Contract Day:** 75 **Contract Duration:** 210

Light rain early AM cont.

Weather
Temperature: (AM) 60 **(PM)** 70 **Rain:** 0.90 **Duration of rain:** _____
Description of weather: rain

List of Active Equipment on site

Personnel on site:

1		NLS
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC hauling in drainage/protective sand and stockpiling. NLS not able to work – due to rain.

List of Subcontractors
Trucks

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil complete		342,106.5
40 mil complete		316,998.5
Geocomposite		578,851.25

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-16-10

~~0930~~ 1000

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-19-10 **Contract Day:** 76 **Contract Duration:** 210

0.66 from weather

Weather
Temperature: (AM) 49 **(PM)** 61 **Rain:** 0.90 in gage from yesterday **Duration of rain:**
Description of weather: fog, mist + light rain. 0.1 in Today

List of Active Equipment on site

1- front loader A		
1- bull dozer A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1 only		NLS (super & techs

0930

Description of Construction Activity ERC - Jack helping NLS move Geocomposite to staging area for deployment. NLS deploying Geocomposite and tying net - not sewing due to misting then light rain. NLS gave up 1500.

Monitor well #10 damaged

List of Subcontractors

NLS

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE complete		342,106.5
40 mil LLDPE complete		318,998.5
Geocomposite	36,520	575,371.25

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-19-10

NLS 1500
1600

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 11-20-10 **Contract Day:** 77 **Contract Duration:** 210

Weather
Temperature: (AM) 41 **(PM)** 66 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator 2A	2-bulldozers A	
2-offroaddumps 2A	1-Watertruck I	
1-mini-excavator A		
1-front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	6 2labor	NLS 1 supr 3 Techs

Description of Construction Activity 0630 NLS installing Geocomposite East slope. EAC installing Toedrain North section East slope, grading drain/protective sand North slope. Surveyors – surveying borrow pit & stock pile

List of Subcontractors

Peavey – surveyors.

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60mil HDPE	complete	342,1065
40mil LLDPE	complete	318,998.5
Geocomposite	84,480	659,851.25

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 11-20-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-21-10 **Contract Day:** 78 **Contract Duration:** 210

Weather
Temperature: (AM) 42 **(PM)** 72 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-Front Loader A	
2-offroad dumps A	1-water Truck A	
2-bulldozers A		
1-mini excavator A		

Personnel on site:

1	6 2 labor	NLS 1 super 4 techs
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC running Trucks to site for drainage/protective sand, installing & preparing for drainage piping. NLS installing Geocomposite East Slope. ERC installing drainage/protective sand West slope and grading. NLS completed placing Geocomposite panels — will complete seaming tying tomorrow.

List of Subcontractors
Trucks
NLS

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE	complete	342,106.5
40 mil LLDPE	complete	318,998.5
Geocomposite	26,592.5	686,443.75

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-21-10

1700

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-27-10 **Contract Day:** 79 **Contract Duration:** 210

Weather
Temperature: (AM) 47 **(PM)** 74 **Rain:** 0 **Duration of rain:** _____
Description of weather: Clear

List of Active Equipment on site

1- excavator	1- front loader	
1- mini excavator	1- water truck A	
2- bull dozers		
2- offroad dumps		

Personnel on site:

1	7	2 Labor + NLS Super + 4 Techs
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ~~HRC~~ ERC bringing hardpan & sand. Stockpiling sand, hardpan as road base, installing material on top finishing – preparing South perms for more rain tarps. NLS detailing geocomposite, banding wells & manholes. NLS installing Rain tarp.

List of Subcontractors

Trucks
NLS

List of Materials Delivered

drain/protective sand
hardpan
Rain Tarp

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity
60 mil HDPE	complete	342,106.5
40 mil LLDPE	complete	316,998.5
Geocomposite	complete except for Terraces	286,443.75
Rain tarp		

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-27-10

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

Date: 12-23-10 **Contract Day:** 80 **Contract Duration:** 210 South Slope – 145 days

Weather
Temperature: (AM) 46 **(PM)** 68 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-water truck	
1-mini excavator A	1-Front loader	
2-off road dumps A		
2-bulldozers A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	1 2 labor	NLS Isuper Techs

Description of Construction Activity ERC running trucks for drainage/protective sand – installing West slope. ERC assisting NLS with Rain Trap Installation.

List of Subcontractors
Trucks
NLS

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-23-10

1600 1630

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-24-10 **Contract Day:** 81 **Contract Duration:** 210

Weather
Temperature: (AM) 43 **(PM)** 69 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 12-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-25-10 **Contract Day:** 82 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 73 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-26-10 **Contract Day:** 83 **Contract Duration:** 210

Weather
Temperature: (AM) 39 **(PM)** 64 **Rain:** 0.03 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-27-10 **Contract Day:** 84 **Contract Duration:** 210

Weather
Temperature: (AM) 33 **(PM)** 54 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-28-10 **Contract Day:** 85 **Contract Duration:** 210

Weather
Temperature: (AM) 31 **(PM)** 59 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-29-10 **Contract Day:** ~~87~~ 86 **Contract Duration:** 210

Weather
Temperature: (AM) 32 **(PM)** 68 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-30-10 **Contract Day:** ~~88~~ 87 **Contract Duration:** 210

Weather
Temperature: (AM) 45 **(PM)** 74 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 12-31-10 **Contract Day:** 88 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 72 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

< December 2010 View: January 2011 February 2011 >

	High	Low	Precip(in)	Snow(in)	Forecast	Avg. High	Avg. Low
Sat 1/1/2011	78°	55°	0.00	0.0		73°	49°
Sun 1/2/2011	79°	60°	0.07	0.0		73°	49°
Mon 1/3/2011	72°	57°	0.00	0.0		73°	49°
Tue 1/4/2011	76°	53°	0.00	0.0		73°	49°
Wed 1/5/2011	78°	56°	0.01	0.0		73°	49°
Thu 1/6/2011	68°	51°	0.52	0.0		73°	49°
Fri 1/7/2011	66°	44°	0.00	0.0		72°	49°
Sat 1/8/2011	73°	51°	0.00	0.0		72°	49°
Sun 1/9/2011	68°	44°	0.00	0.0		72°	48°
Mon 1/10/2011	77°	55°	0.01	0.0		72°	48°
Tue 1/11/2011	72°	52°	0.00	0.0		72°	48°
Wed 1/12/2011	58°	41°	0.00	0.0		72°	48°
Thu 1/13/2011	57°	33°	0.00	0.0		73°	48°
Fri 1/14/2011	67°	40°	0.00	0.0		73°	48°
Sat 1/15/2011	71°	45°	0.00	0.0		73°	48°
Sun 1/16/2011	73°	51°	0.04	0.0		73°	48°
Mon 1/17/2011	71°	57°	0.35	0.0		73°	48°
Tue 1/18/2011	77°	59°	0.00	0.0		73°	48°
Wed 1/19/2011	78°	55°	0.07	0.0		73°	48°
Thu 1/20/2011	79°	53°	0.00	0.0		73°	48°
Fri 1/21/2011	72°	59°	0.27	0.0		73°	48°
Sat 1/22/2011	63°	40°	0.00	0.0		73°	48°
Sun 1/23/2011	64°	36°	0.00	0.0		73°	48°
Mon 1/24/2011	73°	46°	0.00	0.0		73°	48°
Tue 1/25/2011	77°	61°	0.89	0.0		73°	48°
Wed 1/26/2011	69°	49°	0.15	0.0		73°	48°
Thu							

1/27/2011	65°	44°	0.00	0.0		73°	48°
Fri 1/28/2011	68°	47°	0.00	0.0		75°	49°
Sat 1/29/2011	72°	45°	0.00	0.0		73°	49°
Sun 1/30/2011	75°	46°	0.01	0.0		73°	49°
Mon 1/31/2011	76°	52°	0.05	0.0		73°	49°

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-1-11 **Contract Day:** 69 **Contract Duration:** 210

Weather
Temperature: (AM) 55 **(PM)** 70 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-2-11 **Contract Day:** 90 **Contract Duration:** 210

Weather
Temperature: (AM) 60 **(PM)** 79 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-3-11 **Contract Day:** 91 **Contract Duration:** 210

Weather

Temperature: (AM) 57 **(PM)** 72 **Rain:** 0 **Duration of rain:** _____

Description of weather: Overcast – cloudy all day

List of Active Equipment on site

1-excavator A	1-water truck A	
1-mini excavator E	1-front loader #A	
2-Bull dozers A		
2-off road dumps A		

Personnel on site:

1 **No. of Superintendents** 7 **No. of Skilled** 2 **No. of Laborers**

0630

Description of Construction Activity ERC bringing in material for ramp road & installing. Installing drainage / protective material on top. Rain tarp needs small section sewn, trench in and general clean up on remainder of cell 4 tubes picked up.

List of Subcontractors

Trucks

List of Materials Delivered

material for ramp road
Drain/Protective Sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-3-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-4-10 **Contract Day:** 92 **Contract Duration:** 210

Weather
Temperature: (AM) 53 **(PM)** 76 **Rain:** 0 **Duration of rain:** _____
Description of weather: cloudy To partly cloudy

List of Active Equipment on site

1-excavator ~~II,I~~ A	1-water truck A	
2-off road dumps II, II		
1-Front loader A		
2-Bull dozers A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	7	2

Description of Construction Activity 0630 ERC continues To bring in drainage/ protective sand and install on East slope, ERC hauling to Top, fine grading West slope, preparing ~~down~~ drain in south east corner down chute for drainage pipe.

List of Subcontractors
Trucks

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-4-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-5-10 **Contract Day:** 93 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 78 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1- excavator A	1-water truck A	
2- Bull dozers A		
2- off road dumps 1A, 1I		
1- front loader A		

Personnel on site:

1	7	NPS Supv + Techs. 2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC brining in drainage/protective sand and stock ~~pilling~~ piling, fine grading west slope, installing materials with bgff. NPS - fine/cleanup/finish rain tarp - tie tires/sand bags. Surveyors onsite to topo West slope.

List of Subcontractors
Trucks, NPS, Surveyors

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-5-10

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-6-10 **Contract Day:** 94 **Contract Duration:** 210

Lt. rain start 0700, 0730 heavy cont.
0.57in rain in Town

Weather
Temperature: (AM) 51 **(PM)** 68 **Rain:** 0.57in **Duration of rain:** _____
Description of weather: cloudy rain AM

List of Active Equipment on site

1- excavator A	1- water truck SA	
2- off road dumps A		
2- bulldozers A		
1- front loader A		

Personnel on site:

1	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC bringing in drainage/protective sand - stockpile, installing on East slope, fine grading West slope, grading North slope. Rain became heavy 0730 not able to run equipment.

List of Subcontractors
Trucks

List of Materials Delivered
~~Area~~ drainage/Protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-6-10

0900

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-7-10 **Contract Day:** 95 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 66 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	1-water Truck 2A	
2-bulldozers A		
2-offroad dumps A		
1-Front Loader A		

Personnel on site:

1	6	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC working on minor water issues maintaining roads – very little washout from rain yesterday ERC bringing in drainage/protective sand and installing on North slope. Surveyors getting last in for Topo of west slope. Universal getting moisture/density tests for west slope

Progress Meeting #9

List of Subcontractors

Trucks — Universal Testing
Surveyors

List of Materials Delivered

drainage/protective sand.

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G DuPont **Date** 1-7-10

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC South Slope – 145 days

Date: 1-8-10 **Contract Day:** 96 **Contract Duration:** 210

Weather
Temperature: (AM) 51 **(PM)** 73 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator E		
1-Front Loader A		
1-Off road dump A		
2-bull dozers A		

Personnel on site:

1 **No. of Superintendents** 4 **No. of Skilled** 2 **No. of Laborers**

0630

Description of Construction Activity ERC grading North slope and East slope Terraces with daylighting Geocomposite drain flaps.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-8-10

1500

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 1-9-11 **Contract Day:** 97 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 68 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-9-10-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-10-11 **Contract Day:** 98 **Contract Duration:** 210

Light rain start 1650

Weather
Temperature: (AM) 48 **(PM)** 70 **Rain:** < Trace **Duration of rain:** 10 min
Description of weather: clear to cloudy

List of Active Equipment on site

1-excavator A	1-water truck	
2-offroad dumps A		
2-bulldozers A		
1- front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	1	2

0630

Description of Construction Activity ERC bringing in drainage/protective sand and stock piling, fine grading protective drain sand on the North & East slopes, covered East slope, stock piling top soil near North & East slopes. Universal testing on site for moisture/density tests on North & East slope slope. All passed. ERC began installing top soil on North slope.

List of Subcontractors
Trucks
Universal Testing

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-10-11

1715

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-11-11 **Contract Day:** 99 **Contract Duration:** 210

Weather
Temperature: (AM) 52 **(PM)** 72 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

1-excavator	A	1-water Truck 2 A	
2-offroad dumps	A	1 mini excavator (delivered PM)	
2-bulldozers	A		
1-front loader	A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	7	2

Description of Construction Activity 0630 ERC continues to install drainage/protective sand & grade, install top soil on North slope. ERC installing down chute pipes from terraces. East slope.

List of Subcontractors
Trucks

List of Materials Delivered
drainage/protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-11-11

1700

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-12-11 **Contract Day:** 100 **Contract Duration:** 210

Weather
Temperature: (AM) 41 **(PM)** 58 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- excavator A	2- bull dozers A	
1- mini excavator ≈A	1- water truck ≈A	
1- Front loader ≈A		
2- off road dumps A		

Personnel on site:

1	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to bring in and stockpile drainage/protective sand, install and grade drainage/protective sand on East slope, Install and grade Topsoil on North & East slopes, install downchute pipes from Terraces. Universal on site for Moisture/density tests East slope

List of Subcontractors

Truck
Universal

List of Materials Delivered

drainage/Protective sand

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-12-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 1-13-11 **Contract Day:** 101 **Contract Duration:** 210

Weather
Temperature: (AM) 33 **(PM)** 67 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-excavator A	2-bull dozers A	
1-mini excavator A	1-water truck A	
1-front loader A		
2-offroad dumps A		

Personnel on site:

1 + VP	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630
Description of Construction Activity ERC continues to bring in drainage/protective sand – stockpile then install, install top soil and fine grade, install down chute drain pipes from terraces, Sod being delivered and installed on West slope. Surveyors on site for top East slope.

List of Subcontractors
Trucks, Reavy Surveyors
Sod & installer

List of Materials Delivered
drainage/protective sand
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-13-11

1100 1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-14-11 **Contract Day:** 102 **Contract Duration:** 210

Weather
Temperature: (AM) 40 **(PM)** 67 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

1-excavator A	1- water Truck A	
1-mini-excavator	2-offroad dumps A	
1-frontloader A	1-excavator (delivered late AM)	
2-bull dozers 1A, (1-repair)		

Personnel on site:

1 (+VP, PP) part of day	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to Grade & install Topsoil on East slope, Sod crew installing sod on West slope,

List of Subcontractors

Trucks		
Sod Crew		

List of Materials Delivered

Protective/drainage sand		
Sod		

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-14-11

1700 1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 1-15-11 **Contract Day:** 103 **Contract Duration:** 210

Weather
Temperature: (AM) 46 **(PM)** 71 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC maintenance on equipment, no other Activity.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-17-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-16-11 **Contract Day:** 104 **Contract Duration:** 210

Weather
Temperature: (AM) 51 **(PM)** 73 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-17-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-17-11 **Contract Day:** 105 **Contract Duration:** 210

0,35-in Town

Weather
Temperature: (AM) 57 **(PM)** 71 **Rain:** 0,10 in **Duration of rain:** all day
Description of weather: cloudy – Light showers off + no, short + few

List of Active Equipment on site

2-excavator A	2-bull dozers A	
1-mini excavator A	1-front loader A	
1-UTE Water Truck I	2-off road dumps A	
1-Water Truck I	1-excavator (delivered late PM)	

Personnel on site:

1	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity Quality Turf installing sod on West slope & berms. ERC installing Rip Rap on southern temporary western stormwater flume. ERC continues grading & installing topsoil East slope.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-17-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-18-11 **Contract Day:** 106 **Contract Duration:** 210

Weather
Temperature: (AM) 59 **(PM)** 77 **Rain:** 0 **Duration of rain:** _____
Description of weather: misting fog early AM then clear to partly cloudy

List of Active Equipment on site

3 - excavators	A	1 - front loader	A		
2 - bull dozers	A	1 - mini excavators	≈A		
2 - off road dumps	A				
1 - UTE water Truck	A				

Personnel on site:

1	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630
Description of Construction Activity ERC continues to grade & install top soil East slope, Installing Rip Rap center Temporary Western storm water flume. Quality Turf installing sod on west slope. Watering Sod.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-18-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-19-11 **Contract Day:** 107 **Contract Duration:** 210

start ≈ 0500
end ≈ 0730

Weather
Temperature: (AM) 55 **(PM)** 78 **Rain:** 0.2 in **Duration of rain:** 2.5 hr
Description of weather: cloudy rain early AM – clear rest of day

List of Active Equipment on site

3 - excavators	A	1 - mini excavator	A
2 - offroad dumps	A	1 - UTE water truck	A
2 - bull dozers	A		
1 - front loader	A		

Personnel on site:

1 + VP	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

0700

Description of Construction Activity ERC continues to grade & install top soil East slope, install rip rap in Temporary western storm water flumes, construct ~~drainage~~ perimeter west swale, Sod crew installing sod west slope.

List of Subcontractors
Quality Turf

List of Materials Delivered
sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-19-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-20-11 **Contract Day:** 108 **Contract Duration:** 210

Weather
Temperature: (AM) 53 **(PM)** 79 **Rain:** 0 **Duration of rain:** _____
Description of weather: cloudy to clear to partly cloudy

List of Active Equipment on site

3-excavators A	1-front Loader A	
1-mini excavator 2A	1-UTE water truck 2A	
2-bulldozers A		
2-offroad dumps A		

Personnel on site:

1 + VP	10	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0700 ERC continues to grade and install Top soil East slope, construct swales West & North. Sod crew installing sod west slope, ERC installing stormwater pipes from Terraces East slope. Surveyors onsite for topo information East slope,

List of Subcontractors
Quality Turf
Peavey Surveying

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-20-11

0 1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-21-11 **Contract Day:** 109 **Contract Duration:** 210

START 0550 – cont. – 0900
0.77 in town

Weather
Temperature: (AM) 59 **(PM)** 72 **Rain:** 0.5in **Duration of rain:** 3hrs
Description of weather: cloudy - rain

List of Active Equipment on site

2-excavators A	1-UTE watertruck I	
2-bull dozers A	1-Frontloader A	
1-offroaddump A		
1-mini excavator A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1+VP	10	2

0700

Description of Construction Activity Rain AM. ERC maintaining ditches & swales - Sod crew installing Sod North slope constructing

Progress Meeting No. 11

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-21-11

0730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-22-11 **Contract Day:** 110 **Contract Duration:** 210

Weather
Temperature: (AM) 40 **(PM)** 63 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-24-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-23-11 **Contract Day:** 111 **Contract Duration:** 210

Weather
Temperature: (AM) 36 **(PM)** 64 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-24-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-24-11 **Contract Day:** 112 **Contract Duration:** 210

Weather
Temperature: (AM) _____ **(PM)** _____ **Rain:** 0 **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

2- excavators A	1- UTE Water Truck A	
1- mini excavator A		
2- bull dozers A		
1- front loader A		

Personnel on site:

1+VP	9	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0640 ERC continues to install swales North + West, completing flumes on west slope, Sod crew sodding swales North + west.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-24-11

1730 1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-25-11 **Contract Day:** 113 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 77 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear early then cloudy

List of Active Equipment on site

2-excavators A	1-WTE Water Truck	
2-bull dozers A		
1- front loader A		
1-mini excavator A		

Personnel on site:

1 + VP	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0700 ERC continues to grade & install Topsoil on East Slope, install down-pipes from terraces, Sod crew installing sod on terraces & swales.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-25-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-26-11 **Contract Day:** 114 **Contract Duration:** 210

overnight into day

Weather
Temperature: (AM) 49 **(PM)** 69 **Rain:** 1.81" **Duration of rain:** _____
Description of weather: cloudy - light rain

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity Too wet

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-26-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-27-11 **Contract Day:** 115 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 65 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity Too wet

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-31-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-28-11 **Contract Day:** 116 **Contract Duration:** 210

Weather
Temperature: (AM) 47 **(PM)** 68 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-31-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-29-11 **Contract Day:** 117 **Contract Duration:** 210

Weather
Temperature: (AM) 45 **(PM)** 72 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-31-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-30-11 **Contract Day:** 118 **Contract Duration:** 210

Weather
Temperature: (AM) 46 **(PM)** 75 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-31-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 1-31-11 **Contract Day:** 119 **Contract Duration:** 210

Weather
Temperature: (AM) 52 **(PM)** 76 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1 - excavators A	1 - MTE water truck	
1 - mini excavator A	1 - front loader A	
2 - bull dozers A	1 - Bob cat A	
2 - offroad dumps A		

Personnel on site:

1 + VP	9	2
No. of Superintendents	No. of Skilled	No. of Laborers

0700
Description of Construction Activity ERC ~~repairing~~ repairing erosion, sod and Top soil from last weeks, rain, cleaning ditches, grading, sod & top soil being delivered.

List of Subcontractors
Truck

List of Materials Delivered
Sod
Top soil

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 1-31-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-1-11 **Contract Day:** 120 **Contract Duration:** 210

Weather
Temperature: (AM) 58 **(PM)** 79 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

1 – excavator	1 – wt Everster Truck	
1 – mini excavator	1 – front loader	
2 – off road dumps	1 bob cat	
2 – bull dozers		

Personnel on site:

1+ V.P.	9	2
No. of Superintendents	No. of Skilled	No. of Laborers

0700

Description of Construction Activity ERC continues to install top soil & grade East slope, repair minor stormwater items from rain, prepare areas for sod, install down chute pipe at south east corner of cell and connection to existing southeast stormwater discharge, Quality Turf in staking sod East slope. Surveyors on site for topo information.

List of Subcontractors
Quality Turf
Peavey Surveying

List of Materials Delivered
Sod.

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-1-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 2-2-11 **Contract Day:** 121 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 83 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear AM To cloudy

List of Active Equipment on site

1 – excavators A	1 – front loader A	
2 – bull dozers A	1 – bob cat A	
2 – off road dumps A	1 – WTE water truck A	
1 – mini excavator A		

Personnel on site:

1+ V.P.	9	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 6700 ERC continues to install top soil + grade East slope, install down chute pipe South east corner of cellar connection to existing storm water discharge. Quality Turf installing sod East slope.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G DuPont **Date** 2-2-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-3-11 **Contract Day:** 172 **Contract Duration:** 210

Weather
Temperature: (AM) 66 **(PM)** 77 **Rain:** 0 **Duration of rain:** _____
Description of weather: cloudy to partly cloudy

List of Active Equipment on site

2- excavator A	1-offroad dump A	
2- bull dozer A	1-front loader A	
1-mini excavator A	1-water truck ≈A	
1- bob cat A		

Personnel on site:

1	9	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0700 ERC continues to prepare South East section of cell for sod, install + grade topsoil. Sod crew installing sod south east section of cell. ERC installing Rip Rap at down pipe outfalls into ditch/swales. Surveyors on site for topo survey.

Progress Meeting No. 12

List of Subcontractors
Quality Turf
Pearcey Survey

List of Materials Delivered
sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-3-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-4-11 **Contract Day:** 123 **Contract Duration:** 210

Weather
Temperature: (AM) 66 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather: partly Cloudy

List of Active Equipment on site

1 – Water Truck		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1		

Description of Construction Activity 0700 ERC watering sod, maintenance on equipment,

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-4-11

1100

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-5-11 **Contract Day:** 124 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 80 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G DuPont **Date** 2-7-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-6-11 **Contract Day:** 125 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 71 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-7-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-7-11 **Contract Day:** 126 **Contract Duration:** 210

rain start 1900 – continue

Weather
Temperature: (AM) 62 **(PM)** 82 **Rain:** 0.2 in. **Duration of rain:** _____
Description of weather: partly cloudy – windy

List of Active Equipment on site

2 – excavators A	1 – off road dump A	
2 – bull dozers A	1 – off road dump 2I	
1 – mini excavator A	1 – Water truck I	
1 – Front loader A	1 – bobcat A	

Personnel on site:

1	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

0700
Description of Construction Activity ERC constructing rip rap swale along access ramp to top on East slope. Installing, grading top of cell for sod. Preparing for rain.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-7-11

1730 1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-8-11 **Contract Day:** 127 **Contract Duration:** 210

Weather
Temperature: (AM) 47 **(PM)** 65 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

2 - excavators A	12 - offroad dumps A	
2 - bull dozers A	1 - bob cat A	
1 - front loader A	1 - water truck	
1 - mini excavator A		

Personnel on site:

1 + V.P.	8	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0700 ERC continues to prepare Top of cell for sod, continues installation of Rip Rap Swale along access road to Top.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-8-11

1800

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-9-11 **Contract Day:** 128 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 76 **Rain:** 0 **Duration of rain:**
Description of weather: clear

List of Active Equipment on site

1- excavator A	1-bobcat A	
1- mini excavator A	1-water truck 2A	
1- front loader A	1-offroad dump A	
2- bull dozers A		

Personnel on site:

1	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to finish RipRap swale along ramp to top of cell, general clean-up & grade. Quality Turf installing Sod.

List of Subcontractors
Quality Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-9-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-10-11 **Contract Day:** 129 **Contract Duration:** 210

Start 10/5 – off for continue

Weather
Temperature: (AM) 56 **(PM)** 75 **Rain:** 0.2 in **Duration of rain:** _____
Description of weather: cloudy drizzle to light rain all day

List of Active Equipment on site

1-excavator A	1-bob cat A	
2-bull dozers A	1-water Truck A	
1-front loader A	2-offroad dumps A	
1-mini excavator A		

Personnel on site:

1	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC cleaning up-detailing, completing Rip Rap along access road. Sod crew installing sod on top & sides of cell.

List of Subcontractors
Quality Sod Turf

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-10-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-11-11 **Contract Day:** 130 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 62 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1		

Description of Construction Activity 0700 Surveyors on site for Topo and sod limits. Sod crew finishing up sod. No activity by ERC.

List of Subcontractors
Peavey Survey
Quality Sod Turf

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-11-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-12-11 **Contract Day:** 131 **Contract Duration:** 210

Weather
Temperature: (AM) 44 **(PM)** 64 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-14-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-13-11 **Contract Day:** 132 **Contract Duration:** 210

Weather
Temperature: (AM) 41 **(PM)** 69 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-14-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-14-11 **Contract Day:** 133 **Contract Duration:** 210

Weather
Temperature: (AM) 42 **(PM)** 72 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1-Watertruck A		
2-bull dozers A		
1-front loader A		
1-bob cat A		

Personnel on site:

1 + V.P.	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC grading open areas from stock piles, cleaning & FER of washed in material, watering sod and general clean up.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-14-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-15-11 **Contract Day:** 134 **Contract Duration:** 210

Weather
Temperature: (AM) 47 **(PM)** 74 **Rain:** 0 **Duration of rain:** _____
Description of weather: Fog heavy early then clear

List of Active Equipment on site

2 – bulldozers A		
1 – front loader A		
1 – offroad dump A		

Personnel on site:

1	7	2
No. of Superintendents	No. of Skilled	No. of Laborers

0630

Description of Construction Activity ERC general clean-up, preparing access road for paving + rock base.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-15-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-16-11 **Contract Day:** 135 **Contract Duration:** 210

Weather
Temperature: (AM) 50 **(PM)** 77 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

1- Front Loader		
1 water truck		

Personnel on site:

1	4	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 (Universal) run Moisture/Density on Subgrade of the Access Road, ERC continues clean-up, ERC estimating materials to be used, and clean up.

List of Subcontractors
Universal.

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-16-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-17-11 **Contract Day:** 136 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 80 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC continues clean-up.

Progress Meeting No. 14

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-17-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-18-11 **Contract Day:** 137 **Contract Duration:** 210

Weather
Temperature: (AM) 55 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
		3

Description of Construction Activity 0700 ERC watering sod – no other activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-18-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-19-11 **Contract Day:** 138 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-21-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-20-11 **Contract Day:** 139 **Contract Duration:** 210

Weather
Temperature: (AM) 55 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-21-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-21-11 **Contract Day:** 140 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 83 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear To partly cloudy

List of Active Equipment on site

1- bulldozer A		
1- front loader A		
2- water trucks A		

Personnel on site:

1	4	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0645 ERC preparing for sub-base material for access road, watering sod. Shellrock being installed on access road.

List of Subcontractors
Trucks

List of Materials Delivered
Shell rock

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-21-11

1735

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-22-11 **Contract Day:** 141 **Contract Duration:** 210

Weather
Temperature: (AM) 59 **(PM)** 83 **Rain:** _____ **Duration of rain:** _____
Description of weather: early fog - partly cloudy

List of Active Equipment on site

1- Front loader A		
1- bull dozer A		
1- water truck A		

Personnel on site:

1	4	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC continues to install shell rock on access roads, water and cleanup

List of Subcontractors
Trucks

List of Materials Delivered
shell rock

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G DuPont **Date** 2-22-11

1530

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-23-11 **Contract Day:** 142 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 82 **Rain:** _____ **Duration of rain:** _____
Description of weather: early fog

List of Active Equipment on site

1- water truck A		
1- bull dozer A		
1- front loader A		
1- roller A		

Personnel on site:

1	4	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC dewatering lift station, watering sod, working on access Road. Electrician (Sam) on site for estimate to install pumps.

List of Subcontractors
Trucks

List of Materials Delivered
shell rock

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-23-11

1630

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC
South Slope – 145 days

Date: 2-24-11 **Contract Day:** 143 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 83 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1-water Truck		
1-bull dozer		
1-front loader		
1-roller		

Personnel on site:

1	3 4	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0635 ERC continues to water sod, work on access road and clean up. last of shell rock delivered and installed. Universal on site late in day for Moisture/density tests for Sub-base – all passed.

progress Meeting No 15

List of Subcontractors
Universal Trucks

List of Materials Delivered
shell/rock

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-24-11

1820

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-25-11 **Contract Day:** 144 **Contract Duration:** 210

Weather
Temperature: (AM) 62 **(PM)** 83 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

1- front loader		
1- bull dozer		
1- roller		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
0630	1	

Description of Construction Activity ERC dressing up at bottom of access road - getting ready for asphalt on monday.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-25-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-26-11 **Contract Day:** 145 **Contract Duration:** 210

Weather
Temperature: (AM) 61 **(PM)** 84 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-28-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-27-11 **Contract Day:** 146 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 85 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-28-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 2-28-11 **Contract Day:** 147 **Contract Duration:** 210

Weather
Temperature: (AM) 62 **(PM)** 87 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy

List of Active Equipment on site

1- excavator A		
1- mini excavator A		
1- Front loader A		
1- bull dozer A		

Personnel on site:

1	4 5	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC reworking access road and Rip Rap ~~for~~ getting ready for asphalt.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 2-28-11

1930

	High	Low	Precip(in)	Snow(in)	Forecast	Avg. High	Avg. Low
Tue 3/1/2011	80°	62°	0.28	0.0		76°	52°
Wed 3/2/2011	78°	59°	0.00	0.0		77°	52°
Thu 3/3/2011	79°	57°	0.00	0.0		77°	53°
Fri 3/4/2011	80°	58°	0.00	0.0		77°	53°
Sat 3/5/2011	81°	60°	0.00	0.0		77°	53°
Sun 3/6/2011	81°	60°	0.01	0.0		77°	53°
Mon 3/7/2011	74°	52°	0.00	0.0		77°	53°
Tue 3/8/2011	82°	52°	0.00	0.0		78°	54°
Wed 3/9/2011	84°	64°	0.01	0.0		78°	54°
Thu 3/10/2011	69°	52°	0.60	0.0		78°	54°
Fri 3/11/2011	68°	46°	0.00	0.0		78°	54°
Sat 3/12/2011	75°	43°	0.00	0.0		78°	54°
Sun 3/13/2011	79°	46°	0.00	0.0		78°	54°
Mon 3/14/2011	81°	48°	0.00	0.0		79°	54°
Tue 3/15/2011	81°	53°	0.00	0.0		79°	55°
Wed 3/16/2011	84°	56°	0.00	0.0		79°	55°
Thu 3/17/2011	85°	59°	0.00	0.0		79°	55°

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-1-11 **Contract Day:** 148 **Contract Duration:** 210

Weather
Temperature: (AM) 62 **(PM)** 80 **Rain:** Trace on site 0.28in in Town **Duration of rain:** _____
Description of weather: partly cloudy to cloudy Literam offton

List of Active Equipment on site

1- roller A		
1- grader A		
1- Front loader A		

Personnel on site:

1 + V.P.	5	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0645 ERC prepare access Road for Asphalt, 0900 Paving Company on site. begin 1000. Asphalt installed.

List of Subcontractors
Paving Company

List of Materials Delivered
Asphalt

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-1-11

1700

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-2-11 **Contract Day:** 149 **Contract Duration:** 210

Weather
Temperature: (AM) 59 **(PM)** 78 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

1- Front loader A		
1- grader A		

Personnel on site:

1	2	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0640 ERC cleaning up, preparing Access road for sod along asphalt, repair minor washouts & sod.

List of Subcontractors

List of Materials Delivered
Sod

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-2-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-3-11 **Contract Day:** 150 **Contract Duration:** 210

Weather
Temperature: (AM) 57 **(PM)** 79 **Rain:** 0 **Duration of rain:** _____
Description of weather: partly cloudy, windy

List of Active Equipment on site

1- bobcat A		
1- front loader A		

Personnel on site:

1	2	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC - clean up and touch up washouts with sod, Quality sod installing sod along access road.

Walk-Through

Progress Meeting No. 16

List of Subcontractors
Quality Turf

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-3-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-4-11 **Contract Day:** 151 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 80 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-7-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-5-11 **Contract Day:** 152 **Contract Duration:** 210

Weather
Temperature: (AM) 60 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-7-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-6-11 **Contract Day:** 153 **Contract Duration:** 210

Weather
Temperature: (AM) 60 **(PM)** 81 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-7-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-7-11 **Contract Day:** 154 **Contract Duration:** 210

Weather
Temperature: (AM) 52 **(PM)** 74 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear to partly cloudy

List of Active Equipment on site

1- front loader A		
1- water truck A		

Personnel on site:

1	2	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC installing pump station for cell groundwater, placed sod around pump stations near leachate tanks, watered roads & sod.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-7-11

~~1700~~ 1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-8-11 **Contract Day:** 155 **Contract Duration:** 210

Weather
Temperature: (AM) 52 **(PM)** 82 **Rain:** _____ **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1 – water truck A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
X	1	2

Description of Construction Activity 0630 Super left with Transport 3 men on site to water sod.

Super returned to load more equipment.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-8-11

0600 1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-9-11 **Contract Day:** 156 **Contract Duration:** 210

Weather
Temperature: (AM) 64 **(PM)** 84 **Rain:** 0.2 **Duration of rain:** _____
Description of weather: clear to cloudy after hours rain.

List of Active Equipment on site

1- water truck A		
1- front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
	1	2

Description of Construction Activity 0630 ERC watering soil, ERC installed posts for control panel, guide rails & discharge pipes.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-9-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-10-11 **Contract Day:** 157 **Contract Duration:** 210

0,2 in last night

Weather

Temperature: (AM) 52 **(PM)** 69 **Rain:** 0,6in in Town **Duration of rain:** _____

Description of weather: cloudy ~~Light~~ rain

List of Active Equipment on site

1- front loader A		

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers
1	2	2

0630

Description of Construction Activity ERC started work on pumps 0700, 0800 stopped due to rain Call for Rain day

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-10-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-11-10 **Contract Day:** 158 **Contract Duration:** 210

Weather
Temperature: (AM) 46 **(PM)** 68 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-14-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-12-11 **Contract Day:** 159 **Contract Duration:** 210

Weather
Temperature: (AM) 43 **(PM)** 75 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-14-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-13-11 **Contract Day:** 160 **Contract Duration:** 210

Weather
Temperature: (AM) 46 **(PM)** 79 **Rain:** _____ **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity No Activity

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-14-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-14-11 **Contract Day:** 161 **Contract Duration:** 210

Weather
Temperature: (AM) 48 **(PM)** 81 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

1- frontloader A		

Personnel on site:

1	2	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity 0630 ERC watering sod, installing ground water pump system, welding HDPE pipe.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-14-11

1730

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-15-11 **Contract Day:** 162 **Contract Duration:** 210

Weather
Temperature: (AM) 53 **(PM)** 81 **Rain:** 0 **Duration of rain:** _____
Description of weather:

List of Active Equipment on site

1- Frontloader		

Personnel on site:

1	2	2
No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity ERC continues to work on ground water pump system, water sod. ERC < 200hp, Elec. 1030-1600

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-15-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-16-11 **Contract Day:** 163 **Contract Duration:** 210

Weather
Temperature: (AM) 56 **(PM)** 84 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity Electrician completing ~~pump~~ Groundwater Pump Installation.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-16-11

SCS ENGINEERS DAILY FIELD REPORT

Project: Hardee County Landfill, Phase 1 Closure **Project number:** 09199033.21 Task 2

Owner: Hardee County **Contractor:** ERC

South Slope – 145 days

Date: 3-17-11 **Contract Day:** 164 **Contract Duration:** 210

Weather
Temperature: (AM) 59 **(PM)** 85 **Rain:** 0 **Duration of rain:** _____
Description of weather: clear

List of Active Equipment on site

Personnel on site:

No. of Superintendents	No. of Skilled	No. of Laborers

Description of Construction Activity Electrician on site, worked with Sligo to get system running. Only able to get some of system running – pumps OK + 1 pressure transducer OK.

List of Subcontractors

List of Materials Delivered

List of Quantities installed this date:

Item Description	Quantity	Accumulated Quantity

Field Representative Dennis G. DuPont Dennis G. DuPont **Date** 3-17-11

Attachment 3-2

SCS Monthly Progress Reports

Environmental Consultants
and Contractors

4041 Park Oaks Blvd.
Suite 100
Tampa, FL 33610-9501

813 621-0080
FAX 813 623-6757
www.scsengineers.com

SCS ENGINEERS

October 15, 2010
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 1 - September 24, 2010 to October 14, 2010
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from September 24, 2010 to October 14, 2010 and includes the following:

1. Updated construction schedule.
2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).
3. Weekly progress meeting minutes.
4. Problem or work deficiency meeting minutes.
5. A summary of submittals and change order requests.
6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 1 - September 24, 2010 to October 14, 2010 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued by Hardee County on October 4, 2010.
2. The approved project schedule is as follows:
   a) South Slope Construction
      - Substantial Completion 120 Calendar Days from NTP - Start October 4, 2010
      - Final Completion 145 Calendar Days from NTP - To February 1, 2011

   b) Remainder of Construction
      - Substantial Completion 180 Calendar Days from NTP - Start October 4, 2010
      - Final Completion 210 Calendar Days from NTP - To May 2, 2011
3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. The pre-construction meeting was conducted on September 24, 2010.
2. The pre-construction survey was started on September 27, 2010.
3. ERC General Contracting Services, Inc. (ERC) began mobilizing equipment to the site on September 30, 2010.
4. Silt fence for sedimentation and erosion control has been installed.
5. Stripping of the south sideslopes of the project area began on October 1, 2010.
6. Rough grading of the south sideslope to liner elevation has been completed.
7. Stripping of the west sideslopes of the project area has started.
8. Installation of the vertical LFG vents for the entire project was initiated on October 6, 2010 and completed on October 8, 2010.
9. Installation of the horizontal LFG vent trenches has started on the south sideslope.

10. Weekly Construction Progress Meeting No. 1 was conducted on October 8, 2010.

Please refer to the construction schedule provided by ERC contained in Attachment A.

PHOTOGRAPHS

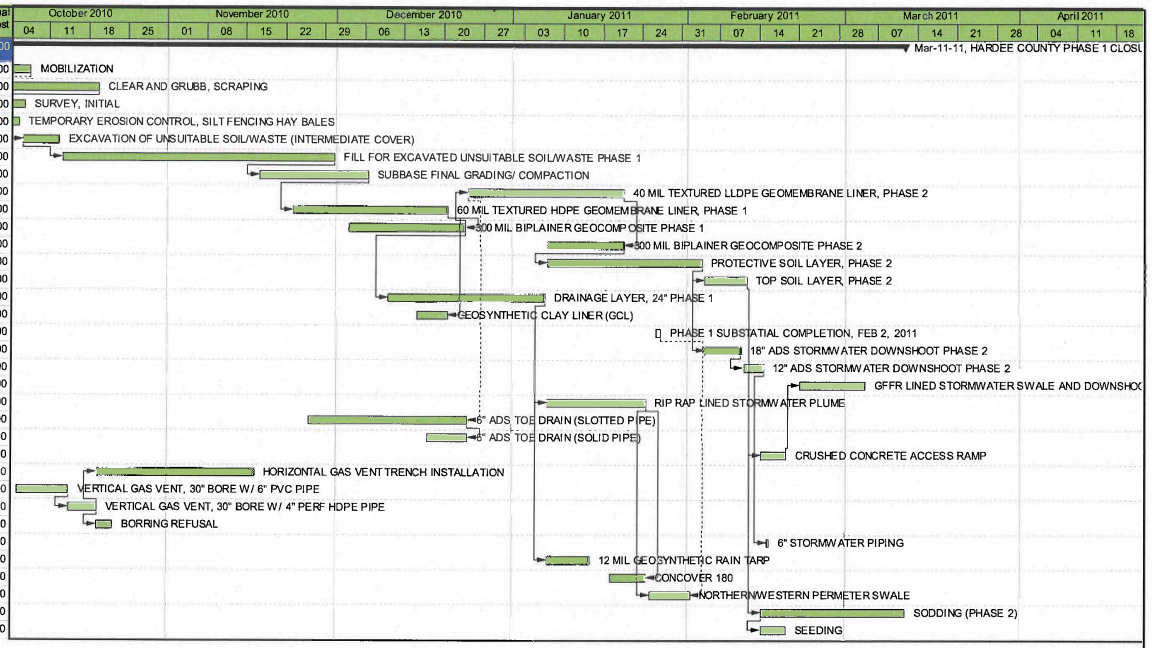
Please refer to Attachment B for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

CONSTRUCTION SCHEDULE

Activity ID	Original Duration	Activity Name	Early Start	Early Finish	Critical	Total Float	Actual Cost
HARD	117		Oct-04-10	Mar-11-11		17	$0.00
A1000	4	MOBILIZATION	Oct-04-10	Oct-07-10	☐	18	$0.00
A1010	12	CLEAR AND GRUBB, SCRAPING	Oct-04-10	Oct-19-10	☐	17	$0.00
A1020	3	SURVEY, INITIAL	Oct-04-10	Oct-06-10	☐	129	$0.00
A1030	2	TEMPORARY EROSION CONTROL, SILT FENCING HAY BALES	Oct-04-10	Oct-05-10	☐	130	$0.00
A1040	5	EXCAVATION OF UNSUITABLE SOIL/WASTE (INTERMEDIATE COVER)	Oct-06-10	Oct-12-10	☐	17	$0.00
A1050	35	FILL FOR EXCAVATED UNSUITABLE SOIL/WASTE PHASE 1	Oct-13-10	Nov-30-10	☐	17	$0.00
A1060	14	SUBBASE FINAL GRADING/ COMPACTION	Nov-17-10	Dec-06-10	☐	17	$0.00
A1070	20	40 MIL TEXTURED LLDPE GEOMEMBRANE LINER, PHASE 2	Dec-24-10	Jan-20-11	☐	17	$0.00
A1080	20	60 MIL TEXTURED HDPE GEOMEMBRANE LINER, PHASE 1	Nov-23-10	Dec-20-10	☐	17	$0.00
A1090	15	300 MIL BIPLAINER GEOCOMPOSITE PHASE 1	Dec-03-10	Dec-23-10	☐	17	$0.00
A1100	10	300 MIL BIPLAINER GEOCOMPOSITE PHASE 2	Jan-07-11	Jan-20-11	☐	17	$0.00
A1110	20	PROTECTIVE SOIL LAYER, PHASE 2	Jan-07-11	Feb-03-11	☐	17	$0.00
A1120	6	TOP SOIL LAYER, PHASE 2	Feb-04-11	Feb-11-11	☐	17	$0.00
A1130	20	DRAINAGE LAYER, 24" PHASE 1	Dec-10-10	Jan-06-11	☐	45	$0.00
A1140	4	GEOSYNTHETIC CLAY LINER (GCL)	Dec-15-10	Dec-20-10	☐	76	$0.00
A1150	1	PHASE 1 SUBSTATIAL COMPLETION, FEB 2, 2011	Jan-26-11	Jan-27-11	☐	49	$0.00
A1160	5	18" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-04-11	Feb-10-11	☐	35	$0.00
A1180	2	12" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-11-11	Feb-14-11	☐	35	$0.00
A1200	10	GFFR LINED STORMWATER SWALE AND DOWNSHOOT PIPE OUTFALL AREA	Feb-21-11	Mar-04-11	☐	22	$0.00
A1210	12	RIP RAP LINED STORMWATER PLUME	Jan-07-11	Jan-24-11	☐	45	$0.00
A1220	20	6" ADS TOE DRAIN (SLOTTED PIPE)	Nov-26-10	Dec-24-10	☐	73	$0.00
A1230	5	6" ADS TOE DRAIN (SOLID PIPE)	Dec-17-10	Dec-24-10	☐	73	$0.00
A1240	5	CRUSHED CONCRETE ACCESS RAMP	Feb-14-11	Feb-18-11	☐	22	$0.00
A1250	20	HORIZONTAL GAS VENT TRENCH INSTALLATION	Oct-19-10	Nov-16-10	☐	101	$0.00
A1260	7	VERTICAL GAS VENT, 30" BORE W/ 6" PVC PIPE	Oct-05-10	Oct-14-10	☐	101	$0.00
A1270	3	VERTICAL GAS VENT, 30" BORE W/ 4" PERF HDPE PIPE	Oct-14-10	Oct-19-10	☐	101	$0.00
A1280	3	BORRING REFUSAL	Oct-19-10	Oct-22-10	☐	118	$0.00
A1290	1	6" STORMWATER PIPING	Feb-15-11	Feb-15-11	☐	35	$0.00
A1300	6	12 MIL GEOSYNTHETIC RAIN TARP	Jan-07-11	Jan-14-11	☐	57	$0.00
A1310	5	CONCOVER 180	Jan-18-11	Jan-24-11	☐	51	$0.00
A1320	6	NORTHERN/WESTERN PERMETER SWALE	Jan-25-11	Feb-01-11	☐	45	$0.00
A1330	20	SODDING (PHASE 2)	Feb-14-11	Mar-11-11	☐	17	$0.00
A1340	5	SEEDING	Feb-14-11	Feb-18-11	☐	32	$0.00



ATTACHMENT B

CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

HC-7.1 Vertical component to drilled and awaiting final fill

HC-1A.2 – Vertical component of horizontal well drilled.

HC-

Vertical passive vent V-1 being drilled

Vertical vent V-1 with pipe installed

Vertical component HC-8.1 being installed

HC-1A.2 vertical component with pipe installed.

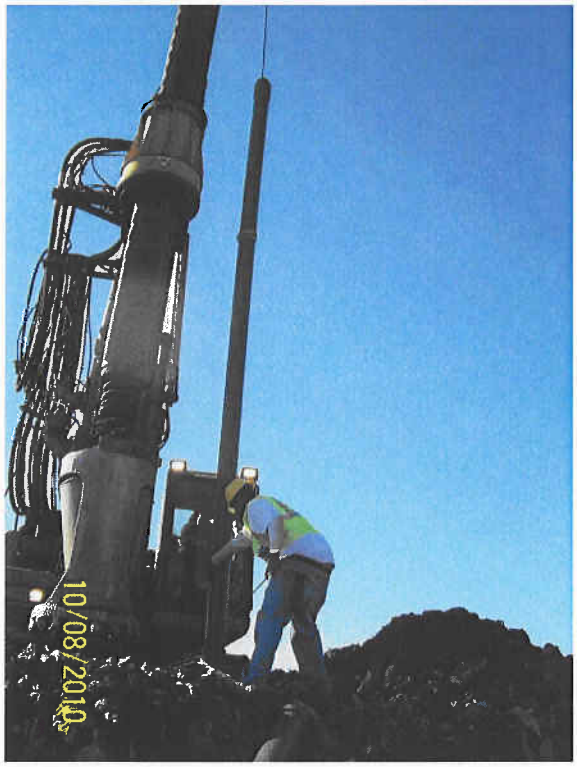
V-7 installed with pipe, awaiting fill

Workers assembling PVC pipe for vertical well.

Confirming depth drilled at V-3 location

Installing pipe at V-3

Drilling V-2



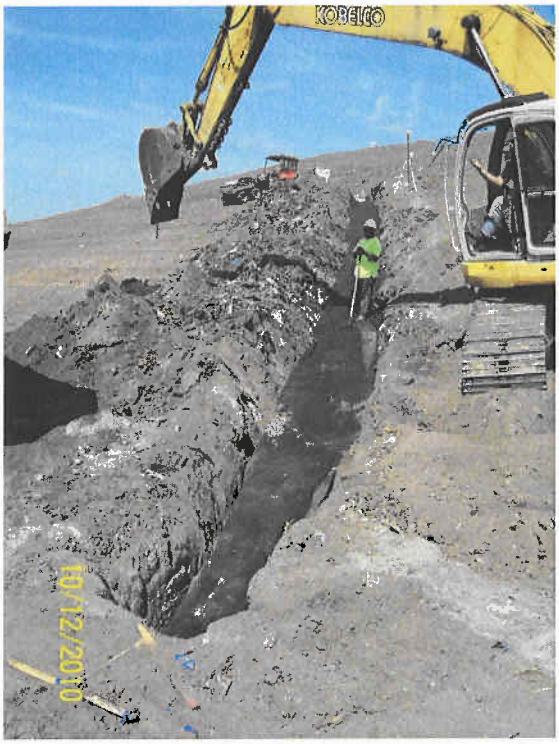
Installing pipe at V-2

Removing stripped cover from west slope.

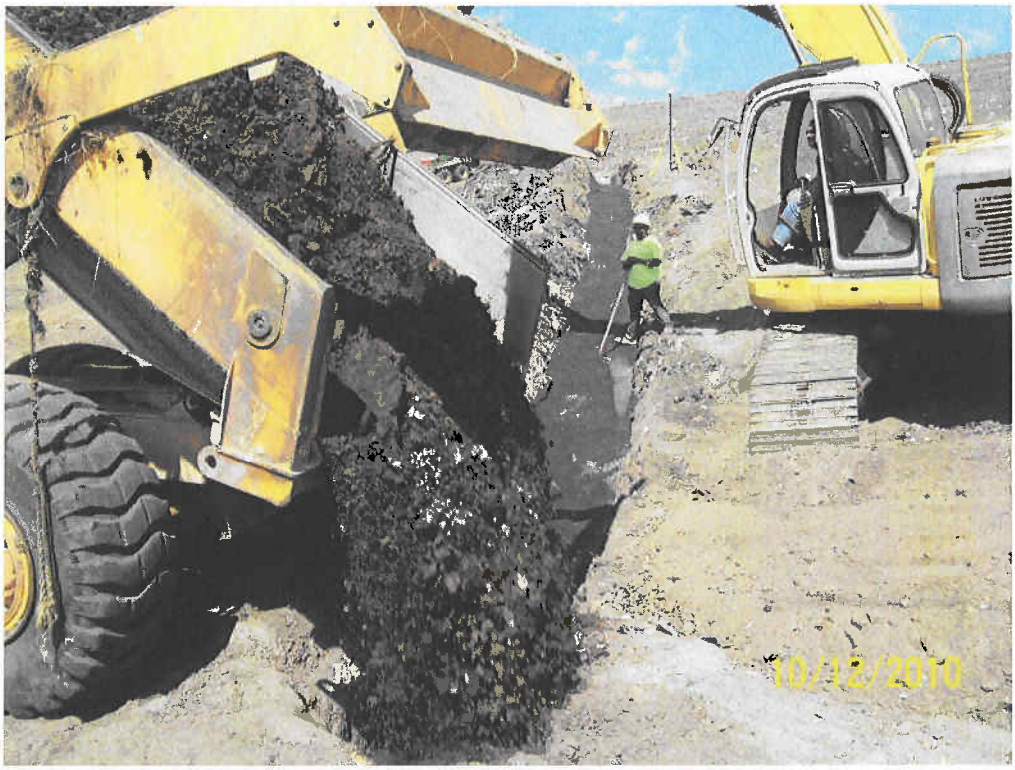
Excavating trench for horizontal collector HC-1A.

Laying geotextile fabric in trench HC-1A

HC-1A - Placing initial #57 rock bedding in trench before placing perforated HDPE collector pipe.



HC-1A - Pipe and additional rock cover installed, geotextile wrapped and overlaid.



HC-1A – Placing clean soil cover on top of geotextile wrap.

HC-1A – Trench to HC-1A.2 covered and completed.

HC-1A- Extending trench to HC-1A.1 from HC-1A.2

HC-1A- Trench with #57 stone, perforated pipe and geotextile laid.

HC-1A- recording location of vertical component HC-1A.1 in trench prior to backfilling with rock.

HC-1A- backfilling trench with rock to cover perforated pipe.

HC-1A – geotextile wrap completed.

HC-1B– Trench excavated and geotextile fabric prepared to be laid in trench

HC-1B- Rock bedding and geotextile laid in trench; perforated pipe being placed in trench.

HC-1B – rock cover being placed over perforated pipe

HC-1B – Clean soil cover being placed in trench over geotextile wrap.

Exposing geomembrane liner anchor trench at southern limits of Phase 1

HC-1B – Tee at vertical component of collector HC-1B.1

HC-1B – Wrapping geotextile

Fully exposed liner at southern limit of Phase 1

HC-1B covered and re-graded with clean soil

HC-1 vent riser completed.

Rough grading/stripping of East slope

HC-2 – Placing geotextile in newly excavated trench

HC-2 – Tie in to vertical component HC-2.2, and elbow to HC-2.1

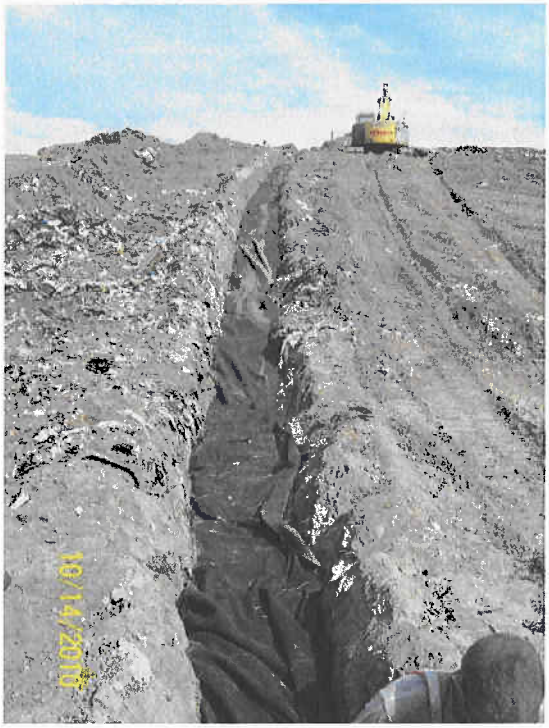
HC-2 – Covering perforated pipe with rock

HC-2 – Perforated pipe covered and geotextile wrap

HC-2 – backfilling trench/geotextile wrap with clean soil

HC-2 – Excavating trench from HC-2.2 to HC-2.1.

HC-2 – Placing rock bedding and pipe in trench



HC-2 – Geotextile wrap completed

HC-2 – Tie-in to vertical component HC-2.1

HC-2 – Fusing perforated section to solid extension of pipe that leads to riser HC-2

HC-2 – Tie in to HC-2.2 filled and covered, end of collector section of HC-2 trench.

HC-2 – Clean soil cover at HC-2.2

ATTACHMENT C

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Environmental Consultants
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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

OCTOBER 8, 2010, 10:00 A.M.

PROGRESS MEETING NO. 1 MINUTES
(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 1 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Shane Fischer (SCS) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 1. The date is October 8, 2010 and the time is approximately 10:10 a.m. A sign in sheet is being passed around, everyone please sign in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Roger Hogg	rhogg@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from the Pre-Construction Meeting have not been finalized by SCS but will be distributed when completed.

b) Unfinished business

(1) SCS will forward the Notice to Proceed Letter to ERC.

(2) SCS will provide five sets of conformed specifications and drawings to ERC.

3) Project Schedule

a) Progress and work activity anticipated for October 9 - October 15, 2010

(1) Stripping of the grass has been completed along the south sideslope and continues along the west sideslope.

(2) The vertical landfill gas (LFG) wells for the entire project will be installed at one time. The LFG well installation was started on October 6th and will be completed by approximately October 9, 2010.

(3) Grading and filling along the south sideslope to the top of waste elevation has started. After completion of the top of waste elevation an asbuilt survey of the area will be conducted. The asbuilt survey will be submitted to SCS for review and approval prior to the installation of the intermediate cover. After approval of the top of waste elevation asbuilt survey the intermediate cover installation will begin by ERC. After the intermediate cover has been placed an asbuilt survey will be performed to ensure that the required two foot thick intermediate cover is in place within the area that the 60 mil HDPE liner will be installed.

(4) Installation of the horizontal LFG collection trenches along the south sideslope is scheduled to begin on approximately October 11, 2010. After completion, the western sideslope horizontal LFG collection trenches will be started.

(5) Construction will progress from the south sideslope around to the west sideslope and then to the north and east sideslopes. The top of the project area will remain open for as long as possible and will be completed last.

b) ERC proposed working hours during this period

(1) ERC will work Monday through Friday 7:00 a.m. to 5:30 p.m.

c) Subcontractors and materials expected on site

(1) Subcontractors

- Quality Drilling
- Peavey & Associates Surveying and Mapping

(2) Materials

- HDPE and PVC pipe for the LFG collection system
- No. 4 stone
- General fill
- Geotextile

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) Piezometer P-15 is within the project closure cap area, a determination will need to be made if this piezometer will need to be extended and booted through the closure liner or if it may be abandoned.

6) Contractor's Submittals Status

a) Shop Drawings

(1) Currently up to date.

b) RFI's

(1) None at this time.

7) Contractor Issues

a) Discussions were held regarding the location of the old rain tarp located in the Phase II Section I area on the far west end near Manhole 7. This rain tarp was removed by the County prior to active filling within the cell.

b) Discussions were held regarding the horizontal collector LFG pipe that will be located along the south sideslope of the project area which will be terminated into Manhole 7. Elevations were not listed on the contract drawings to identify the

location which the LFG pipe will be cored into the manhole. The LFG pipe will follow the sideslope to a point where it will change to a minimum of three percent to tie-in to the manhole at a point that will not conflict with the concrete cover proposed over the manhole. ERC will field verify the location at which the minimum three percent slope will need to be started for proper tie-in to the manhole.

c) The manholes which will connect to the horizontal collector LFG pipes will be core drilled to receive the LFG pipe and nonshrink grout will be used around the pipe penetration.

8) County Issues

a) General discussions were held regarding the traffic flow pattern of the trucks bringing in fill material to not conflict with normal landfill operations traffic.

9) Consultant's Issues

a) A monthly status report has to be submitted by SCS to the Florida Department of Environmental Protection (FDEP) by the 15th of every month for the duration of the project. SCS requested that an updated schedule be provided just prior to that time to be included into the report.

b) The manholes located along the north and east sides of the project area will not require the concrete cap indicated in the construction drawings, only the manholes located along the west side of the project area will be receiving the concrete cap.

c) The concrete cap over the manholes may be square, with no radius on the corners.

d) General discussions were held regarding the pay application submittal process, format and time cutoffs.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 2 will be on site at the SCS field office trailer, October 15th, 2010 at 1:00 pm.

Environmental Consultants
and Contractors

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SCS ENGINEERS

November 15, 2010
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 2 - October 15, 2010 to November 14, 2010
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from October 15, 2010 to November 14, 2010 and includes the following:

1. Updated construction schedule.
2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).
3. Weekly progress meeting minutes.
4. Problem or work deficiency meeting minutes.
5. A summary of submittals and change order requests.
6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 2 - October 15, 2010 to November 14, 2010 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued to ERC General Contracting Services, Inc. (ERC) by Hardee County on October 4, 2010.

2. The approved project schedule is as follows:

   a) South Slope Construction

   - Substantial Completion 120 Calendar Days from NTP - To February 1, 2011
   - Final Completion 145 Calendar Days from NTP - To February 26, 2011

   b) Remainder of Construction

   - Substantial Completion 180 Calendar Days from NTP - To April 2, 2011
   - Final Completion 210 Calendar Days from NTP - To May 2, 2011

3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. The pre-construction survey was completed.
2. All erosion and sedimentation control was installed.
3. Stripping of the entire project area has been completed.
4. Rough grading of the south slope to liner elevation is complete, fine grading is ongoing.
5. Rough grading of the west, north, east and top slopes to liner elevation continues.
6. Installation of the vertical LFG vents and horizontal LFG vent trenches has been completed for the entire project.
7. The concrete cap was constructed over existing Manholes 5, 6 and 7.
8. Density testing of the south sideslope intermediate cover was conducted.

9. The existing geosynthetic liner system anchor trench located under the existing stormwater downchute located in the southeast corner of the project site is being exposed.

10. The liner anchor trench along the north side of the Phase II Section I area was exposed in preparation for liner installation along the south sideslope of the project area.

11. Piezometers P-1, P-2 and P-15 were abandoned on November 1, 2010 for preparation of liner installation per correspondence with FDEP.

12. Weekly Construction Progress Meeting No. 2, 3 and 4 were conducted on October 15, 22 and 29, 2010. A Weekly Construction Progress Meeting was not conducted on November 5, 2010 due to no construction activity taking place because of rain delays from November 4, 5 and 6, 2010. In addition, due to rain, November 8, 2010 was also granted to ERC as a rain day. The Weekly Construction Progress Meeting conducted on November 12, 2010 will be included in the next Monthly Progress Report to FDEP.

Please refer to the construction schedule provided by ERC contained in Attachment A.

CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Please refer to Attachment B for the following Weekly Construction Progress Meeting Summary Reports.

- Construction Progress Meeting Number 2 Minutes - October 15, 2010.
- Construction Progress Meeting Number 3 Minutes - October 22, 2010.
- Construction Progress Meeting Number 4 Minutes - October 29, 2010.

PHOTOGRAPHS

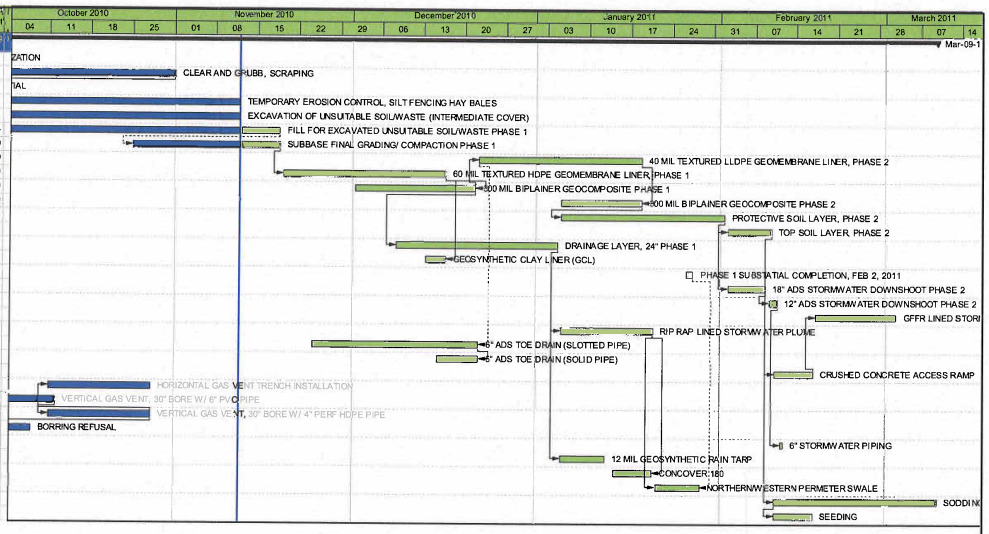
Please refer to Attachment C for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

CONSTRUCTION SCHEDULE

Activity ID	Original Duration	Activity Name	Early Start	Early Finish	Critical	Total Float
HARC	115		Nov-12-10	Mar-09-11		19
A1000	4	MOBILIZATION				
A1010	12	CLEAR AND GRUBB, SCRAPING				
A1020	3	SURVEY, INITIAL				
A1030	2	TEMPORARY EROSION CONTROL, SILT FENCING HAY BALES				
A1040	5	EXCAVATION OF UNSUITABLE SOIL/WASTE (INTERMEDIATE COVER)				
A1050	35	FILL FOR EXCAVATED UNSUITABLE SOIL/WASTE PHASE 1	Nov-12-10	Nov-18-10		24
A1060	14	SUBBASE FINAL GRADING/ COMPACTION PHASE 1	Nov-12-10	Nov-18-10		19
A1070	20	40 MIL TEXTURED LLDPE GEOMEMBRANE LINER, PHASE 2	Dec-22-10	Jan-18-11		19
A1080	20	60 MIL TEXTURED HDPE GEOMEMBRANE LINER, PHASE 1	Nov-19-10	Dec-16-10		19
A1090	15	300 MIL BIPLAINER GEOCOMPOSITE PHASE 1	Dec-01-10	Dec-21-10		19
A1100	10	300 MIL BIPLAINER GEOCOMPOSITE PHASE 2	Jan-05-11	Jan-18-11		19
A1110	20	PROTECTIVE SOIL LAYER, PHASE 2	Jan-05-11	Feb-01-11		19
A1120	6	TOP SOIL LAYER, PHASE 2	Feb-02-11	Feb-09-11		19
A1130	20	DRAINAGE LAYER, 24" PHASE 1	Dec-08-10	Jan-04-11		47
A1140	4	GEOSYNTHETIC CLAY LINER (GCL)	Dec-13-10	Dec-16-10		78
A1150	1	PHASE 1 SUBSTATIAL COMPLETION, FEB 2, 2011	Jan-26-11	Jan-27-11		49
A1160	5	18" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-02-11	Feb-08-11		37
A1180	2	12" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-09-11	Feb-10-11		37
A1200	10	GFFR LINED STORMWATER SWALE AND DOWNSHOOT PIPE OUTFALL AREA	Feb-17-11	Mar-02-11		24
A1210	12	RIP RAP LINED STORMWATER PLUME	Jan-05-11	Jan-20-11		47
A1220	20	6" ADS TOE DRAIN (SLOTTED PIPE)	Nov-24-10	Dec-22-10		75
A1230	5	6" ADS TOE DRAIN (SOLID PIPE)	Dec-15-10	Dec-22-10		75
A1240	5	CRUSHED CONCRETE ACCESS RAMP	Feb-10-11	Feb-16-11		24
A1250	20	HORIZONTAL GAS VENT TRENCH INSTALLATION				
A1260	7	VERTICAL GAS VENT, 30" BORE W/ 6" PVC PIPE				
A1270	3	VERTICAL GAS VENT, 30" BORE W/ 4" PERF HDPE PIPE				
A1280	3	BORRING REFUSAL				
A1290	1	6" STORMWATER PIPING	Feb-11-11	Feb-11-11		37
A1300	6	12 MIL GEOSYNTHETIC RAIN TARP	Jan-05-11	Jan-12-11		59
A1310	5	CONCOVER 180	Jan-14-11	Jan-20-11		53
A1320	6	NORTHERNWESTERN PERMETER SWALE	Jan-21-11	Jan-28-11		47
A1330	20	SODDING (PHASE 2)	Feb-10-11	Mar-09-11		19
A1340	5	SEEDING	Feb-10-11	Feb-16-11		34



ATTACHMENT B

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Environmental Consultants
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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

OCTOBER 15, 2010, 10:00 A.M.

PROGRESS MEETING NO. 2 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 2 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Shane Fischer (SCS) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 2. The date is October 15, 2010 and the time is approximately 11:00 a.m. A sign in sheet is being passed around, everyone please sign in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Roger Hogg	rhogg@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 1 have not been finalized by SCS but will be distributed when completed.

b) Unfinished business

(1) SCS will provide five sets of conformed specifications and drawings to ERC.

3) Project Schedule

a) Progress and work activity anticipated for October 16 - October 22, 2010

(1) Stripping of the grass has been completed for the entire project area.

(2) The vertical landfill gas (LFG) well installation for the entire project was completed on October 9, 2010.

(3) Grading and filling along the south sideslope to the top of waste elevation has been completed. An asbuilt survey of the top of waste elevation was conducted.

(4) Grading and filling along the west sideslope to the top of waste elevation is underway and an asbuilt survey of the top of waste elevation will be conducted prior to placement of the intermediate cover material.

(5) Placement of the intermediate cover has started along the south sideslope. Cover material along the south sideslope should be completed by approximately October 27, 2010.

(6) An asbuilt survey will be performed along the south and west sideslopes to ensure that the required two foot thick intermediate cover is in place within the area that the 60 mil HDPE liner will be placed.

(7) Installation of the horizontal LFG collection trenches along the south sideslope has been completed with the exception of the tie-in to Manhole 7.

(8) Two of the horizontal LFG collection trenches need to be completed along the west sideslope. None of the horizontal LFG collection trenches have been started along the north or east sideslopes.

(9) Discussions were held indicating that leachate was collected and forwarded to TRI for the geosynthetic clay (GCL) material testing. Groundwater will be collected and forwarded to TRI also for the GCL testing.

b) ERC proposed working hours during this period

(1) ERC will work Monday through Friday 7:00 a.m. to 5:30 p.m.

c) Subcontractors and materials expected on site

(1) Subcontractors

- Peavey & Associates Surveying and Mapping

(2) Materials

- No. 4 stone
- General fill

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) Piezometer P-15 is within the project closure cap area, a determination will need to be made if this piezometer will need to be extended and booted through the closure liner or if it may be abandoned.

b) Elevation of the top of the manhole in the southeast corner of the project area needs to be verified.

6) Contractor's Submittals Status

a) Shop Drawings

(1) Currently up to date.

b) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time other than discussed in Section 5.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) Discussions were held regarding the topographic surveys that will be required for submittal prior to liner installation. An existing conditions survey, a survey of the grass stripped conditions, top of waste/bottom of intermediate cover and top of intermediate cover (liner elevation).

b) Each one of the surveys required for the project will be submitted seperately for review and approval by SCS.

c) After approval of the surveys they will be combined together such as top of intermediate cover elevation versus top of waste elevation to ensure that the required depth of material has been placed. Conducting the surveying in this manner will then not require pot holes to be conducted to verify the material depth placement.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 3 will be on site at the SCS field office trailer, October 22nd, 2010 at 1:00 pm.

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
CONSTRUCTION PROGRESS MEETING NO. 2
FILE NO. 09199033.21

OCTOBER 15, 2010, 10:00 A.M.

SIGN-IN SHEET

NAME	COMPANY	CELL PHONE	EMAIL
Steve Fischer	SCS Engineers	813-503-1044	SFischer@scsengineers.com
Jack Wiggins	ERC Gen. Cont.	863-441-0186	ERCJACKW@Aol.com
Teresa Carver	Hardee County	863-773-5089	teresa.carver@hardeecounty
Vaden Pollard	ERC	321-231-0208	VPollard@emburgmail.com
Roger Hogg	SCS Engineers	(786) 853 1828	rhogg@scsengineers.com

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

OCTOBER 22, 2010, 10:00 A.M.

PROGRESS MEETING NO. 3 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 3 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 3. The date is October 22, 2010 and the time is approximately 10:06 a.m. A sign in sheet is being passed around, everyone please sign in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Dennis DuPont	ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 2 have been distributed.

b) Unfinished business

(1) SCS provided five sets of conformed specifications and drawings to ERC during the meeting.

(2) SCS will provide a response to ERC regarding the issue of booting or abandoning 3 piezometers, pending discussion with FDEP.

(3) SCS is finalizing the requirements for TRI to conduct the material conformance sample collection and testing.

3) Project Schedule

a) Progress and work activity anticipated for October 23 - October 29, 2010

(1) Grading and filling along the west sideslope to the top of waste elevation is underway and an asbuilt survey of the top of waste elevation will be conducted prior to placement of the intermediate cover material.

(2) Fill around and capping manholes along the western side.

(3) Exposing tie-in to north, east and west existing liners.

(4) Placement of the intermediate cover along the south sideslope should be finished by approximately October 27, 2010.

b) ERC proposed working hours during this period

(1) ERC will work Monday through Friday 7:00 a.m. to 5:30 p.m.

c) Subcontractors and materials expected on site

(1) Subcontractors

- Peavey & Associates Surveying and Mapping

(2) Materials

- 3 rolls of rain tarp
- General fill

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) SCS returned Geocomposite, LLDPE & HDPE Liner, Bentonite, Excavation Plan and Health & Safety Plan, all good.

b) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time. The County stated ERC's pay application check should be signed today.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping. Truck counter should wear a reflective safety vest.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 4 will be on site at the SCS field office trailer, October 29th, 2010 at 10:00 am.

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
CONSTRUCTION PROGRESS MEETING NO. 3
FILE NO. 09199033.21

OCTOBER 22, 2010, 10:00 A.M.

SIGN-IN SHEET

NAME	COMPANY	CELL PHONE	EMAIL
Teresa Carver TC	Hardee County	863-781-1114	Teresa.carver@hardeecounty.net
Shane Fisher SF	SCS Engineers	813-503-1044	
Jack Wiggins	ERC	863-441-0186	ercjackw@aol.com
Vaden Pollard	ERC	321-231-0208	VPollard@Embarqmail.com
Dennis Dulont	SCS Engineers	813-220-1923	DDupont@SCSEngineers.com

Environmental Consultants
and Contractors

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813 621-0080
FAX 813 623-6757
www.scsengineers.com

SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

OCTOBER 29, 2010, 10:00 A.M.

PROGRESS MEETING NO. 4 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 4 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 4. The date is October 29, 2010 and the time is approximately 10:15 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard vpollard@embarqmail.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 3 have been distributed.

b) Unfinished business

(1) Huss Drilling should be on site Monday November 1, 2010 to abandon piezometers P-1, P-2 and P-15.

(2) Liner installation should begin in about two weeks.

(3) SCS has received some of the friction angle test results from TRI.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) General fill continues to be installed along the east slope.

b) Progress and work activity anticipated for October 30 - November 5, 2010.

(1) On road trucks will start back Monday delivering intermediate cover material.

(2) Universal Testing will be on site Monday for density/moisture testing of intermediate cover along the south slope.

(3) Liner materials should be delivered within two weeks.

c) ERC proposed working hours during this period

(1) ERC will work Monday through Friday 7:30 a.m. to 6:00 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Universal Testing
- Haul trucks

(2) Materials

- Intermediate cover material
- General fill

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) SCS has friction angle and GCL submittals to review.

b) Submittals

(1) SCS returned submittals with no exceptions taken for Surveyor Information, Preconstruction Topographic Survey and Submittal Schedule Log.

(2) SCS requested an updated Project Schedule.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

b) ERC inquired if the County has a source or preference of material for the ramp. Options are asphalt millings or crushed concrete from on or off site.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 5 will be on site at the SCS field office trailer, November 5, 2010 at 10:00 am.

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
CONSTRUCTION PROGRESS MEETING NO. 4
FILE NO. 09199033.21

OCTOBER 29, 2010, 10:00 A.M.

SIGN-IN SHEET

NAME	COMPANY	CELL PHONE	EMAIL
Shane Fisher	SCS Engineers	813-503-1044	
Teresa Carver	Hardee County	863-781-1114	Teresa.carver@hardeecounty.net
Vaden Pollard	ERC	321-231-0208	VPollard@embarqmail.com
~~Jack Wiggins~~	ERC	863-441-0186	ercjackw@aol.com
Dennis Dupont	SCS Engineers	813-220-1923	DDupont@SCSEngineers.com

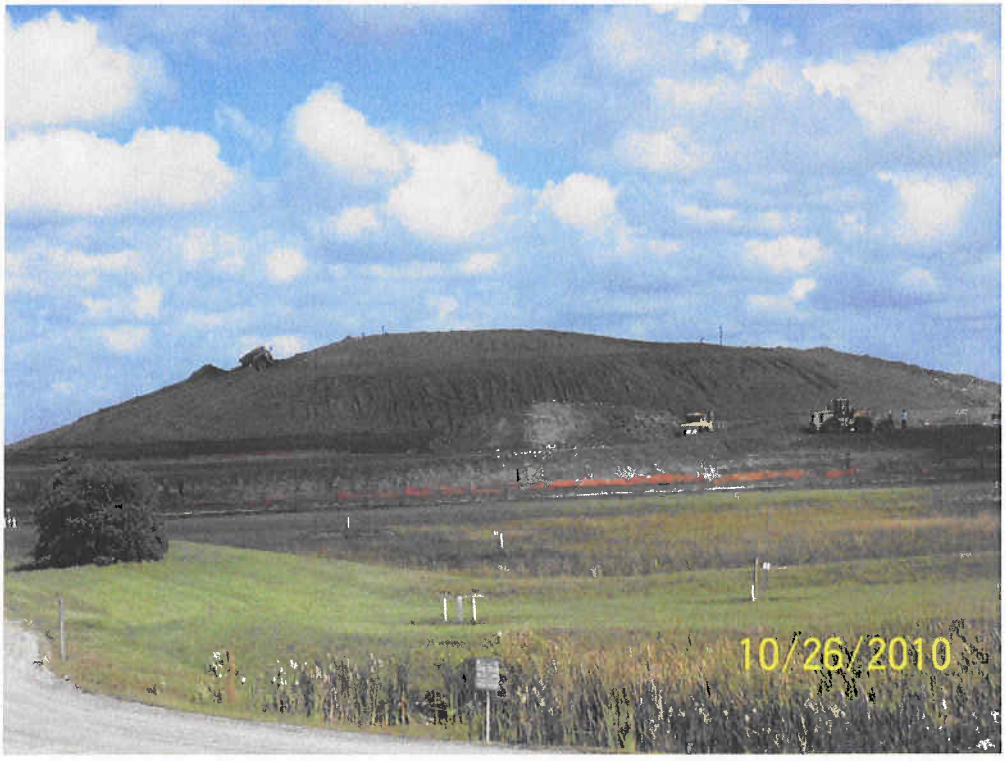
ATTACHMENT C

CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

File Name	Date	Description
Hardee Closure 100_3492	10/25/10	Exposing existing geosynthetic liner system anchor trench located under the existing stormwater downchute located in the southeast corner of the project.
Hardee Closure 100_3496	10/26/10	South sideslope of project area looking north.
Hardee Closure 100_3503	10/28/10	East sideslope of project area looking west.
Hardee Closure 100_3506	11/3/10	Coring into existing manholes to place horizontal LFG vent trench piping.
Hardee Closure 100_3515	11/9/10	Forms and rebar for concrete cap to be placed over existing Manhole Number 7 located in the southwest corner of the project.
Hardee Closure 100_3516	11/9/10	Forms and rebar for concrete cap to be placed over existing Manhole Number 5 located along the west side of the project.
Hardee Closure 100_3518	11/9/10	Placement of concrete cap over existing Manhole Number 7 located in the southwest corner of the project.
Hardee Closure 100_3522	11/10/10	West sideslope of project area looking northeast.
Hardee Closure 100_3525	11/11/10	Southwest corner of project area looking southeast.
Hardee Closure 100_3526	11/11/10	South sideslope of project area looking north.
Hardee Closure 100_3527	11/11/10	Southwest sideslope of project area looking northwest.
Hardee Closure 100_3531	11/11/10	East sideslope of project area looking west.
Hardee Closure 100_3532	11/11/10	East sideslope of project area looking southwest.

Hardee Closure 100_3492

Hardee Closure 100_3496



Hardee Closure 100_3503

Hardee Closure 100_3506

Hardee Closure 100_3515

Hardee Closure 100_3516

Hardee Closure 100_3518

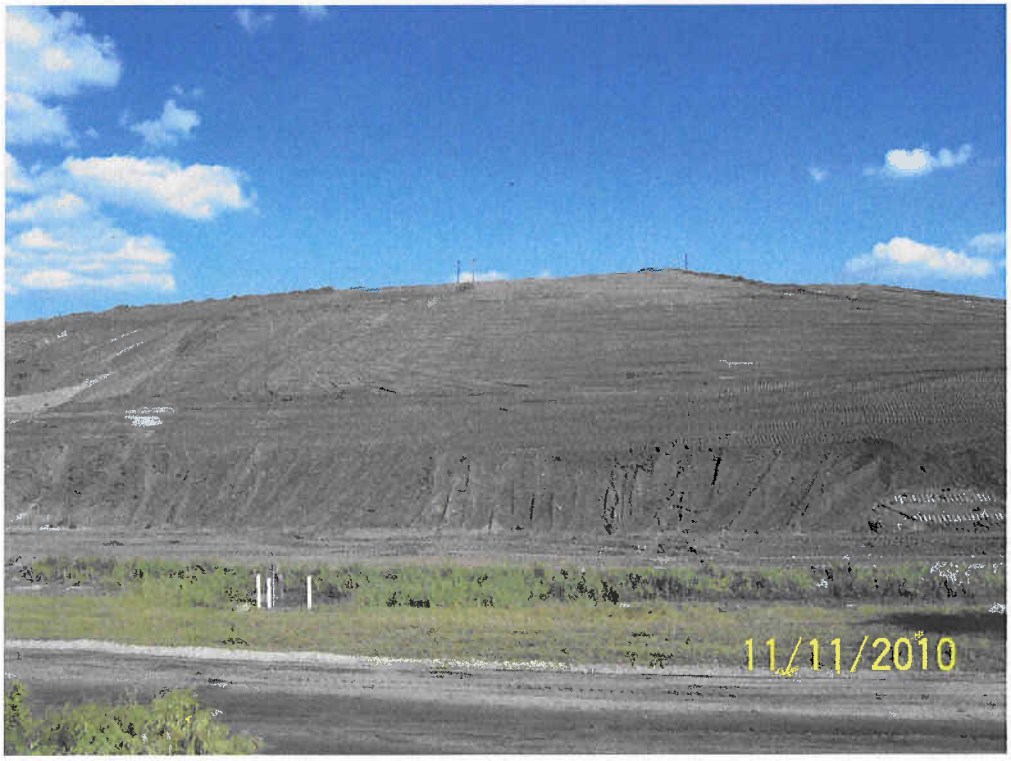
Hardee Closure 100_3522

Hardee Closure 100_3525

Hardee Closure 100_3526

Hardee Closure 100_3527

Hardee Closure 100_3531



Hardee Closure 100_3532

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SCS ENGINEERS

December 15, 2010
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 3 - November 15, 2010 to December 14, 2010
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from November 15, 2010 to December 14, 2010 and includes the following:

1. Updated construction schedule.

2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).

3. Weekly progress meeting minutes.

4. Problem or work deficiency meeting minutes.

5. A summary of submittals and change order requests.

6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 3 - November 15, 2010 to December 14, 2010 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued to ERC General Contracting Services, Inc. (ERC) by Hardee County on October 4, 2010.

2. The approved project schedule is as follows:

   a) South Slope Construction

   - Substantial Completion 120 Calendar Days from NTP - To February 1, 2011
   - Final Completion 145 Calendar Days from NTP - To February 26, 2011

   b) Remainder of Construction

   - Substantial Completion 180 Calendar Days from NTP - To April 2, 2011
   - Final Completion 210 Calendar Days from NTP - To May 2, 2011

3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. Final grading of the entire project area has been completed.

2. The top of intermediate cover asbuilt survey has been finalized for the entire project area.

3. Density testing of the entire project area intermediate cover has been conducted.

4. A pre-liner installation meeting was conducted with ERC, National Lining Systems, the County and SCS prior to liner installation.

5. The liner anchor trench along the north side of the Phase II Section I area was exposed in preparation for liner installation along the south sideslope of the project area.

6. The 60 mil High Density Polyethylene (HDPE) liner installation began along the south sideslope and has progressed along the western sideslope.

7. The 40 mil Linear Low Density Polyethylene (LLDPE) liner installation began along the north sideslope and has progressed along the eastern sideslope.

8. The 40 mil LLDPE liner installation continues along the eastern sideslope.

9. Destructive liner samples of the 40 mil LLDPE and 60 mil HDPE have been collected by SCS and forwarded to TRI Environmental, Inc. for testing during installation.

10. Geocomposite installation started over the areas where the destructive liner samples have returned as passing along the south, west and northern portions of the project area.

11. Geocomposite installation was completed along the south and west sideslopes.

12. The geocomposite installation continues along the north and eastern sideslopes and the top.

13. Drainage sand has been placed along the south sideslope and is nearly completed.

14. Drainage sand placement started along the west sideslope and continues.

15. The asbuilt survey of the drainage sand along the south sideslope has been completed.

16. The raintarp placement along the south sideslope has been started.

17. Weekly Construction Progress Meeting No. 5, 6 and 7 were conducted on November 12, 19 and December 3, 2010. A Weekly Construction Progress Meeting was not conducted on November 26, 2010 due to no construction activity taking place because of the Thanksgiving Holiday.

Please refer to the construction schedule provided by ERC contained in Attachment A.

CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Please refer to Attachment B for the following Weekly Construction Progress Meeting Summary Reports.

- Construction Progress Meeting Number 5 Minutes - November 12, 2010.
- Construction Progress Meeting Number 6 Minutes - November 19, 2010.
- Construction Progress Meeting Number 7 Minutes - December 3, 2010.

PHOTOGRAPHS

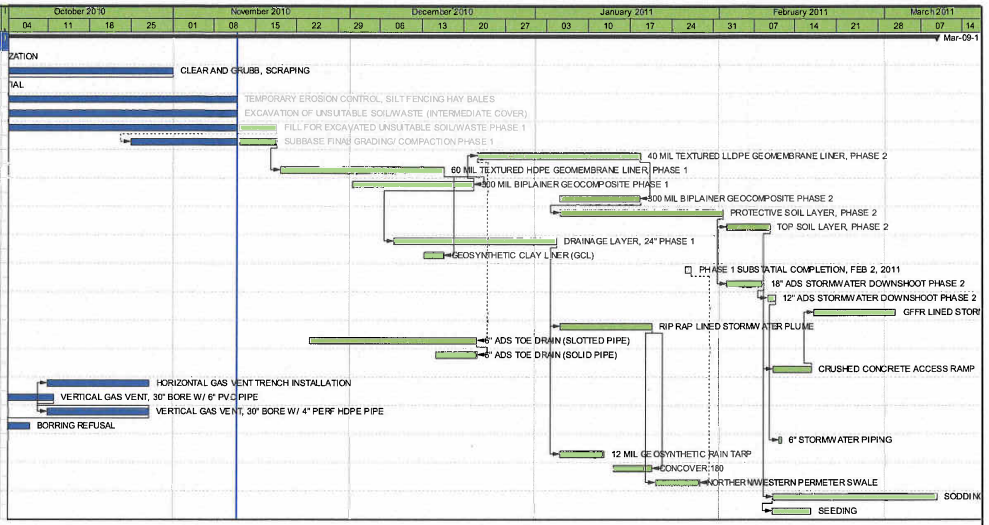
Please refer to Attachment C for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

CONSTRUCTION SCHEDULE

Activity ID	Original Duration	Activity Name	Early Start	Early Finish	Critical	Total Float
HARD	115		Nov-12-10	Mar-09-11		19
A1000	4	MOBILIZATION				
A1010	12	CLEAR AND GRUBB, SCRAPING				
A1020	3	SURVEY, INITIAL				
A1030	2	TEMPORARY EROSION CONTROL, SILT FENCING HAY BALES				
A1040	5	EXCAVATION OF UNSUITABLE SOIL/WASTE (INTERMEDIATE COVER)				
A1050	35	FILL FOR EXCAVATED UNSUITABLE SOIL/WASTE PHASE 1	Nov-12-10	Nov-18-10		24
A1060	14	SUBBASE FINAL GRADING/ COMPACTION PHASE 1	Nov-12-10	Nov-18-10		19
A1070	20	40 MIL TEXTURED LLDPE GEOMEMBRANE LINER, PHASE 2	Dec-22-10	Jan-18-11		19
A1080	20	60 MIL TEXTURED HDPE GEOMEMBRANE LINER, PHASE 1	Nov-19-10	Dec-16-10		19
A1090	15	300 MIL BIPLAINER GEOCOMPOSITE PHASE 1	Dec-01-10	Dec-21-10		19
A1100	10	300 MIL BIPLAINER GEOCOMPOSITE PHASE 2	Jan-05-11	Jan-18-11		19
A1110	20	PROTECTIVE SOIL LAYER, PHASE 2	Jan-05-11	Feb-01-11		19
A1120	6	TOP SOIL LAYER, PHASE 2	Feb-02-11	Feb-09-11		19
A1130	20	DRAINAGE LAYER, 24" PHASE 1	Dec-08-10	Jan-04-11		47
A1140	4	GEOSYNTHETIC CLAY LINER (GCL)	Dec-13-10	Dec-16-10		78
A1150	1	PHASE 1 SUBSTATIAL COMPLETION, FEB 2, 2011	Jan-26-11	Jan-27-11		49
A1160	5	18" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-02-11	Feb-08-11		37
A1180	2	12" ADS STORMWATER DOWNSHOOT PHASE 2	Feb-09-11	Feb-10-11		37
A1200	10	GFFR LINED STORMWATER SWALE AND DOWNSHOOT PIPE OUTFALL AREA	Feb-17-11	Mar-02-11		24
A1210	12	RIP RAP LINED STORMWATER PLUME	Jan-05-11	Jan-20-11		47
A1220	20	6" ADS TOE DRAIN (SLOTTED PIPE)	Nov-24-10	Dec-22-10		75
A1230	5	6" ADS TOE DRAIN (SOLID PIPE)	Dec-15-10	Dec-22-10		75
A1240	5	CRUSHED CONCRETE ACCESS RAMP	Feb-10-11	Feb-16-11		24
A1250	20	HORIZONTAL GAS VENT TRENCH INSTALLATION				
A1260	7	VERTICAL GAS VENT, 30" BORE W/ 6" PVC PIPE				
A1270	3	VERTICAL GAS VENT, 30" BORE W/ 4" PERF HDPE PIPE				
A1280	3	BORRING REFUSAL				
A1290	1	6" STORMWATER PIPING	Feb-11-11	Feb-11-11		37
A1300	6	12 MIL GEOSYNTHETIC RAIN TARP	Jan-05-11	Jan-12-11		59
A1310	5	CONCOVER 180	Jan-14-11	Jan-20-11		53
A1320	6	NORTHERN/WESTERN PERMETER SWALE	Jan-21-11	Jan-28-11		47
A1330	20	SODDING (PHASE 2)	Feb-10-11	Mar-09-11		19
A1340	5	SEEDING	Feb-10-11	Feb-16-11		34



ATTACHMENT B

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

NOVEMBER 12, 2010, 10:00 A.M.

PROGRESS MEETING NO. 5 MINUTES
(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 5 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.5. The date is November 12, 2010 and the time is approximately 10:08 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard vpollard@embarqmail.com
Jerry Pinder jerry.pinder@ercflorida.com
Jack Wiggins ERCJackW@AOL.com

d) NLS

Toui Thayravanh touit@nationalliningsystems.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 4 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Intermediate fill is complete on the south slope except for the southeast and southwest corners.

(2) Intermediate fill continues to be installed on the east and west slopes.

(3) There is about 5,000 CY of drainage sand stockpiled onsite at this time.

b) Progress and work activity anticipated for November 15 - November 22, 2010.

(1) Continue placing intermediate cover fill material along the east and west slopes.

(2) Finalize the southeast and southwest corners of the south sideslope.

(3) Finish grade the south sideslope.

(4) Anticipate liner installation starting the week of November 22, 2010 along the south sideslope.

c) ERC proposed working hours during this period.

(1) ERC will work Monday through Friday 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site.

(1) Subcontractors

- NLS
- Universal
- Haul trucks

(2) Materials

- Intermediate cover material
- General fill

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) Shop Drawings are currently up to date.

b) Submittals

(1) ERC provided an updated Project Schedule.

c) RFI's

(1) RFI Number 1 related to the manhole penetration of the liner is currently in review.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 6 will be on site at the SCS field office trailer, November 19, 2010 at 10:00 am.

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

NOVEMBER 19, 2010, 10:00 A.M.

PROGRESS MEETING NO. 6 MINUTES
(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 6 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.6. The date is November 19, 2010 and the time is approximately 10:39 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Dennis DuPont	ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jerry Pinder	jerry.pinder@ercflorida.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 5 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current.

(2) Intermediate fill continues to be installed on the east and west slopes.

(3) There is about 5,000 CY of drainage sand stockpiled onsite at this time.

b) Progress and work activity anticipated for November 20 - November 26, 2010.

(1) ERC expects to have 50% of the intermediate cover completed and the topographic survey right after placement.

(2) ERC plans to be off November 25 and 26 but might work November 27.

c) ERC proposed working hours during this period

(1) ERC will work 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- NLS would like to start liner installation on Monday, November 22
- Haul trucks

(2) Materials

- Intermediate cover material
- Geocomposite

4) Field Orders

a) Field Order No. 1 to adjust southeast and southwest berms in the field.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) Nothing outstanding.

b) Submittals

(1) ERC submitted Pay Application No. 2.

c) RFI's

(1) A minor RFI related to the manhole penetrations of the liner was issued and was verbally discussed, not an issue for NLS at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) SCS requested a proposal from ERC for asphalt paving of the ramp.

b) A Pre-Liner Installation meeting will be held at the SCS field office trailer, November 22, 2010 at 8:00 am.

c) Weekly Progress Meeting No. 7 will be on site at the SCS field office trailer, December 3, 2010 at 10:00 am.

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and Contractors

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

DECEMBER 3, 2010, 10:00 A.M.

PROGRESS MEETING NO. 7 MINUTES
(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 7 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.7. The date is December 3, 2010 and the time is approximately 10:42 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Dennis DuPont	ddupont@scsengineers.com
Orion Holtey	oholtey@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 6 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current.

(2) Liner installation is continuing.

(3) Drainage sand is continuing to be installed along the south slope.

b) Progress and work activity anticipated for December 4 - December 9, 2010.

(1) ERC expects to have the south slope 60 mil HDPE and geocomposite completed.

(2) ERC expects NLS to have the 60 mil HDPE and geocomposite completed on the west slope.

c) ERC proposed working hours during this period

(1) ERC will work 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- NLS would like to start liner installation on Monday, November 22
- Haul trucks

(2) Materials

- Drainage cover material
- Geocomposite

4) Field Orders

a) Field Order No. 1 to adjust southeast and southwest berms in the field.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) All returned and current.

b) Submittals

(1) All returned and current.

c) RFI's

(1) A minor RFI related to the manhole boot penetration of the liner, not an issue for NLS.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Shane would be unavailable next Tuesday through Friday and requested the next meeting to be the following week.

b) Weekly Progress Meeting No. 8 will be on site at the SCS field office trailer, December 17, 2010 at 10:00 am.

ATTACHMENT C

CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

Hardee County Class I Landfill
Phase I Closure Construction
Construction Permit Number 38414-012-SF/01
Monthly Progress Report No. 3 Photos - November 15, 2010 to December 14, 2010

File Name	Date	Description
Hardee Closure 100_3533	11/16/10	Southeast corner of project area looking northwest identifying the sideslope berm.
Hardee Closure 100_3540	11/17/10	South sideslope of project at tie-in of Phase II Section I looking west.
Hardee Closure 100_3545	11/17/10	South sideslope of project at tie-in of Phase II Section I looking east.
Hardee Closure 100_3554	11/23/10	West sideslope of project with the initial placement of GCL overlying the existing sidewall geomembrane.
Hardee Closure 100_3555	11/23/10	Southwest corner of project area looking northeast identifying the sideslope berm.
Hardee Closure 100_3556	12/7/10	South sideslope of project area with the initial placement of drainage sand.
Hardee Closure 100_3558	12/7/10	Placement of the toe drain pipe along the north side of the project area toe.
Hardee Closure 100_3559	12/9/10	West sideslope of project covered with liner and geocomposite looking northeast.
Hardee Closure 100_3560	12/9/10	Northwest corner of project looking east with the north and west sideslopes covered with liner and geocomposite identifying the sideslope berm.
Hardee Closure 100_3563	12/9/10	Northeast corner of project looking south with the east sideslope and anchor trench.
Hardee Closure 100_3566	12/9/10	Southeast corner of project area looking northwest with drainage sand placement along the south sideslope and liner and geocomposite along the east sideslope.
Hardee Closure 100_3568	12/14/10	Existing southeast stormwater downchute looking northwest with the new liner and geocomposite tying into it.

Hardee Closure 100_3533

Hardee Closure 100_3540

Hardee Closure 100_3545

Hardee Closure 100_3554

Hardee Closure 100_3555

Hardee Closure 100_3556

Hardee Closure 100_3558

Hardee Closure 100_3559

Hardee Closure 100_3560

Hardee Closure 100_3563

Hardee Closure 100_3566

Hardee Closure 100_3568

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SCS ENGINEERS

January 14, 2011
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 4 - December 15, 2010 to January 14, 2011
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from December 15, 2010 to January 14, 2011 and includes the following:

1. Updated construction schedule.

2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).

3. Weekly progress meeting minutes.

4. Problem or work deficiency meeting minutes.

5. A summary of submittals and change order requests.

6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 4 - December 15, 2010 to January 14, 2011 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued to ERC General Contracting Services, Inc. (ERC) by Hardee County on October 4, 2010.

2. The approved project schedule is as follows:

   a) South Slope Construction

   - Substantial Completion 120 Calendar Days from NTP - To February 1, 2011
   - Final Completion 145 Calendar Days from NTP - To February 26, 2011

   b) Remainder of Construction

   - Substantial Completion 180 Calendar Days from NTP - To April 2, 2011
   - Final Completion 210 Calendar Days from NTP - To May 2, 2011

3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. Final grading of the entire project area has been completed.

2. The top of intermediate cover asbuilt survey has been finalized for the entire project area.

3. Density testing of the entire project area intermediate cover has been conducted.

4. The 60 mil High Density Polyethylene (HDPE) liner installation along the west and south sideslopes has been completed.

5. The 40 mil Linear Low Density Polyethylene (LLDPE) liner installation on the north, east and top has been completed.

6. Destructive liner sample testing of the 40 mil LLDPE and 60 mil HDPE during installation has been completed.

7. Geocomposite installation for the entire project has been completed.

8. Drainage sand placement along the south and west sideslopes has been completed.

9. The asbuilt survey of the drainage sand along the south and west sideslopes has been completed.

10. Protective cover placement along the top, north and east sideslopes continues.

11. The raintarp placement along the south sideslope has been completed.

12. Weekly Construction Progress Meeting No. 8 and 9 were conducted on December 17, 2010 and January 7, 2011. A Weekly Construction Progress Meeting was not conducted on December 24, 2010 and December 31, 2010 due to no construction activity taking place because of the Christmas and New Year's Holidays.

Please refer to the construction schedule provided by ERC contained in Attachment A.

CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Please refer to Attachment B for the following Weekly Construction Progress Meeting Summary Reports.

- Construction Progress Meeting Number 8 Minutes - December 17, 2010.
- Construction Progress Meeting Number 9 Minutes - January 7, 2011.

PHOTOGRAPHS

Please refer to Attachment C for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

CONSTRUCTION SCHEDULE

ATTACHMENT B

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

DECEMBER 17, 2010, 10:00 A.M.

PROGRESS MEETING NO. 8 MINUTES
(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 8 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.8. The date is December 17, 2010 and the time is approximately 10:26 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Dennis DuPont	ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 7 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current or ahead of schedule.

(2) Liner installation is continuing.

(3) Drainage sand is continuing to be installed on the slopes.

b) Progress and work activity anticipated for December 18 - December 24, 2010.

(1) ERC expects to continue installing drainage sand on west slope, protective sand on north and east slopes.

(2) ERC expects NLS to complete 40 mil LLDPE, geocomposite and rain tarp.

(3) ERC expects to be off site starting December 24, 2010 to January 2, 2011 for the holidays.

c) ERC proposed working hours during this period

(1) ERC will work 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Haul trucks
- Surveyors

(2) Materials

- Drainage cover material

4) Field Orders

a) Field Order No. 1 to adjust southeast and southwest berms in the field.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) SCS has 2 or 3 to return.

b) Submittals

(1) ERC has submitted pictures, a draft of a pay application and an email of drainage sand test results.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 9 will be on site at the SCS field office trailer, January 6, 2011 at 10:00 am.

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
CONSTRUCTION PROGRESS MEETING NO. 8
FILE NO. 09199033.21

December 17, 2010 10:00 A.M.

SIGN-IN SHEET

NAME	COMPANY	CELL PHONE	EMAIL
Shane Fisher	SCS Engineers	813-503-1044	
Teresa Carver	Hardee County	863-781-1114	Teresa.carver@hardeecounty.net
Vaden Pollard	ERC	321-231-0208	VPollard@embarqmail.com
Jack Wiggins	ERC	863-441-0186	ercjackw@aol.com
Dennis Dupont	SCS Engineers	813-220-1923	DDupont@SCSEngineers.com

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

JANUARY 7, 2011, 10:00 A.M.

PROGRESS MEETING NO. 9 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 9 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 9. The date is January 7, 2011 and the time is approximately 10:30 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 8 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current or ahead of schedule.

(2) SCS requested an updated project schedule.

(3) Drainage sand is continuing to be installed on the west slope.

(4) Protective cover is being placed.

b) Progress and work activity anticipated for January 8 - January 14, 2011.

(1) ERC expects to continue installing drainage sand, protective cover, top soil, complete moisture/density tests, install stormwater drain pipe and survey the north slope.

c) ERC proposed working hours during this period

(1) ERC will work 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Haul trucks
- Surveyors
- Sod

(2) Materials

- Drainage cover material
- Protective cover material

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) SCS has 2 or 3 to return.

b) Submittals

(1) ERC has submitted photos.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 10 will be on site at the SCS field office trailer, January 14, 2011 at 10:00 am.

ATTACHMENT C

CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

File Name	Date	Description
Hardee Closure 101_3573	12/21/10	Southeast corner of project area looking northwest.
Hardee Closure 101_3576	12/21/10	Southwest corner of project area looking northeast, drainage sand placement.
Hardee Closure 101_3577	12/21/10	Southwest corner of project area looking northeast, drainage sand placement.
Hardee Closure 101_3580	12/23/10	Southeast corner of project area looking north, placing rain tarp along south sideslope over drainage sand.
Hardee Closure 101_3582	12/23/10	Southeast corner of project area looking north, rain tarp along south sideslope over drainage sand.
Hardee Closure 101_3583	12/23/10	South sideslope of project area looking northwest, rain tarp along south sideslope over drainage sand.
Hardee Closure 100_3558	12/7/10	Placement of the toe drain pipe along the north side of the project area toe.
Hardee Closure 101_3585	1/4/11	West sideslope of project area looking southeast, drainage sand placement.
Hardee Closure 101_3586	1/4/11	West sideslope of project area looking east, drainage sand placement.
Hardee Closure 101_3587	1/4/11	West sideslope of project area looking northeast, drainage sand placement.
Hardee Closure 101_3589	1/4/11	North sideslope of project area looking east, protective cover placement.
Hardee Closure 101_3590	1/4/11	East sideslope of project area looking southwest, protective cover placement.

Hardee Closure 101_3573

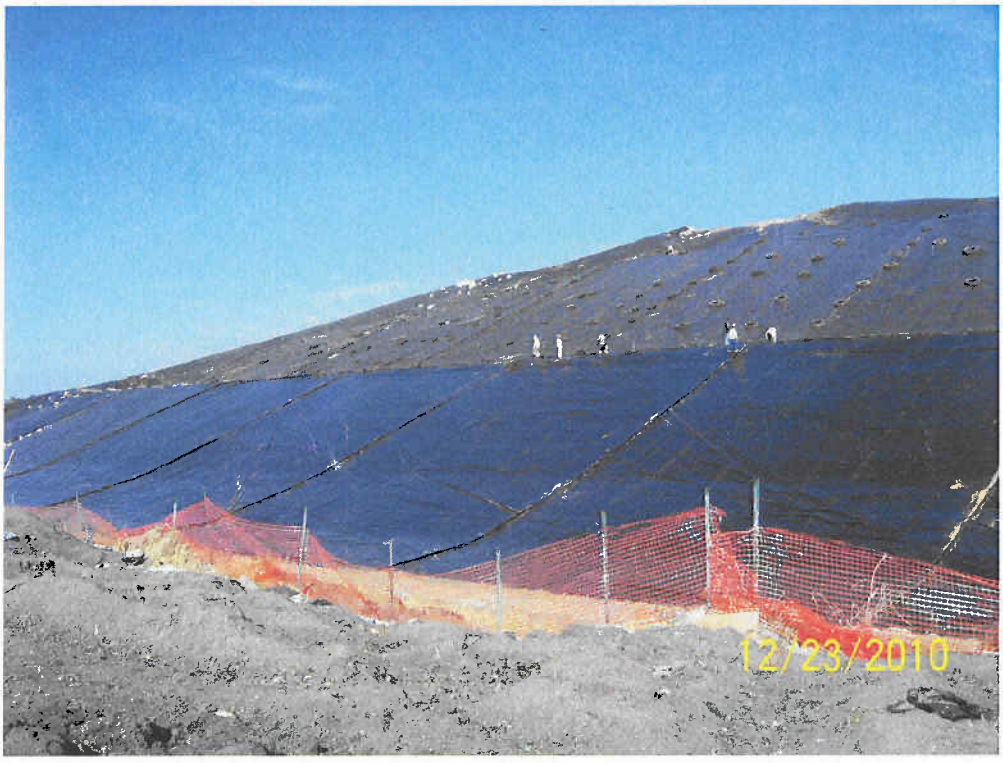
Hardee Closure 101_3576

Hardee Closure 101_3577

Hardee Closure 101_3580

Hardee Closure 101_3582

Hardee Closure 101_3583



Hardee Closure 101_3585

Hardee Closure 101_3586

Hardee Closure 101_3587

Hardee Closure 101_3589

Hardee Closure 101_3590

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SCS ENGINEERS

February 15, 2011
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 5 - January 15, 2011 to February 14, 2011
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from January 15, 2011 to February 14, 2011 and includes the following:

1. Updated construction schedule.
2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).
3. Weekly progress meeting minutes.
4. Problem or work deficiency meeting minutes.
5. A summary of submittals and change order requests.
6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 5 - January 15, 2011 to February 14, 2011 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued to ERC General Contracting Services, Inc. (ERC) by Hardee County on October 4, 2010.

2. The approved project schedule is as follows:

   a) South Slope Construction

   - Substantial Completion 120 Calendar Days from NTP - To February 1, 2011
   - Final Completion 145 Calendar Days from NTP - To February 26, 2011

   b) Remainder of Construction

   - Substantial Completion 180 Calendar Days from NTP - To April 2, 2011
   - Final Completion 210 Calendar Days from NTP - To May 2, 2011

3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. The stormwater downchute pipes have been installed.

2. The entire project area has been sodded.

3. The western sideslope of the project area was sodded as opposed to placement of the ConCover material based on a meeting that was conducted the application as proposed by the manufacturer would not work sufficiently to provide the required erosion prevention.

4. The western and northern stormwater swale was constructed and sodded.

5. Concrete rubble rip rap has been placed along the western stormwater flumes.

6. Concrete rubble rip rap has been placed along the access ramp stormwater swale as opposed to grout fill fabric formed revetment (GFFR) to eliminate possible future settlement and cracking issues with the GFFR.

7. Fine grading of the perimeter access roads is almost complete.

8. The access ramp has been revised to include the placement of asphalt which is scheduled for early next week.

9. Weekly Construction Progress Meeting No. 10, 11, 12 and 13 were conducted on January 14 and 21, 2011 and February 3 and 10, 2011.

10. Currently construction is anticipated to be fully completed by ERC approximately February 25, 2011. Therefore, an updated project schedule has not been provided.

CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Please refer to Attachment A for the following Weekly Construction Progress Meeting Summary Reports.

- Construction Progress Meeting Number 10 Minutes - January 14, 2011.
- Construction Progress Meeting Number 11 Minutes - January 21, 2011.
- Construction Progress Meeting Number 12 Minutes - February 3, 2011.
- Construction Progress Meeting Number 13 Minutes - February 10, 2011.

PHOTOGRAPHS

Please refer to Attachment B for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

JANUARY 14, 2011, 10:00 A.M.

PROGRESS MEETING NO. 10 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 10 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.10. The date is January 14, 2011 and the time is approximately 10:27 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard vpollard@embarqmail.com
Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 9 have been distributed.

b) Unfinished business

(1) None

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current or ahead of schedule.

(2) Sod is being installed on the west slope.

(3) Topsoil is continuing to be installed on the slopes.

b) Progress and work activity anticipated for January 15 - January 21, 2011.

(1) ERC expects to continue installing topsoil, complete moisture/density tests, install drain pipe and survey east slope.

c) ERC proposed working hours during this period

(1) ERC will work 6:30 a.m. to 5:30 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Haul trucks
- Surveyors
- Quality Turf

(2) Materials

- Sod

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) ERC is working on an updated project schedule.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 11 will be on site at the SCS field office trailer, January 21, 2011 at 10:00 am.

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

JANUARY 21, 2011, 10:00 A.M.

PROGRESS MEETING NO. 11 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 11 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.11. The date is January 21, 2011 and the time is approximately 10:21 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver	teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer	sfischer@scsengineers.com
Dennis DuPont	ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Vaden Pollard	vpollard@embarqmail.com
Jack Wiggins	ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 10 have been distributed.

b) Unfinished business

(1) NLS delivered drawing and information for the Phase 1 south section of the project.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current or ahead of schedule.

(2) Sod is being installed.

(3) Top soil is continuing to be installed on the slopes.

b) Progress and work activity anticipated for January 22 - January 28, 2011.

(1) ERC expects to continue installing top soil, sod and complete the flumes on the west slope.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 6:00 p.m.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Quality Turf

(2) Materials

- Sod

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) ERC is submitted photos, NLS information and a draft of pay application No. 4.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 12 will be on site at the SCS field office trailer, January 28, 2011 at 10:00 am.

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

FEBRUARY 3, 2011, 8:30 A.M.

PROGRESS MEETING NO. 12 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 12 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.12. The date is February 3, 2011 and the time is approximately 8:37 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 11 have been distributed.

b) Unfinished business

(1) None at this time.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is current or ahead of schedule.

b) Progress and work activity anticipated for February 4 - February 10, 2011.

(1) ERC expects to finish installing sod, installing the rip rap downchute along the access road and finish the discharge pipes.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 5:30 p.m., 4 days a week.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Quality Turf

(2) Materials

- Sod

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) Pay application No. 4 is being processed.

(2) ERC has submitted the request for substantial completion of the south slope.

(3) SCS has about ½ dozen submittals for review.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 13 will be on site at the SCS field office trailer, February 10, 2011 at 10:00 am.

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

FEBRUARY 10, 2011, 10:00 A.M.

PROGRESS MEETING NO. 13 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 13 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.13. The date is February 10, 2011 and the time is approximately 10:04 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 12 have been distributed.

b) Unfinished business

(1) None at this time.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is ahead of schedule.

b) Progress and work activity anticipated for February 11 - February 17, 2011.

(1) ERC expects to finish project except for the access road by February 17, 2011.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 5:30 p.m., 4 days a week.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Quality Turf

(2) Materials

- Sod

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) Draft of pay application No. 5 for review.

(2) SCS has about six submittals for review.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) SCS approval for material to be used on the access ramp.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 14 will be on site at the SCS field office trailer, February 17, 2011 at 10:00 am.

ATTACHMENT B

CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

Hardee County Class I Landfill
Phase I Closure Construction
Construction Permit Number 38414-012-SF/01
Monthly Progress Report No. 5 Photos - January 15, 2011 to February 14, 2011

File Name	Date	Description
Hardee Closure 100_3610	1/17/11	Southwest corner of project area looking northeast.
Hardee Closure 100_3611	1/17/11	West sideslope of project area looking northeast.
Hardee Closure 100_3612	1/18/11	East sideslope of project area looking west.
Hardee Closure 100_3613	1/18/11	East sideslope of project area looking west.
Hardee Closure 100_3614	1/18/11	Northeast corner of project area looking southwest.
Hardee Closure 100_3619	1/18/11	Southwest corner of project area looking northeast.
Hardee Closure 100_3621	1/20/11	Southwest corner of project area looking northeast.
Hardee Closure 100_3622	1/20/11	West sideslope of project area looking northeast.
Hardee Closure 100_3623	1/20/11	West sideslope of project area looking northeast.
Hardee Closure 100_3636	2/2/11	East sideslope of project area looking west.
Hardee Closure 100_3638	2/9/11	Southeast corner of project area looking northwest.
Hardee Closure 100_3641	2/9/11	Concrete rubble rip rap in stormwater swale along access ramp.

Hardee Closure 100_3610

Hardee Closure 100_3611

Hardee Closure 100_3612

Hardee Closure 100_3613

Hardee Closure 100_3614

Hardee Closure 100_3619

Hardee Closure 100_3621

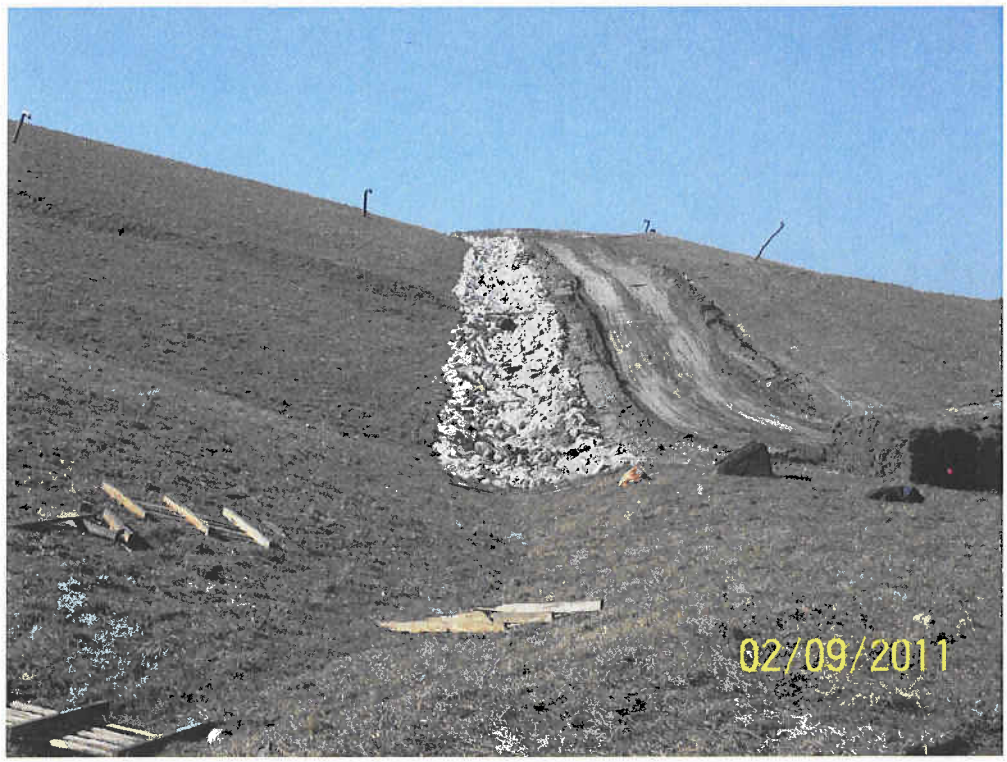
Hardee Closure 100_3622

Hardee Closure 100_3623

Hardee Closure 100_3636

Hardee Closure 100_3638

Hardee Closure 100_3641



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SCS ENGINEERS

March 15, 2011
File No. 09199033.21

MEMORANDUM

TO: Susan Pelz, P.E., Florida Department of Environmental Protection

FROM: Shane R. Fischer, P.E., Project Manager
C. Ed Hilton, P.E., Vice President

COPY: Teresa Carver, Hardee County Solid Waste Director

SUBJECT: Monthly Progress Report No. 6 - February 15, 2011 to March 14, 2011
Hardee County Class I Landfill
Phase I Closure Construction
Permit Number 38414-012-SF/01

In accordance with Specific Condition B.6.b of Construction Permit Number 38414-012-SF/01 for the Hardee County Class I Landfill Phase I Closure Construction, and on behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is providing the Monthly Progress Report for the above-referenced project. The Monthly Progress Report covers the time period from February 15, 2011 to March 14, 2011 and includes the following:

1. Updated construction schedule.
2. A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, liner penetrations, etc.).
3. Weekly progress meeting minutes.
4. Problem or work deficiency meeting minutes.
5. A summary of submittals and change order requests.
6. Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (i.e., bottom liner tie-ins, gas vent installation, etc.).

Please place this Monthly Progress Report No. 6 - February 15, 2011 to March 14, 2011 into the 3-ring project binder that was previously submitted to FDEP in October 2010.

PROJECT OVERVIEW/CHANGE ORDERS

1. Notice to Proceed was issued to ERC General Contracting Services, Inc. (ERC) by Hardee County on October 4, 2010.

2. The approved project schedule is as follows:

   a) South Slope Construction

   - Substantial Completion 120 Calendar Days from NTP - To February 1, 2011
   - Final Completion 145 Calendar Days from NTP - To February 26, 2011

   b) Remainder of Construction

   - Substantial Completion 180 Calendar Days from NTP - To April 2, 2011
   - Final Completion 210 Calendar Days from NTP - To May 2, 2011

3. No change orders have been processed for the project.

CONSTRUCTION ACTIVITIES/PROJECTED SCHEDULE

The following construction activities were conducted during the above-mentioned reporting period.

1. The stormwater downchute pipes installation was completed.

2. The entire project area has been sodded.

3. The western and northern stormwater swale was constructed and sodded.

4. Concrete rubble rip rap was placed along the access ramp stormwater swale as opposed to grout fill fabric formed revetment (GFFR) to eliminate possible future settlement and cracking issues with the GFFR.

5. Fine grading of the perimeter access roads was completed.

6. The access ramp was asphalt paved.

7. Weekly Construction Progress Meeting No. 14, 15 and 16 were conducted on February 17 and 24, 2011 and March 3, 2011.

8. A final walkthrough was conducted on March 10, 2011.

9. Construction has been fully completed by ERC and final submittals are being prepared, therefore, an updated project schedule has not been provided and this will be the last monthly report submitted.

CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

Please refer to Attachment A for the following Weekly Construction Progress Meeting Summary Reports.

- Construction Progress Meeting Number 14 Minutes - February 17, 2011.
- Construction Progress Meeting Number 15 Minutes - February 24, 2011.
- Construction Progress Meeting Number 16 Minutes - March 3, 2011.

PHOTOGRAPHS

Please refer to Attachment B for photographs that are representative of the construction activities conducted during the above-mentioned reporting period.

Please do not hesitate to call should you have any questions or require additional information.

ATTACHMENT A

WEEKLY CONSTRUCTION PROGRESS MEETING SUMMARY REPORTS

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

FEBRUARY 17, 2011, 10:00 A.M.

PROGRESS MEETING NO. 14 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 14 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Dennis DuPont (SCS) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.14. The date is February 17, 2011 and the time is approximately 10:09 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Joe Roman
David Rowe Jr.

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 13 have been distributed.

b) Unfinished business

(1) None at this time.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is ahead of schedule.

b) Progress and work activity anticipated for February 18 - February 24, 2011.

(1) ERC expects to have shell rock for the access road delivered Monday and the asphalt the following Monday.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 5:30 p.m., 4 days a week with the sod watering crew coming in as needed.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Trucks

(2) Materials

- Shell rock

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) SCS has about 6 submittals for review including a request for substantial completion of the south slope.

(2) ERC would follow up on obtaining all information from National Lining Systems and the final as-built survey once the asphalt and sod is in place.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 15 will be on site at the SCS field office trailer, February 24, 2011 at 10:00 am.

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SCS ENGINEERS

HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

FEBRUARY 24, 2011, 10:00 A.M.

PROGRESS MEETING NO. 15 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 15 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Teresa Carver (Hardee County) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No.15. The date is February 24, 2011 and the time is approximately 10:00 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

Teresa Carver teresa.carver@hardeecounty.net

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 14 have been distributed.

b) Unfinished business

(1) None at this time.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is ahead of schedule.

b) Progress and work activity anticipated for February 25 - March 3, 2011.

(1) ERC expects to have the asphalt paving for the access road completed.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 5:30 p.m., 4 days a week with the sod watering crew coming in as needed.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Trucks and paving company

(2) Materials

- Asphalt

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) SCS has about 6 submittals for review including a request for substantial completion of the south slope.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) Weekly Progress Meeting No. 16 will be on site at the SCS field office trailer, March 3, 2011 at 10:00 am.

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HARDEE COUNTY CLASS I LANDFILL
PHASE I CLOSURE
COUNTY PROJECT NUMBER SW-10-256
WEEKLY CONSTRUCTION PROGRESS MEETING
FILE NO. 09199033.21

MARCH 3, 2011, 10:00 A.M.

PROGRESS MEETING NO. 16 MINUTES

(Meeting will be audio recorded for the project record)

The following are the progress meeting minutes for Meeting No. 16 for the above-referenced project. The meeting minutes are SCS Engineers' (SCS) understanding of highlighted subjects discussed at the meeting. Should you require any additions or changes please notify SCS. If there is no response before the next scheduled meeting, the following minutes will be considered a permanent record along with the audio recording. The audio files will be on record at SCS and can be provided on request.

Dennis DuPont (SCS) opened the meeting stating: This is the Hardee County Class I Landfill Phase I Closure project Progress Meeting No. 16. The date is March 3, 2011 and the time is approximately 9:30 a.m. A sign in sheet is being passed around, everyone please sign-in.

1) List of Attendees

a) Hardee County

No representative.

b) SCS Engineers

Shane Fischer sfischer@scsengineers.com
Dennis DuPont ddupont@scsengineers.com

c) ERC General Contracting Services, Inc.

Jack Wiggins ERCJackW@AOL.com

2) Meeting Minutes

a) Minutes from Progress Meeting No. 15 have been distributed.

b) Unfinished business

(1) None at this time.

3) Project Schedule

a) Current progress as it relates to the approved project schedule.

(1) Progress is ahead of schedule.

b) Progress and work activity anticipated for March 4 - March 10, 2011.

(1) ERC expects to finalize any remaining punch list items.

c) ERC proposed working hours during this period

(1) ERC will work 7:00 a.m. to 5:30 p.m., 4 days a week with the sod watering crew coming in as needed.

d) Subcontractors and materials expected on site

(1) Subcontractors

- Sod

(2) Materials

- None at this time

4) Field Orders

a) None at this time.

5) Construction Conflicts

a) None at this time.

6) Contractor's Submittals Status

a) Shop Drawings

(1) None at this time.

b) Submittals

(1) SCS has returned all outstanding submittals and expects to sign off on requests for substantial completion.

c) RFI's

(1) None at this time.

7) Contractor Issues

a) None at this time.

8) County Issues

a) None at this time.

9) Consultant's Issues

a) None at this time.

10) Site Safety and Housekeeping

a) ERC is responsible for all site safety and housekeeping.

b) ERC conducts daily tail gate safety meetings.

11) Other Issues

a) This meeting ends the weekly progress meetings. Final completion would be approved upon receiving required surveys, warranties, etc.

ATTACHMENT B

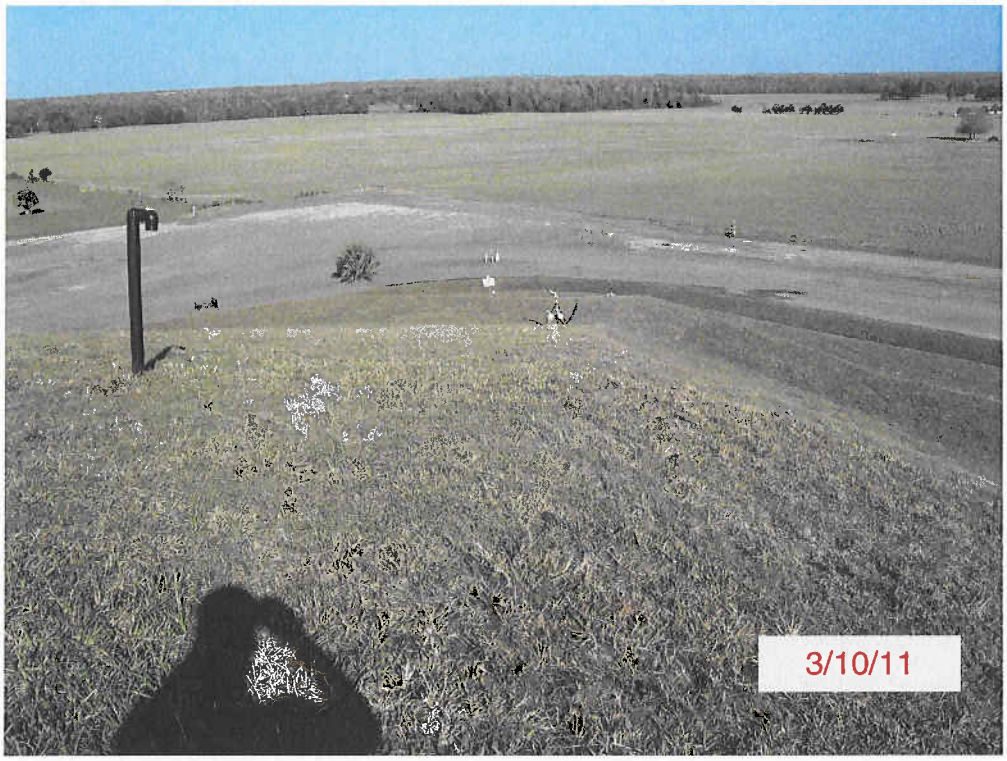
CONSTRUCTION PHOTOGRAPHS DURING REPORTING PERIOD

Hardee County Class I Landfill
Phase I Closure Construction
Construction Permit Number 38414-012-SF/01
Monthly Progress Report No. 6 Photos - February 15, 2011 to March 14, 2011

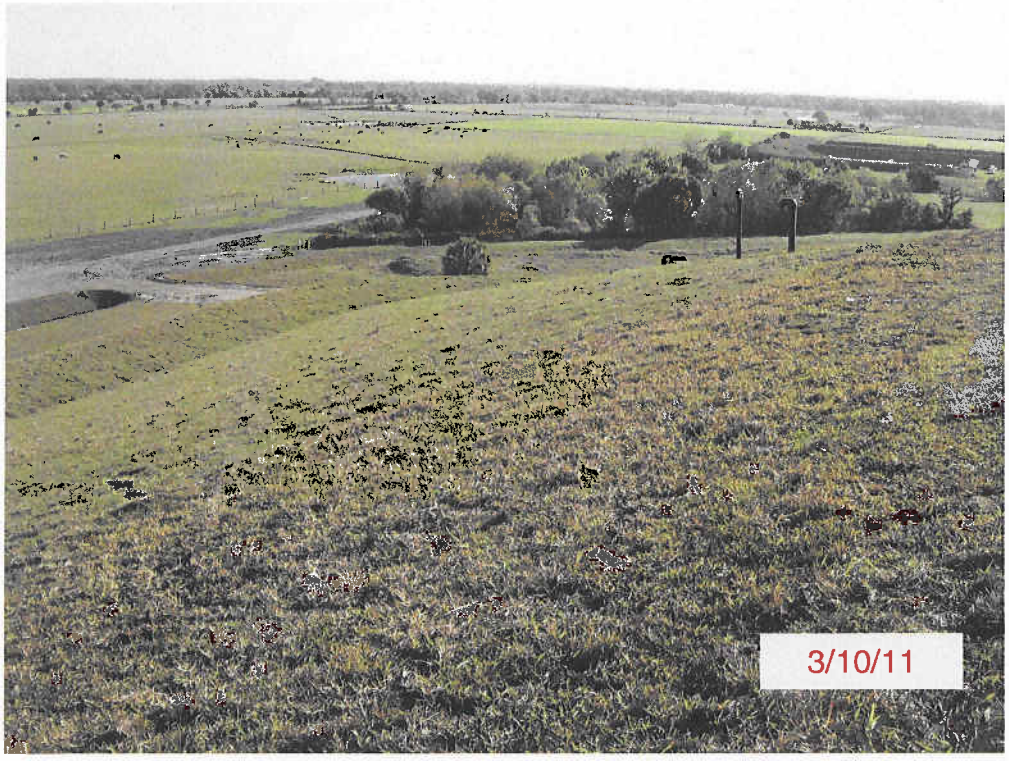
File Name	Date	Description
Hardee Closure 1	3/10/11	Northwest corner of project area looking northwest.
Hardee Closure 2	3/10/11	Northeast corner of project area looking northeast.
Hardee Closure 3	3/10/11	East sideslope of project area looking north.
Hardee Closure 4	3/10/11	Asphalt access ramp looking southeast.
Hardee Closure 5	3/10/11	West sideslope of project area looking west.
Hardee Closure 6	3/10/11	West sideslope of project area looking southwest.
Hardee Closure 7	3/10/11	North sideslope of project area looking west.
Hardee Closure 8	3/10/11	South sideslope of project area looking east.
Hardee Closure 9	3/10/11	South sideslope of project area looking east.
Hardee Closure 10	3/10/11	South sideslope of project area looking north.

Hardee County Class I Landfill
Phase I Closure Construction
Construction Permit Number 38414-012-SF/01
Monthly Progress Report No. 6 Photos - February 15, 2011 to March 14, 2011

Hardee Closure 1



Hardee Closure 2



Hardee Closure 3

Hardee Closure 4

Hardee Closure 5

Hardee Closure 6

Hardee Closure 7

Hardee Closure 8

Hardee Closure 9

Hardee Closure 10

SECTION 4 PRELIMINARY SITEWORK

4.1 PRECONSTRUCTION SURVEY

In accordance with the project technical specifications, a copy of the preconstruction topographic survey performed by Peavey is included as Attachment 2-1 (Sheet 1 of 5).

4.2 SUBBASE DENSITY TEST RESULTS

After the removal of unsuitable material, waste and site grading activities, and prior to installation of the HDPE and LLDPE, the subbase was constructed. Existing and general fill material from onsite was used to achieve the grades as shown on the construction drawings. Suitable subbase material for the Hardee County Class I Landfill Phase I included well-graded sand (SW), poorly graded sand (SP) and clayey sand (SC) as classified by the Unified Soil Classification System. Suitable soil materials were not excessively wet or dry and were required to achieve 95 percent of maximum dry density as determined by the Standard Proctor ASTM D698. The subbase was installed by ERC General Contracting Services, Inc. and compacted to the grades as shown on the construction drawings. The surface of the installed subbase was free of sticks, roots, organic matter and stones.

Universal conducted 78 in-place field density tests of the Hardee County Class I Landfill Phase I subbase. The Specifications required 4 tests per acre per lift for the initial 5 acres and 2 tests per acre per lift for each remaining acre for a total of 78 tests. A lift is equal to 1 foot of compacted thickness. In-place density tests performed by Universal for the cell subbase and surrounding perimeter embankment are identified in Attachment 4-1 of this section.

4.3 SUBBASE

Prior to deploying the HDPE and LLDPE , the SCS CQA representative and the liner installer NLS visually inspected the subbase to ensure it was smooth and free of rocks, sharp stones, sticks, roots, sharp objects, and debris. A Certificate of Subbase Acceptance form signed by the SCS CQA representative and NLS describing the area on which geomembrane was to be deployed is included in Attachment 4-2 of this section.

4.4 SUBBASE SURVEY

In accordance with the technical specifications, Peavey and Associates Surveying and Mapping completed a topographic survey of the accepted subbase prior to the installation of the HDPE and LLDPE. The Peavey subbase as-built topographic survey is contained in Attachment 2-1 (Sheet 2 of 5).

Attachment 4-1

Universal Density Testing Results

UNIVERSAL
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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 159118
Date: November 10, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 11-01-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	South splice 6 to 1 area, west end	104.6	105.0	13.0	14.3	99.6
2	South slope 6 to 1 area, center	106.3	105.0	13.0	12.9	101.3
3	South slope 6 to 1, east end	104.8	105.0	13.0	13.2	99.8
4	South slope bottom terrace, east end	105.3	105.0	13.0	10.6	100.2
5	South slope bottom terrace, center	108.2	105.0	13.0	10.8	103.0
6	South slope top terrace, west end	108.4	105.0	13.0	11.2	103.3

Technician: S. Scott

Email: Jack Wiggins - drjacky@aol.com

LINDSEY N. WEAVER LICENSE NO. 41790 STATE OF FLORIDA PROFESSIONAL ENGINEER

Lindsey N. Weaver, P.E. #41790

Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 159118
Date: November 10, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938 Date Tested: 11-01-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	South slope, top terrace, east end	107.5	105.0	13.0	11.8	99.5

Technician: S. Scott

Email: Jack Wiggins, PSM, LLC@aol.com

LINDSEY N. WEAVER LICENSE NO. 41790 STATE OF FLORIDA PROFESSIONAL ENGINEER

Lindsey N. Weaver, P.E. #41790

Gary D. Marler, Operations Manager
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118.110110.wpd

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 159808
Date: December 20, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade (Cover Grade)

Type of Test: ASTM D-6938 **Date Tested:** 12-13-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of road, west side	107.2	111.0	13.0	11.0	96.5
2	50' north of top, west side	107.8	111.0	13.0	11.2	97.1
3	Turn on west side, middle	108.6	111.0	13.0	10.8	97.8
4	West side road, 40' south of turn in road	109.0	111.0	13.0	11.8	98.1
5	West side road, 100' north of south end	108.4	111.0	13.0	12.0	97.6
6	West side road, 10' north of south end	109.2	111.0	13.0	12.2	98.3

Technician: S. Scott

Email: Jack Wiggins - etcjackw@aol.com

LINDSEY N. WEAVER
NO. 41790
STATE OF FLORIDA
REGISTERED PROFESSIONAL ENGINEER

Lindsey N. Weaver, P.E. #41790

808 121310 wpd

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UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 159809
Date: December 20, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

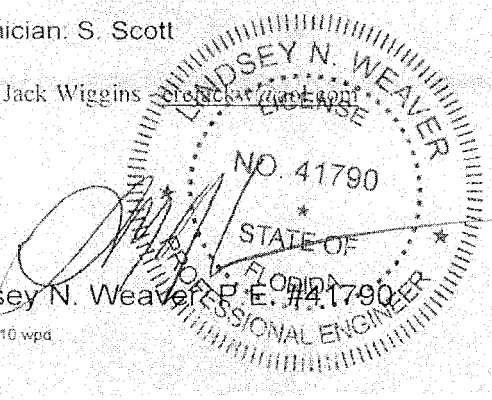
Type of Test: ASTM D-6938 **Date Tested:** 12-13-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	South end road final, southeast corner	108.2	111.0	13.0	11.2	97.4
2	South end road final, center	109.8	111.0	13.0	11.2	98.9
3	South end road final, southwest corner	108.6	111.0	13.0	11.8	97.8
4	South bottom slope, southeast corner	109.0	111.0	13.0	12.2	98.1
5	South bottom slope, center	110.2	111.0	13.0	12.0	99.2
6	South bottom slope, southwest corner	109.6	111.0	13.0	12.6	98.7

Technician: S. Scott

Email: Jack Wiggins <jack@universal.com>



Lindsey N. Weaver, P.E. #41790

809.121310.wpd

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Consultants In: Geotechnical Engineering • Environmental Sciences
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Project No.: 51934-002-01
Report No.: 160312
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Southwest top tier	102.7	105.0	11.0	8.8	97.8
2	Center top tier	100.6	105.0	11.0	9.6	95.8
3	Northwest top tier	101.2	105.0	11.0	9.8	96.3
4	Center level, top, northwest corner	102.4	105.0	11.0	7.3	97.6
5	Center level, top, center	101.7	105.0	11.0	8.9	96.9
6	Center level, top, southwest corner	102.8	105.0	11.0	8.8	97.9

Technician: S. Scott

Email: Jack Wiggins - erjackw@aol.com

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5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

Project No.: 51934-002-01
Report No.: 160312
Date: January 21, 2011

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Center level, middle, northwest corner	103.5	105.0	11.0	8.2	98.6
8	Center level, middle, center	100.4	105.0	11.0	9.8	95.7
9	Center level, middle, southwest corner	101.0	105.0	11.0	8.2	96.2
10	Lower level, top, southwest corner	102.4	105.0	11.0	8.8	97.5
11	Lower level, top, center	102.6	105.0	11.0	9.0	97.8
12	Lower level, top, northwest corner	103.1	105.0	11.0	9.6	98.2

Technician: S. Scott

Email: Jack Wiggins - crcjackw@aol.com

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5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

Project No.: 51934-002-01
Report No.: 160312
Date: January 21, 2011

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
13	Lower level, bottom, center	104.1	105.0	11.0	9.2	99.1
14	Lower level, bottom, northwest corner	100.5	105.0	11.0	8.8	95.7
15	Lower level, bottom, southwest corner	103.6	105.0	11.0	10.2	98.7

Technician: S. Scott

Email: Jack Wiggins - erojackw@aol.com

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Gary D. Marler, Operations Manager
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• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 160310
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm (North Side)

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-10-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Northwest corner, lower tier	105.9	105.0	11.0	14.2	100.9
2	North side center, lower tier	103.7	105.0	11.0	15.9	98.7
3	Northeast corner, lower tier	104.8	105.0	11.0	13.4	99.8
4	Top lower tier, northwest corner	102.6	105.0	11.0	14.2	97.7
5	Top lower tier, center	101.5	105.0	11.0	12.4	96.7
6	Top lower tier, northeast corner	101.4	105.0	11.0	16.9	96.6

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

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Project No.: 51934-002-01
Report No.: 160310
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm (North Side)

Course: Final Grade

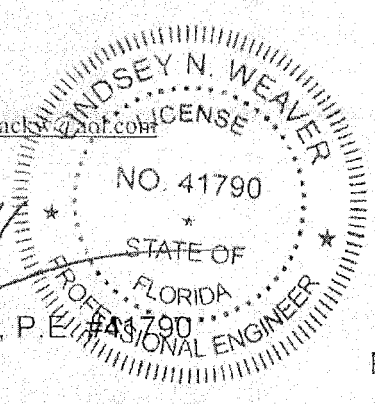
Type of Test: ASTM D-6938 **Date Tested:** 1-10-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Top tier, northwest corner	103.9	105.0	11.0	15.4	99.0
8	Top tier, center	106.4	105.0	11.0	15.7	101.4
9	Top tier, northeast corner	104.3	105.0	11.0	16.0	99.4
10	Middle of lower tier, center, 20' from top	103.7	105.0	11.0	13.2	98.7

Technician: S. Scott

Email: Jack Wiggins - ercjack@aol.com



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Project No.: 51934-002-01
Report No.: 160314
Date: January 21, 2011

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

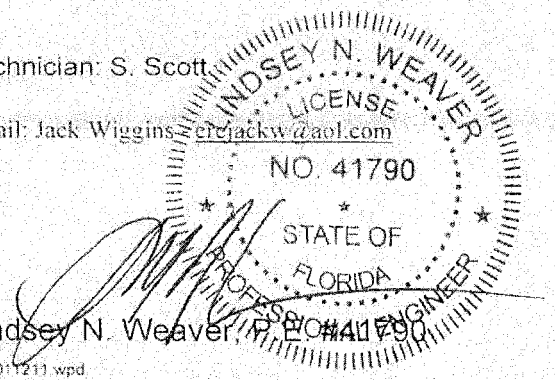
Type of Test: ASTM D-6938 **Date Tested:** 1-12-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Northeast lower terrace, south end	106.2	111.0	13.0	12.2	95.6
2	Northeast lower terrace, center	107.0	111.0	13.0	13.0	96.3
3	Northeast lower terrace, north end	106.5	111.0	13.0	13.6	95.9
4	Lower terrace, northeast corner	105.9	111.0	13.0	12.8	95..4
5	Center of lower terrace, northeast terrace	106.1	111.0	13.0	13.0	95.5
6	Northeast upper terrace, northeast corner	106.4	111.0	13.0	13.6	95.8

Technician: S. Scott

Email: Jack Wiggins ercjackw@aol.com



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• Construction Materials Testing • Private Provider & Threshold Inspections

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

Project No.: 51934-002-01
Report No.: 160314
Date: January 21, 2011

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-12-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Northeast upper terrace, north end	105.5	111.0	13.0	13.5	95.0
8	Northeast upper terrace, middle	106.2	111.0	13.0	12.3	95.6
9	Northeast upper terrace, south end	106.8	111.0	13.0	13.0	95.9
10	Northeast upper terrace, southeast corner	105.8	111.0	13.0	13.6	95.3

Technician: S. Scott

Email: Jack Wiggins - erchw@aol.com

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Project No.: 51934-002-01
Report No.: 160316
Date: January 21, 2011

REPORT ON
IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm Cover

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-14-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Southeast lower terrace, bottom center	105.8	111.0	14.0	14.4	95.3
2	Southeast lower terrace, top center	106.2	111.0	14.0	14.8	95.6
3	Southeast upper terrace, bottom center	108.6	111.0	14.0	15.2	97.9
4	Southeast upper terrace, top center	108.0	111.0	14.0	15.8	97.2
5	East side top, north end	109.3	111.0	14.0	14.2	98.4
6	East side top, middle	108.8	111.0	14.0	15.2	98.0

Technician: S. Scott

Email: Jack Wiggins - crejackw@aol.com

LINDSEY N. WEAVER LICENSE NO. 41790 STATE OF FLORIDA PROFESSIONAL ENGINEER

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UNIVERSAL
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Project No.: 51934-002-01
Report No.: 160316
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm Cover

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 1-14-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	East side top, south end	109.6	111.0	14.0	14.8	98.7
8	East side middle terrace, south end	107.2	111.0	14.0	15.2	96.5
9	East side middle terrace, north end	107.8	111.0	14.0	16.0	97.1
10	East side lower terrace, north end	108.8	111.0	14.0	15.6	98.0
11	East side lower terrace, center	107.8	111.0	14.0	14.8	97.1
12	East side lower terrace, south end	108.2	111.0	14.0	15.6	97.4

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

LINDSEY N. WEAVER LICENSE NO. 41790 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Project No.: 51934-002-01
Report No.: 161043
Date: February 24, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Stabilized Subgrade for Access Road

Course: Stabilized Subgrade

Type of Test: ASTM D-6938 **Date Tested:** 2-16-11

Remarks: The tests below DO meet the minimum 98% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of Access Road, 20' from top	111.3	111.0	13.0	9.2	100.2
2	Top of Access Road, 120' from top	109.8	111.0	13.0	9.8	98.9
3	Top of Access Road, 220' from top	114.4	111.0	13.0	9.8	103.1
4	Top of Access Road, 250' from top	112.7	111.0	13.0	10.2	101.5
5	Top of Access Road, 150' from bottom	109.5	111.0	13.0	10.0	98.6
6	Bottom of Access Road, 10' from bottom	111.3	111.0	13.0	12.6	100.3

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

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Project No.: 51934-002-01
Report No.: 161254
Date: March 8, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Base for Access Road

Course: Final Grade

Type of Test: ASTM D-6938 **Date Tested:** 2-24-11

Remarks: The tests below DO meet the minimum 98% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of access road	122.6	125.0	11.0	11.8	98.0
2	100' from top of road	123.5	125.0	11.0	12.0	98.8
3	200' from top of road	124.8	125.0	11.0	12.2	99.9
4	175' from bottom of road	125.2	125.0	11.0	12.4	100.0
5	100' from bottom of road	126.3	125.0	11.0	12.3	101.0
6	Bottom of access road	124.4	125.0	11.0	11.8	99.5

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

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Attachment 4-2

Certificate of Subbase Acceptance Form

SCS ENGINEERS

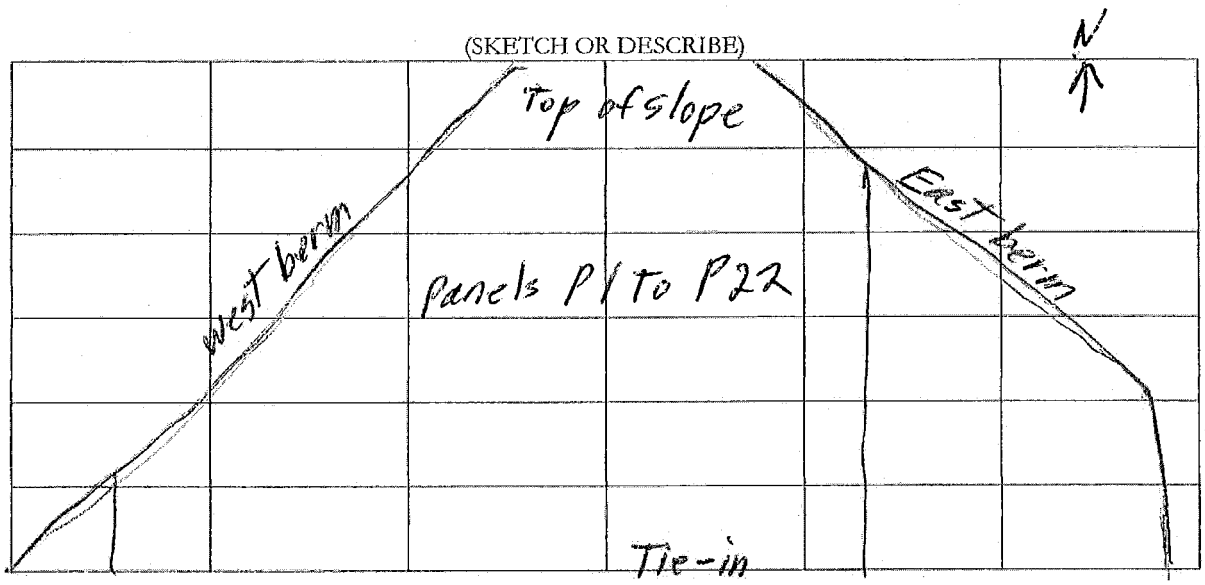
CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	National Lining Systems, Inc.	**Project name:**	Hardee County Landfill
			Phase I Closure
Address:	16970-3 San Carlos Blvd.	**Project location:**	Hardee County Landfill
	Suite 191		685 Airport Road
	Ft Myers, FL 33908		Wauchula, Florida 33873
		Owner:	Hardee County

I, THE UNDERSIGNED, DULY AUTHORIZED REPRESENTATIVE OF _____
(Geosynthetic Installer)

DO HEREBY ACCEPT THE AREA OF SOIL SURFACE AS DESCRIBED BELOW.

(SKETCH OR DESCRIBE)



Acceptance of the soil surface for which the geomembrane will be placed is based upon visual observations. Acceptance of the subbase surface considers that at the time the geomembrane is placed, the structure of the underlying soil surface, which is the responsibility of others, meets or exceeds the project specifications.

Khamkhoun (Tui) Thayaravah — NAME
Superintendent — TITLE
SIGNATURE
11-23-10 — DATE

Certification received by SCS

Dennis G. DuPont — NAME
Senior Technician — TITLE
Dennis G. DuPont — SIGNATURE
11-23-10 — DATE

SCS ENGINEERS

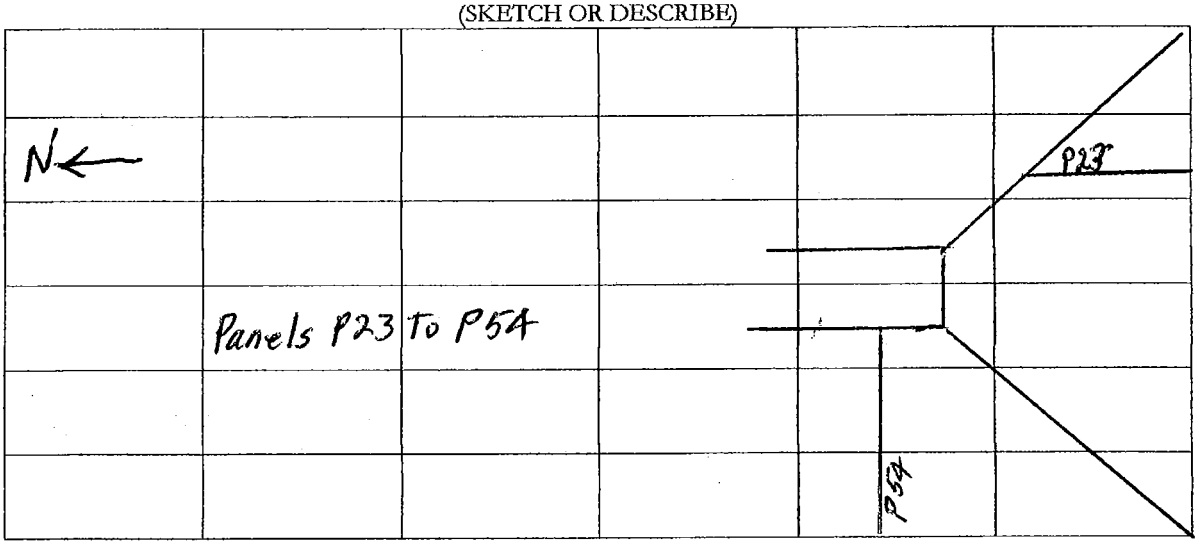
CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

I, THE UNDERSIGNED, DULY AUTHORIZED REPRESENTATIVE OF _____
(Geosynthetic Installer)

DO HEREBY ACCEPT THE AREA OF SOIL SURFACE AS DESCRIBED BELOW.

(SKETCH OR DESCRIBE)



Acceptance of the soil surface for which the geomembrane will be placed is based upon visual observations. Acceptance of the subbase surface considers that at the time the geomembrane is placed, the structure of the underlying soil surface, which is the responsibility of others, meets or exceeds the project specifications.

VEGAS VONGSAVATH — NAME
Superintendent — TITLE
SIGNATURE
11-24-10 — DATE

Certification received by SCS

Dennis G. DuPont — NAME
Senior Technician — TITLE
Dennis G. DuPont — SIGNATURE
11-24-10 — DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

I, THE UNDERSIGNED, DULY AUTHORIZED REPRESENTATIVE OF _____
(Geosynthetic Installer)

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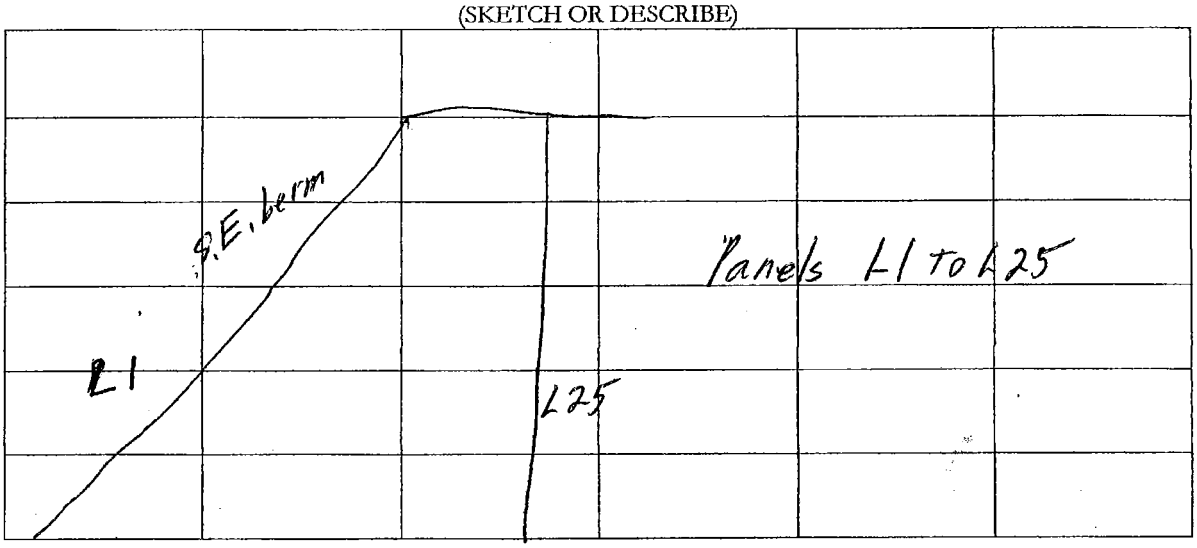
(SKETCH OR DESCRIBE)



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VEGAS VONGSANITH	Superintendent
NAME	TITLE
SIGNATURE	11-26-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
SIGNATURE	11-26-10
	DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

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			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

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(Geosynthetic Installer)

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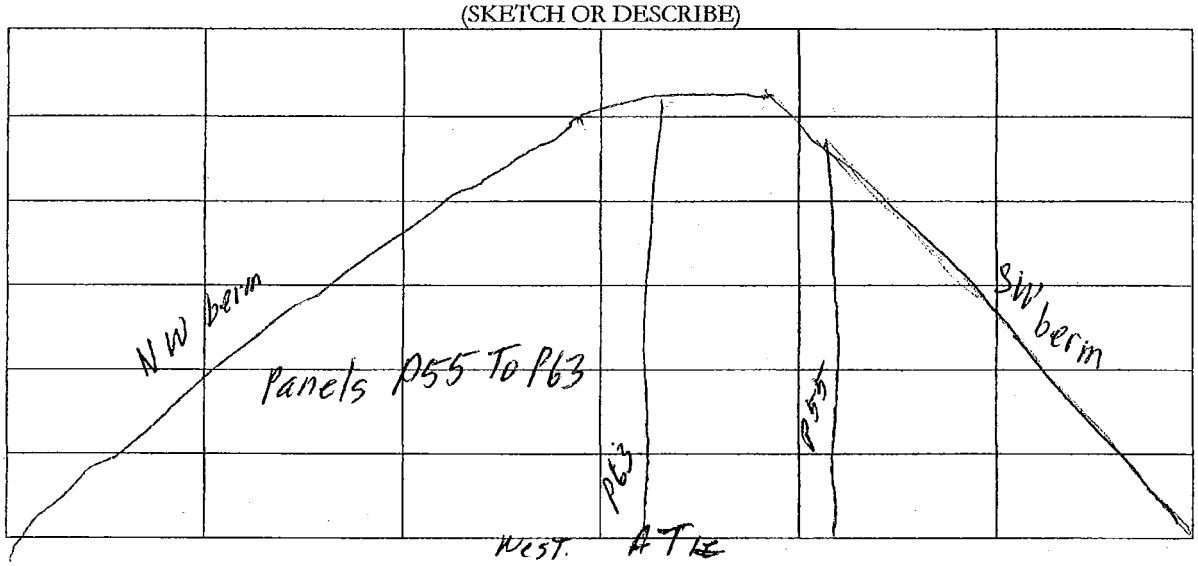

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VEGAS VONGSANITH	Superintendent
NAME	TITLE
SIGNATURE	11-29-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
Dennis G. DuPont	11-29-10
SIGNATURE	DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

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			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

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(Geosynthetic Installer)

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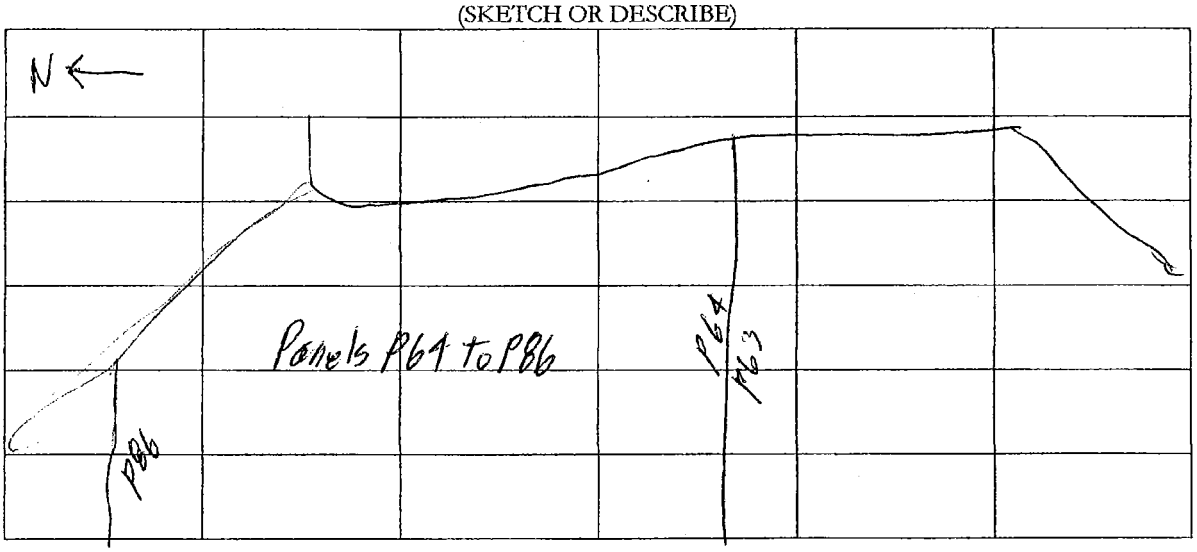

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BERAS VONGSANITH	Superintendent 12-1-1
NAME	TITLE
SIGNATURE	12-1-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
Dennis G. DuPont	12-1-10
SIGNATURE	DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

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(Geosynthetic Installer)

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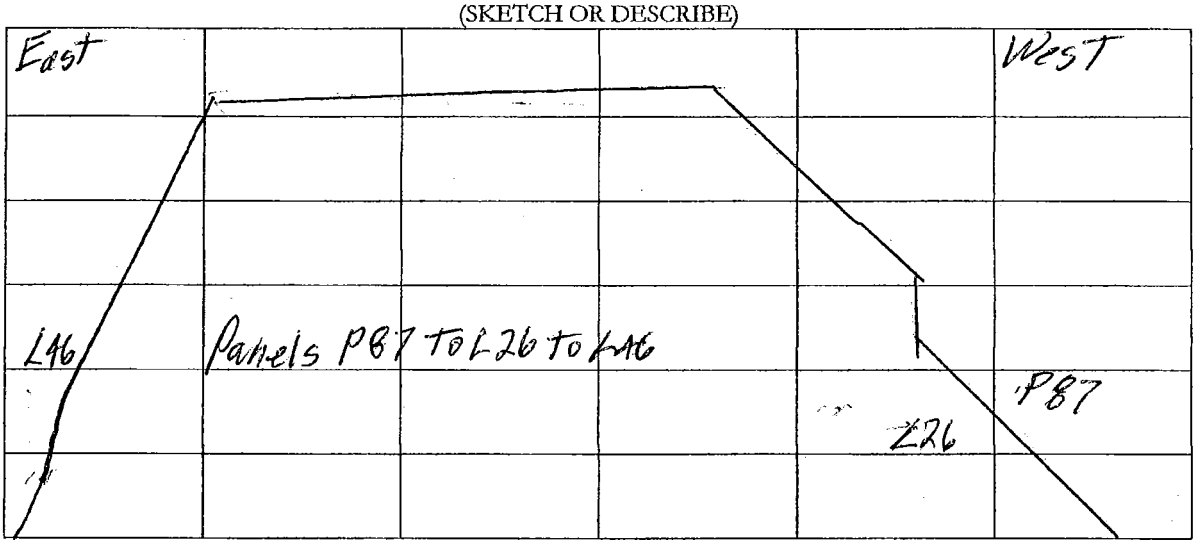

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Khamkhoun Thayavanh	Superintendent
NAME	TITLE
SIGNATURE	12-6-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
SIGNATURE	12-6-10
	DATE

SCS ENGINEERS

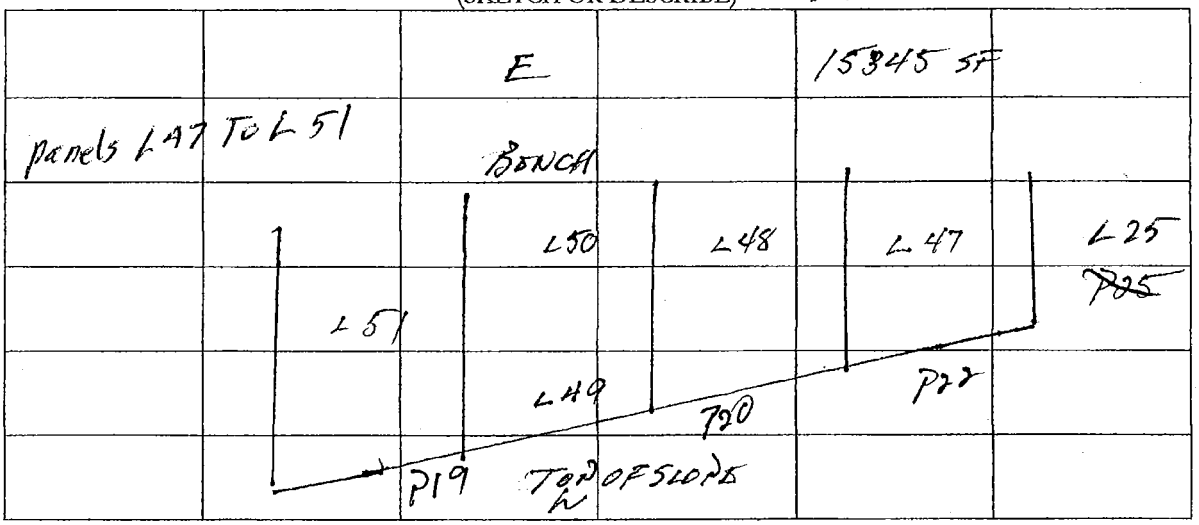
CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
			Phase I Closure
Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
	Suite 191		**685 Airport Road**
	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

I, THE UNDERSIGNED, DULY AUTHORIZED REPRESENTATIVE OF _____
(Geosynthetic Installer)

DO HEREBY ACCEPT THE AREA OF SOIL SURFACE AS DESCRIBED BELOW.

(SKETCH OR DESCRIBE) L47 - 51



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VEGAS JONGSANTH	Superintendent
NAME	TITLE
SIGNATURE	12-11-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
Dennis G. DuPont	12-11-10
SIGNATURE	DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
			Phase I Closure
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	Ft Myers, FL 33908		**Wauchula, Florida 33873**
		Owner:	**Hardee County**

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(Geosynthetic Installer)

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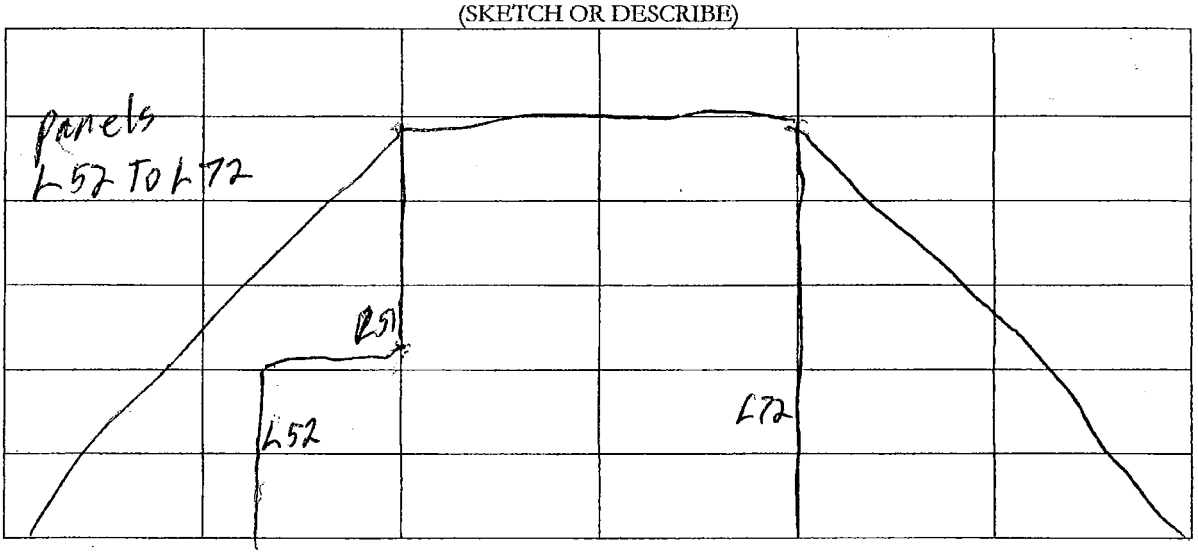
(SKETCH OR DESCRIBE)



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VEGAS VONESTRETA	Superintendent
NAME	TITLE
SIGNATURE	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
Dennis G. DuPont	12-15-10
SIGNATURE	DATE

SCS ENGINEERS

CERTIFICATE OF SUBBASE ACCEPTANCE

Installer:	**National Lining Systems, Inc.**	**Project name:**	**Hardee County Landfill**
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Address:	**16970-3 San Carlos Blvd.**	**Project location:**	**Hardee County Landfill**
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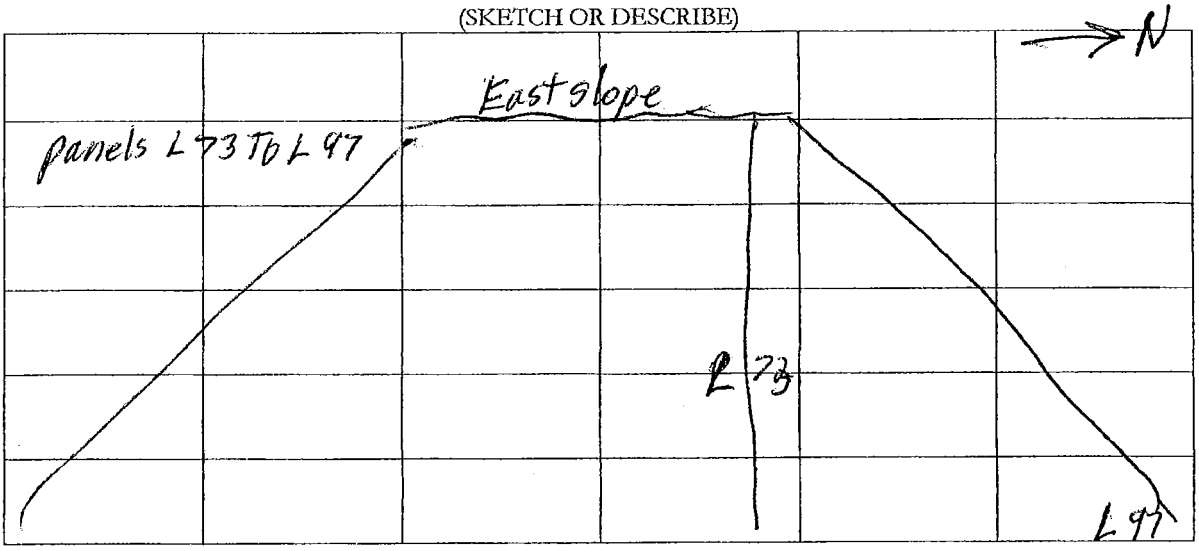

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VERN JONES ANDTH	Superintendent
NAME	TITLE
SIGNATURE	12-16-10
	DATE

Certification received by SCS

Dennis G. DuPont	Senior Technician
NAME	TITLE
Dennis G. DuPont	12-16-10
SIGNATURE	DATE

SECTION 5 GEOMEMBRANE INSTALLATION REPORT

5.1 REQUIREMENTS AND SPECIFICATIONS

This section compiles the daily construction activities related to the installation of the 40 mil textured linear low-density polyethylene (LLDPE) geomembrane and the 60 mil textured high density polyethylene (HDPE) geomembrane for the Landfill Closure. The 40 mil textured LLDPE and 60 mil textured HDPE geomembrane were manufactured by SKAPS Industries.

The SCS CQA representative was on site full-time to observe construction activities during the geomembrane liner system installation in accordance with FDEP rules. The SCS CQA representative documented weather, construction and installation techniques, non-destructive and destructive geomembrane testing and geomembrane repairs. In addition, materials conformance testing was performed to assure compliance with the project technical specifications.

Field activities, as previously mentioned, were recorded in SCS Daily Field Reports prepared by the SCS CQA representative located in Attachment 3-1 of this report. In addition to the SCS Daily Field Reports as required by the technical specifications, panel repair reports, material testing logs, and geomembrane seam test results were also used to document the installation of the geomembrane.

The SCS CQA representative was responsible for:

- Reviewing the applicable plans and written material prior to the start of construction.
- Monitoring the essential procedures of the geomembrane installation such as:

    1. Subbase acceptance
    2. Geomembrane panel placement
    3. Geomembrane repair
    4. Geomembrane seaming
    5. Geomembrane seam repair
    6. Geomembrane non-destructive testing
    7. Geomembrane destructive test sampling

- Recording the repairs and destructive sample test locations.

5.2 INSTALLATION SUMMARY

ERC was responsible for preparing the subbase. Upon acceptance of the subbase by the SCS CQA representative and the liner installer (ERC), the geosynthetic liner system was installed by ERC.

ERC began deployment of the geomembrane on November 22, 2010. Geomembrane panels were deployed and numbered sequentially as placed. The progression of the work can be determined from the field logs and as-built layout drawings located in Attachment 5-1.

It is the professional opinion of SCS that the liner system was installed in substantial accordance with the project technical specifications and meets or exceeds the design requirements. Table 3 and 4 provided below are tabulated summaries of the installation for the geosynthetics for the liner system for the Closure.

Table 3 40 mil Geomembrane Installation Summary

Liner System Description	Installed Square Footage [1]	Start Date	Completion Date
Closure Geomembrane	321,376	11/24/2010	12/15/2010

Notes:
1. Installed square footage based upon SCS field measurements.

Table 4 60 mil Geomembrane Installation Summary

Liner System Description	Installed Square Footage [1]	Start Date	Completion Date
Closure Geomembrane	345,386.5	11/22/2010	12/03/2010

Notes:
1. Installed square footage based upon SCS field measurements.

5.3 DAILY FIELD REPORT

Geomembrane installation activities were recorded in SCS Daily Field Reports prepared by the SCS CQA representative as previously mentioned that are contained in Attachment 3-1 of this report. The SCS Daily Field Reports were signed and dated at the end of each day by the SCS CQA representative. The SCS Daily Field Reports also contain general information such as weather conditions, potential conflicts pertinent to material installation, etc.

5.4 GEOMEMBRANE PLACEMENT

Geomembrane panels were placed one at a time and temporarily secured along the edges with sand bags to prevent uplift by the wind. Adjacent panels were deployed and adjusted prior to seaming. Upon deployment, individual panels were assigned sequential panel numbers. Panel numbers, with the corresponding manufacturer's geomembrane roll numbers, were marked on the panels and recorded on the Geomembrane Placement Log. Please refer to Attachment 5-2 and 5-3 of this section for the 40 mil and 60 mil SCS Geomembrane Placement Logs. The SCS CQA representative recorded on the Geomembrane Placement Log the following information for each panel:

- Location, orientation, and length of the panel.

- Date of installation.
- Panel number (identification code) with alpha prefix (L - 40 mil LLDPE or P - 60 mil HDPE).
- Originating manufacturer's geomembrane roll number.

5.5 TRIAL WELDS

As required by the contract technical specifications, the equipment used to fusion and extrusion weld the geomembrane seams each day were pre-heated and tested prior to use on the liner system and one trial completed at mid shift. Each seaming crew was required to cut four, one inch wide by six inch long test strips from each trial weld. The seaming crew adjusted equipment temperatures to compensate for varying weather and seaming conditions. Hot wedge welding machines were generally set at speeds of 6.5 to 12.0 and a temperature of 750 degrees Fahrenheit. Extrusion welders were generally set around 450 degrees Fahrenheit.

Specimens were quantitatively tested for peel adhesion and then for shear strength. The 40 mil geomembrane trial welds were required to meet or exceed the minimum requirements of peel strength of 48 psi for extrusion and 50 psi for fusion welded seams with a minimum of 60 psi for shear strength. The 60 mil geomembrane trial welds were required to meet or exceed the minimum requirements of peel strength of 78 psi for extrusion and 98 psi for fusion welded seams with a minimum of 120 psi for shear strength.

Please refer to Attachments 5-4 of this section for the SCS Trial Weld Logs.

5.6 GEOMEMBRANE SEAMING

Adjoining panels were aligned to maintain the specified minimum four-inch overlap for extrusion welding and six-inch overlap for fusion welding. Once the panels were aligned, excess moisture and dirt were removed from the edges to be seamed. As the NLS seaming crews progressed, wrinkles were removed from the geomembrane. Upon completion of the seaming operation, the seams were pressure-tested with compressed air in accordance with the methods described in Section 5.8 and destructive samples were taken in accordance with Section 5.9.

Fusion and extrusion welded seams continued the entire length of the panels to include the seam that extends into the geomembrane anchor trench. Any portion of the seam that was observed to be damaged or inadequate was repaired by patching, cap stripping, or extrusion welding the defective portion of the seam. The methods of repair are described in Section 5.7.

Observation activities carried out by the SCS CQA representative during seaming operations are documented in the SCS Geomembrane Seaming Logs and the SCS Geomembrane Repair Logs of this section. Please refer to Attachments 5-5 of this section for the SCS Geomembrane Seaming Logs. Please refer to Attachments 5-6 of this section for the SCS Geomembrane Repair Log. Observations include:

- Seam numbers.
- Welder's name and machine number.
- Welding machine speed and temperature.
- Marked and documented locations of seam repairs.

5.7 SEAM AND PANEL REPAIRS

Patching was used for small repairs. Patches consisted of round or oval in shape of the same geomembrane large enough to cover 6 inches beyond the edges of the defect. All patches were of the same compound and thickness as the geomembrane specified. All patches were to have their top beveled with an angle grinder prior to placement on the geomembrane.

Abrading and re-welding was to be used to repair short sections of a seam. Spot welding was to be used to repair pinholes or other minor, localized flaws or where the geomembrane thickness has been reduced. Capping was used to repair long lengths of such as failed seams where the unacceptable seam was removed and replaced with new material. Those areas of seams not passing air testing or destructive sampling were repaired by cap stripping. The patches were heat sealed and extrusion welded as previously noted. All repair areas and extrusion welds were tested in accordance with Section 5.8.

Repairs were inspected by both the NLS CQC representative and the SCS CQA representative. Repair activities were documented in the previously mentioned SCS Geomembrane Repair Log provided in Attachment 5-6 of this section.

5.8 NON-DESTRUCTIVE SEAM TESTING

A non-destructive test was conducted on the entire length of each seam. This project utilized a split wedge, fusion welder. The split wedge welder formed an air channel between the two welds, which allowed for non-destructive air pressure tests to verify the integrity of the seam. Air pressure tests were conducted by initially sealing each end of the air channel. The air channel was pressurized from 25 to 30 pounds per square inch (psi) with an air pump. Once the pressure in the air channel stabilized, the time was noted. The test was conducted for five minutes and a drop of 2 psi was permitted for the seam to pass. When five minutes had passed, the air channel at the far end of the seam was lanced. A smooth and steady drop in pressure indicated that the entire air channel in the seam had been tested.

Extrusion welds were tested by the vacuum box method. A soapy solution was applied to the extruded weld. The vacuum box was placed over the wetted area and a vacuum of 5 psi was held for 10 seconds. Any leaks in the weld were detected by air bubbles escaping from the weld and were subsequently repaired and retested.

All non-destructive tests were observed and documented by the SCS CQA representative as provided in the SCS Non-Destructive Test Log included as Attachment 5-7 of this section.

5.9 DESTRUCTIVE SEAM SAMPLE TESTING

Destructive test samples were cut at a frequency of one test per approximately 500 lineal feet of seam. A total of 69 seam samples were cut and tested by SCS. Sample locations were chosen and marked by the SCS CQA representative and cut by NLS's CQC representative. The samples were marked for identification. The description included confirmation as to liner, a sequential sample number, cut location, panels included in the sample, date seamed, and machine number. Each QA sample was sent to TRI via a courier for testing. NLS's samples were tested on site by the NLS CQC representative. Defects in the geomembrane seam indicated by the destructive test sampling were immediately repaired in accordance with Section 5.7. TRI destructive test results were transmitted to the SCS Field Office on site for relay to NLS.

The size of the destructive sample was approximately 12 inches by 42 inches, with the seam centered lengthwise. A 12-inch by 14-inch field sample was cut and tested for shear and peel strength by the NLS CQC representative. The destructive samples were tested for compliance with the project specifications at the site using a field tensiometer supplied by NLS. Ten one-inch wide specimens were cut from each welded seam. The 40 mil geomembrane welded seams were required to meet or exceed the minimum requirements of peel strength of 48 psi for extrusion and 50 psi for fusion welded seams with a minimum of 60 psi for shear strength. The 60 mil geomembrane welded seams were required to meet or exceed the minimum requirements of peel strength of 78 psi for extrusion and 98 psi for fusion welded seams with a minimum of 120 psi for shear strength. If the sample passed, a 12-inch by 14-inch sample was forwarded to TRI for testing. The remaining 12-inch by 14-inch sample was retained by the Owner for archive storage. Locations of each destructive sample are shown in the as-built panel layout drawing included in Attachment 5-1 for the geomembrane of this section. The results of the destructive samples are discussed in Section 5.11.

5.10 DESTRUCTIVE SEAM SAMPLE LABORATORY TESTING PROCEDURES

Destructive seam samples were sent to the TRI testing laboratory in Austin, Texas. TRI performed shear tests to measure strength and peel tests to measure adhesion. Testing was conducted in accordance to ASTM D6392. Five specimens from each destructive sample for each test (shear and peel) were conducted for conformance. SCS required five out of five specimens on each test to meet the minimum acceptable project specifications. The 40 mil geomembrane seams were required to meet or exceed the minimum requirements of peel strength of 48 psi for extrusion and 50 psi for fusion welded seams with a minimum of 60 psi for shear strength. The 60 mil geomembrane welded seams were required to meet or exceed the minimum requirements of peel strength of 78 psi for extrusion and 98 psi for fusion welded seams with a minimum of 120 psi for shear strength. In the occasion of a failed test, the installer traced a welding path to an intermediate location at 10 feet, minimum, from the location of the failed test in each direction, and take a specimen for an additional field test at each location. When the additional specimens pass the test, then the laboratory samples were taken. When the laboratory samples pass the test, then a seam was constructed between the locations.

5.11 DESTRUCTIVE SEAM SAMPLE TEST RESULTS

The CQA results of the destructive seam sample tests from the geomembrane seams conducted by TRI are contained in Attachments 5-9 and 5-10 of this section. All destructive tests were observed and documented by the SCS CQA representative as provided in the SCS Destructive Seam Test Results included in Attachment 5-8 of this section.

5.12 GEOMEMBRANE MANUFACTURER QUALITY ASSURANCE

As part of the project technical specifications the manufacturer of the geomembrane, SKAPS, was required to perform initial quality control tests on the geomembrane prior to delivery to the project site. The Manufacturer Quality Control (MQC) tests were conducted by SKAPS at the factory at a minimum frequency of one test per every 50,000 square feet of geomembrane produced. The MQC certificates, which contain the results for geomembrane tests, are included in Attachments 5-11 and 5-12 of this section.

5.13 CONFORMANCE TESTING

The geomembrane delivered for installation was randomly sampled to verify conformance with the project technical specifications. Samples were obtained across the entire width of the geomembrane roll. The machine direction from the manufacturing process of the geomembrane was indicated on the samples for proper orientation of the testing equipment. The samples were sent to TRI for conformance testing.

The geomembrane rolls were divided into groups of material produced from similar railcar loads of resin or production dates. Conformance samples were selected so as to be representative of the installed materials. Conformance samples were removed from the geomembrane rolls prior to installation. The samples were required to meet or exceed the project technical specifications.

As shown in Tables 5 and 6 below, the manufacturer and independent conformance tests conducted by TRI indicate that the geomembrane meets or exceeds the project technical specifications. The results of the SCS CQA geomembrane conformance tests are contained in Attachment 5-13 and 5-14 of this section.

Table 5 Comparison of the 40 mil Geomembrane Properties for the Hardee County Class I Landfill Phase I Closure

Parameter	Specification	MQC Test Results[1]	CQA Test Results[2]
Thickness, mils	40 mil avg - 5%	40-43	41 - 42
Asperity Height, min	10 mil	25-29 27-32	30 - 32 25 - 30
Density, g/cm^3	<0.940* >0.900	.935-.938	0.933 - 0.934

Carbon Black Content, %	2.0 - 3.0	2.05- 2.44	2.47 - 2.59
Carbon Black Dispersion	Category 1or 2 In 9 of 10	All Cat 1	All Cat 1
Tensile • Break Stress, lb/in • Break Elongation, %	 60 lb/in 250%	 128 - 139 512.8 – 559.9	 134 - 144 471 - 517

*There was a typographical error in the specifications for the density requirement and after discussion with the Department the required Density was revised from >0.939 g/cm^3

Notes:
1. Range of factory test results from Manufacturer's Certificates (SKAPS).
2. Range of average values from independent testing laboratory (TRI/Environmental).

Table 6 Comparison of Geomembrane Properties for the Hardee County Class I Landfill Phase I Closure

Parameter	Specification	MQC Test Results[1]	CQA Test Results[2]
Thickness, mils	60 mil avg + or - 5%	60 - 65	63 – 65
Carbon Content, %	2.0 - 3.0	2.06- 2.53	2.47 - 2.59
Density, g/cm^3	>0.940	0.945 - 0.947	0.944 - 0.946
Carbon Dispersion, Category	1 or 2	All Cat 1	All Cat 1
Tensile • Break Stress, lb/in • Break Elongation, %	 90 200	 169 - 209 446.0 – 491.1	 190 - 203 415 – 438

Notes:
1. Range of factory test results from Manufacturer's Certificates (SKAPS).
2. Range of average values from independent testing laboratory (TRI/Environmental).

5.14 RECORD SURVEY

Please refer to Attachment 4-1 for the As-built drawings created by Peavey of the Closure. The Pre-Topography Survey identifies the top of the subbase on which the geosynthetic materials were placed.

5.15 DIRECT SHEAR TESTS

To confirm the project materials would meet the technical specifications of 25.1 degrees with no adhesion for the interface friction angle and the minimum required Factor of Safety of 1.5

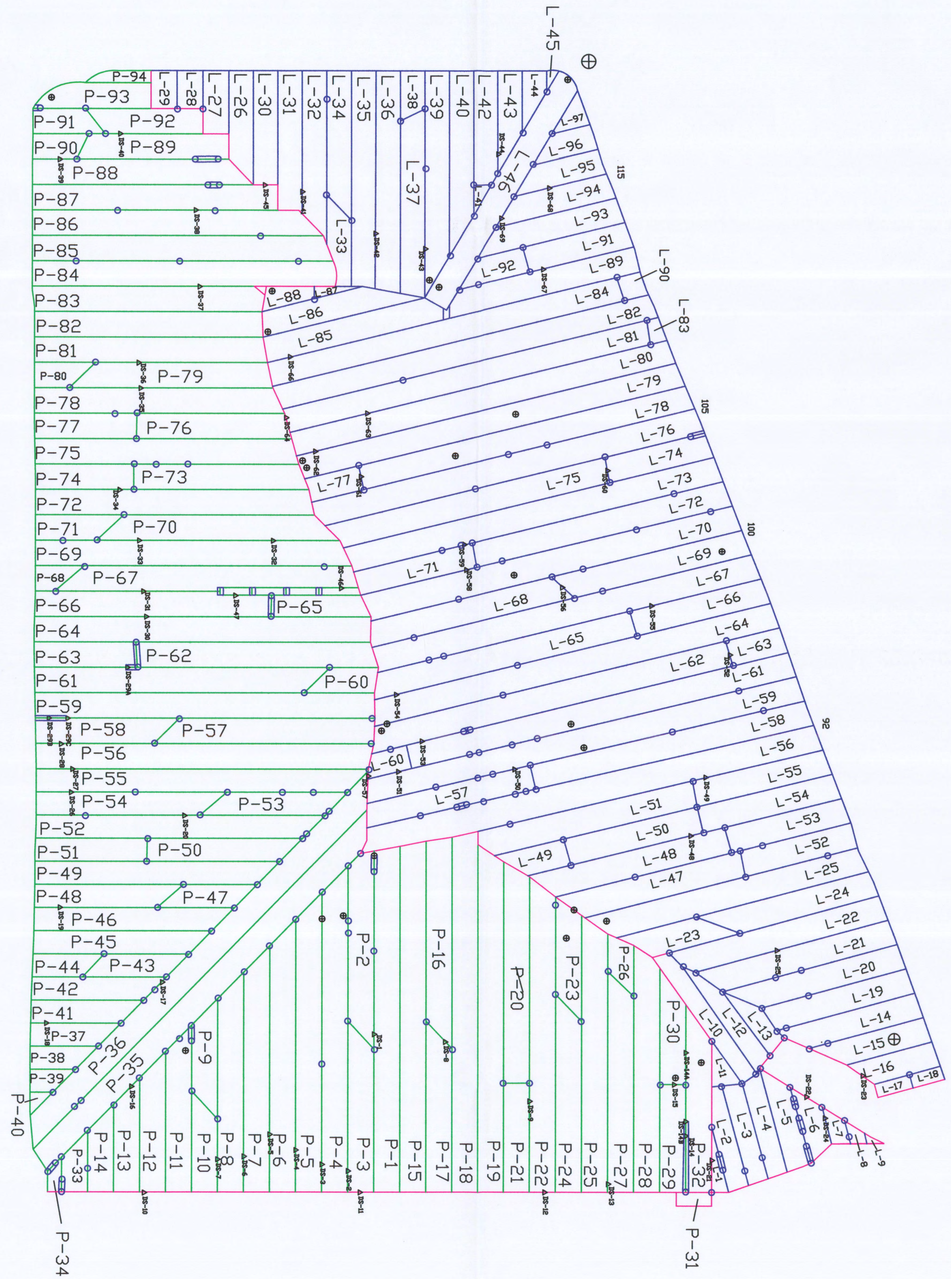
against sliding, SCS had CQA samples of the project materials tested by TRI. TRI performed interface direct shear tests on these project materials in accordance with ASTM D5321. To simulate the range of stresses during final buildout of the Closure, normal loads of 100, 200, and 800 pounds per square foot (psf) were used during the testing in a saturated condition. The following CQA interface friction angle test results all meet the construction permit requirement of at least 25.1 degrees which therefore also meet the minimum safety factor of 1.5 against sliding. Please refer to Attachment 5-15 of this section for the CQA Interface Friction Test Reports.

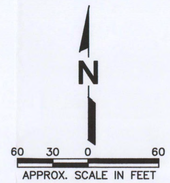
SCS CQA Interface Friction Angle Test Results

- Geocomposite vs. 40 mil Geomembrane - 32.5 degrees
- Protective Cover Soil vs. 40 mil Geomembrane - 30.7 degrees
- Protective Cover vs. 60 mil Geomembrane - 27.0 degrees
- Geocomposite vs. 60 mil Geomembrane - 30.1 degrees
- Protective Cover Soil vs. Geocomposite - 35.1 degrees
- Drainage Sand vs. Geocomposite - 39.7 degrees

Attachment 5-1

As-Built Panel Layout Drawing





LEGEND

60 mil Textured HDPE Geomembrane Panel	P-1 thru P-94
40 mil Textured LLDPE Panel	L-1 thru L-97
60 mil Textured HDPE Seam	
40 mil Textured LLDPE Seam	
Extrusion Weld	
Patch	○
Destructive Test DS-1 thru DS-69	△
Boot	⊕

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
JUN 03 2011
SOUTHWEST DISTRICT TAMPA

RECORD DRAWING
DATE: MAY 31, 2011

REV	DATE	DESCRIPTION	BY
1	05/31/11	RECORD DRAWING	SRF

SHANE R. FISCHER, P.E.
LICENSE NO. 58026

DRAWING TITLE
40 MIL LLDPE & 60 MIL TEXTURED HDPE ASBUILT DRAWING

PROJECT TITLE
HARDEE COUNTY LANDFILL
PHASE I CLOSURE
CONSTRUCTION DRAWINGS

CLIENT
HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
4041 PARK OAKS BLVD, SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

PROJ. NO. 09199033.21
DSN. BY: SRF
DWN. BY: ERC
CHK. BY: SRF
Q/A RVW BY: CEH
APP. BY: SRF

CADD FILE: 993321ERC-PANEL-LAYOUT
DATE: MAY 2011
SCALE: AS SHOWN
DRAWING NO. 1 of 1

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Attachment 5-2

40 mil SCS Geomembrane Placement Logs

SCS ENGINEERS — 40 mil LLDPE

SHEET 4 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-24-10

GEOMEMBRANE PLACEMENT LOG

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L1	245 343	100	15	40 mil LLDPE	N-S	0700	1/2 x 54 x 15 = 405
L2	343	112	22.5		N-S	0715	83 · 22.5 = 1867.5
L3	343	112				0735	106 · 22.5 = 2385
L4	343	100				0755	97 · 22.5 = 2182.5
L5	343	95				0815	85 · 22.5 = 1912.5
L6	343	76				0830	69 · 22.5 = 1552.5
L7	343	62				0845	42 · 22.5 = 945
L8	334	30	22.5			0900	22 · 22.5 = 495
L9	343	14			N-S	0915	1/2 14 · 225 = 157.5
L10	343	138	22.5		NW-SE	0930	132 · 225 = 2970
L11	342	30			NW-SE	0950	1/2 30 · 22.5 = 337.5
L12	342	~~126~~ 100	22.5		NW-SE	1005	100 · 225 = 2250
L13	342	~~72~~ 52			NW-SE	1035	52 · 22.5 = 1170
L14	342	126	22.5		W-E	1055	117 · 22.5 = 2632.5
L15	342	108	22.5		W-E	1115	94 · 22.5 = 2115
L16	342	80	22.5		W-E	1130	71 · 22.5 = 1597.5
L-17	342	36	10		W-E	1145	32 · 10 = 320
L18	245 342	32	10	40 mil	W-E	1150	30 · 10 = 300
Page Total					25,595 ✓ KD		1092 x 22.5 = 24,570 + 1025
Cumulative Total					25,595 ✓ KD		25595 ✓

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

40 mil LLDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 2 5 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L19	245 342	136	22.5	40mil	W-E	1240	131 · 22,5 = 2947,5
L20	342	164				1300	150 · 22,5 = 3375
L21	342	182				1315	173 · 22,5 = 3892,5
L22	342	206				1335	194 · 22.5 = 4365
L23	342	90				1350	82 · 22,5 = 1845
L24	2 338	150				1420	146 · 22.5 = 3285
L25	245 338	265	22.5	40mil	W-E	1445	260 · 22,5 = 5850
							25,560
							1136 x 22.5 = 25,560
Page Total					25,560 ✓ KAD		
Cumulative Total					51,155 ✓ KAD		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS — 60mil HDPE / 40mil LLDPE

SHEET 8 10 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12/3/10

GEOMEMBRANE PLACEMENT LOG

PANEL NO.	ROLL NO.		LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS	
60 mil HDPE									
P87	445	332	286	22.5	60m	W TO E	8:41	217 X 22.5 = 4882.5	
P88		332	170	"	"	"	8:50	170	3825
P89		332	114	"	"	"	9:02	114	2565
P90		331	46	"	"	"	9:15	44	990
P91		331	57	"	"	"	9:22	42	945
P92		331	77	"	"	"	9:29	66	1485
P93		331	85	"	"	"	9:35	73	1642.5
P94	445	331	45	"	"	"	9:55	45	1012.5 17,347.5 ✓
40 mil LLDPE									
L26	245	345	95	"	40m	S TO N	10:02	92	2070
L27		345	60	"	"	"	10:16	60	1350
L28		345	39	"	"	"	10:27	39	877.5
L29		345	37	"	"	"	10:35	34	765
L30		345	107	"	"	"	10:46	105	2362.5
L31		345	130	"	"	"	11:01	119	2677.5
L32		345	149	"	"	"	11:10	144	3240
L33		345	64	"	"	"	11:20	49	1102.5
L34		344	132	"	"	"	1:00	114	2565
L35	245	344	196	"	"	"	1:09	196 X 22.5 = 4410	21420 ✓
Page Total								952 X 22.5 = 21420 ✓	
Cumulative Total								38,767.5 LF	

60mil HDPE 342,106.5 / 40mil LLDPE 72,575 LF

60mil HDPE 17347.5

Tot 342,106.5 ✓

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS 40 mil LLDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 9 11 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/3/10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L36	245 344	196	22.5	40 mil	S to N	1:20	196 X 22.5 = 4410
L37	341	164	"	"	"	1:25	164 | 3690
L38	341	32	"	"	"	1:35	32 | 720
L39	341	202	"	"	"	1:46	191 | 4297.5
L40	341	158	"	"	"	1:57	158 X 22.5 = 3555
L41	341	17	"	"	"	2:10	16 ½ 16 X 22.5 = 180
L42	341	112	"	"	"	2:20	110 X 22.5 = 2475
L43	341	83	"	"	"	2:56	83 | 1867.5
L44	341	46	"	"	"	3:05	46 X 22.5 = 1035
L45	341	17	"	"	"	3:05	½ · 17 · 22.5 = 191
L46	245 335	243	"	"	"	3:30	240 X 22.5 = 5400
Page Total							27821.25 KNL
Cumulative Total							100,396.25 KNL

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE PLACEMENT LOG

SHEET 12 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-10-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L47	245 335	175	22.5	40 m	W TO E	2:30	SUNNY & CLEAR 173X22.5 = 3892.5
L48		185				2:45	185 | 4083.75
L49		67				2:55	67 | 1507.5
L50		128				3:05	128 | 2880
L51	245 340	127	22.5	40 mil	W-E	3:15	127 | 2857.5
Page Total						15,221.25	
Cumulative Total						115,617.5	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS 40mil LLDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 13 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 10-14-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L52	245 340	115	23	40mil	W-E	0830	108 X 22.5 = 2430
L53	340	120				0840	113 2542.5
L54	340	126				0850	125 2812.5
L55	334	126				0905	125 X 22.5 = 2812.5
L56	334	420				0925	8 [75 / 225] + 343.5 X 22.5 = 10,016
L57	334	160				0950	156 X 22.5 = 3510
L58	230	265				1010	261 5872.5
L59	230	416				1035	410 9225
L60	230	40				1100	38 855
L61	231	366				1130	364 8190
L62	231	350				1215	342 7695
L63	229	55				1235	52 1170
L64	229	390				1255	385 8662.5
L65	229	255				1310	250 5625
L66	228	130				1340	127 2857.5
L67	228	375				1402	371 8347.5
L68	228	210				1420	192 4320
L69	245 227	185	23	40mil	W-E	1445	172 X 22.5 = 3870
Page Total						90,883.5	
Cumulative Total						206,431	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

2,287.5
1,128.75

SCS ENGINEERS

SHEET 14 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-14-10

GEOMEMBRANE PLACEMENT LOG

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L70	245 227	365	23	40mil	W-E	1515	361 X 22.5 = 8122.5
L71	1 227	120	1	1	1	1535	117 1 2632.5
L72	245 225	246	23	40mil	W-E	1600	245 X 22.5 = 5512.5
Page Total						10267.5	
Cumulative Total						222,698.5	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS 40 mil LLDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 15 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L 73	245 275	365	23	40 mil	W-E	0800	363 X 22.5 = 8167.5
L 74	225	93				0830	93 2092.5
L 75	221	270				0855	270 6075
L 76	271	370				0905	366 8235
L 77	271	52				0920	51 1147.5
L 78	276	318				0940	318 7155
L 79	276	370				1000	365 8212.5
L 80	333	365				1025	361 8122.5
L 81	333	350				1050	348 7830
L 82	224	360				1110	359 8077.5
L 83	224	12				1130	12 270
L 84	224	336				1250	336 7560
L 85	332	162				1300	156 3510
L 86	332	150				1310	127 2857.5
L 87	337	60				1325	22.5 / 60 30 675
L 88	332	44				1340	44 990
L 89	332	196				1400	173 3892.5
L 90	245 332	22	23	46 mil	W-E	1420	22 X 22.5 = 495
Page Total						85 365	
Cumulative Total						308,063.5	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

40 mil LLDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 16 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
L91	245 332	100	23	40mil	W-E	1435	99 X22.5 = 9227.5
L92	338	75				1445	56 1260
L93	338	140				1500	124 2790
L94	336	110				1510	96 2160
L95	336	82				1520	66 1485
L96	338	50				1530	35 787.5
L97	245 338	20	23	40mil	W-E	1540	22.5/20 10 X22.5 = 225
Page Total						10,935	
Cumulative Total						318,996.5	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-3

60 mil SCS Geomembrane Placement Logs

SCS ENGINEERS 60mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 1 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-22-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
P1	445 224	330	23	60mil	N-S	1005	319 · 22.5 = 7177.5
P2	224	188				1022	165 · 22.5 = 3712.5
P3	223	155				1037	145 · 22.5 = 3262.5
P4	223	300				1048	286 · 22.5 = 6435
P5	110	275				1059	258 · 22.5 = 5805
P6	110	~~242~~ 275				~~1112~~ 1130	229 · 22.5 = 5152.5
P7	332	215				1200	203 · 22.5 = 4567.5
P8	332	190				1310	179 · 22.5 = 4027.5
P9	332	100				1320	76 · 22.5 = 1710
P10	226	95				~~1330~~	80 · 22.5 = 1800
P11	226	144				1340	133 · 22.5 = 2992.5
P12	226	125				~~1355~~	110 · 22.5 = 2475
P13	226	100				1405	83 · 22.5 = 1867.5
P14	226	70				1410	60 · 22.5 = 1350
P15	219	320				1425	316 · 22.5 = 7110
P16	219 ~~227~~	200				1440	175 · 22.5 = 3937.5
P17	222	155				1455	140 · 22.5 = 3150
P18	445 222	320	23	60mil	N-S	1515	317 · 22.5 = 7132.5
Page Total					73665 ✓ KAR		3274 · 22.5 = 73665
Cumulative Total					73665 ✓ KAR		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60 mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 2 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-22-10 To 11-23-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
P19	445 227	320	23	60 mil	N-S	1535	310 · 22.5 = 6975
P20	227	200				1550	194 · 22.5 = 4365 Tot. 93667.5
P21	225	105				1605	102 · 22.5 = 2295 73665
P22	225	286				1620	11-22-10 283 · 22.5 = 6367.5 20002.5
P23	225	102				0725	11-23-10 98 · 22.5 = 2205
P24	229	182				0745	171 · 22.5 = 3847.5
P25	229	262				0755	255 · 22.5 = 5737.5
P26	229	60				0805	48 · 22.5 = 1080
P27	230	206				0815	195 · 22.5 = 4387.5
P28	230	240				0825	227 · 22.5 = 5107.5
P29	221	116				0840	114 · 22.5 = 2565
P30	221	88	~~23.5~~			0900	88 · 22.5 = 1980
P31	221	~~163~~	3/16			0915	end cap berm 34 · 16 = 544
P32	221	188	~~22.5~~			0930	170 · 22.5 = 3825
P33	221	52	23			1000	berm 44 · 22.5 = 990 52,621.5 ✓
P34	221	36	14		N-S	1020	berm 25 · 14 = 350 ✓ end S. Slope
P35	218	456	23		NE to SW	1035	454 · 22.5 = 10,215
P36	445 217	452	23	60 mil	NE to SW	1055	452 · 22.5 = 10170
Page Total							73,006.5 ✓ KRD
Cumulative Total							146,671.5 ✓ KRD

Southslope 126,286.5

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 3 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS	
P37	445 220	83	23	60mil	E-W	1115	73 · 22.5 =	1642.5
P38	220	63				1120	51 · 22.5 =	1147.5
P39	220	40				1135	28 · 22.5 =	630
P40	220	20				1315	18 ~~215~~ $\frac{1}{2}$ · 18 · 22.5 =	202
P41	220	105				1335	93 · 22.5 =	2092.5
P42	220	126				1350	115 · 22.5 =	2587.5
P43	220	85				1405	82 · 22.5 =	1845
P44	216	65				1420	55 · 22.5 =	1237.5
P45	216	170				1435	158 · 22.5 =	3555
P46	216	190				1450	178 · 22.5 =	4005
P47	216	80				1500	74 · 22.5 =	1665
P48	104	135				1510	122 · 22.5 =	2745
P49	104	220				1520	215 · 22.5 =	4837.5
P50	104	150				1530	136 · 22.5 =	3060
P51	231	101				1540	101 · 22.5 =	2272.5
P52	231	264				1555	256 · 22.5 =	5760
P53	231	120				1605	118 · 22.5 =	2655
P54	445 228	166	23	60mil	E-W	1618	11-23-10 155 · 22.5 =	3487.5
Page Total						45,427.5 ~~XXX~~	2019 X · 22.5 =	45,427.5
Cumulative Total						192,099 ~~XXX~~		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60 mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 4 6 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-27-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
P55	445 228	306	23.	60mil	E-W	0805	294 · 22.5 = 6615
P56	113	310				0815	308 · 22.5 = 6930
P57	113	205				0825	190 · 22.5 = 4275
P58	114	134				0840	125 · 22.5 = 2812.5
P59	114	312				0855	311 · 22.5 = 6997.5
P60	114	64				0915	52 · 22.5 = 1170
P61	103	274				0925	261 · 22.5 = 5872.5
P62	103	220				0945	217 · 22.5 = 4882.5
P63	445 109	94	23	60mil	E-W	1045	94 · 22.5 = 2115
							1852 × 22.5 = 41670 ✓
Page Total					41670 ✓ KO		
Cumulative Total					233,769 ✓ KO		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60 mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 8 of 7
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS	
P64	~~445~~ 109	308	23	60mil	E-W	0755	308 · 22.5 =	6930
P65	109	82				0810	75	1687.5
P66	105	210				0828	217	4882.5
P67	105	244				0845	261	5872.5
P68	109	44				0900	31	697.5
P69	111	288				0918	283	6367.5
P70	111	222				0936	199	4477.5
P71	106	80				0955	68	1530
P72	106	256				1010	86	1935
P73	106	158				1030	154	3465
P74	107	97				1115	91	2047.5
P75	102	240				1205	237	5332.5
P76	107	145				1220	140	3150
P77	112	~~93~~ 234				1237	91	2047.5
P78	112	228				1254	223	5017.5
P79	112	186				1312	171	3847.5
P80	101	56				1400	44	990
P81	445 101	217	23	60mil	E-W	1420	210 · 22.5 =	4725
Page Total						65,002.5 ✓ KD	2889 × 22.5 =	65,002.5 ✓
Cumulative Total						298,771.5 ✓ KD		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 68 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-29-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
PB2	445 101	208	23	60mil	E-W	1500	208 · 22.5 = 4680
PB3	1 107	228	1	1	1	1525	218 · 22.5 = 4905
PB4	445 107	260	23	60mil	E-W	1600	11-29-10 244 · 22.5 = 5490
							670 X 22.5 = 15,075 ✓
Page Total						15,075 ✓ KD	
Cumulative Total						313,846.5 ✓ KD	

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60mil HDPE

GEOMEMBRANE PLACEMENT LOG

SHEET 29 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-30-10

PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS
P85	445 115	260	23	60mil	E-W	0810	251 X 22.5 = 5647.5
P86	445 115	242	23	60mil	E-W	0820	239 X 22.5 = 5265
							485 X 22.5 = 10,912.5
Page Total					10,912.5 ✓ KR		
Cumulative Total					324,759 · KR		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS — 60mil HDPE / 40mil LLDPE

SHEET 8 10 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12/3/10

GEOMEMBRANE PLACEMENT LOG

	PANEL NO.	ROLL NO.	LENGTH	WIDTH	THICKNESS	ORIENTATION	TIME	WEATHER/CONDITIONS/COMMENTS	
60 mil HDPE	P87	445 332	~~286~~	22.5	60m	W TO E	8:41	217 X 22.5 = 4882.5	
	P88	332	170	"	"	"	8:50	170	3825
	P89	332	114	"	"	"	9:02	114	2565
	P90	331	46	"	"	"	9:15	44	990
	P91	331	57	"	"	"	9:22	42	945
	P92	331	77	"	"	"	9:29	66	1485
	P93	331	85	"	"	"	9:35	73	1642.5
	P94	445 331	45	"	"	"	9:55	45	1012.5 17,347.5 ✓
40-mil-LLDPE	L26	245 345	95	"	40m	5 TON	10:02	92	2070
	L27	345	60	"	"	"	10:16	60	1350
	L28	345	39	"	"	"	10:27	39	877.5
	L29	345	37	"	"	"	10:35	34	765
	L30	345	107	"	"	"	10:46	105	2362.5
	L31	345	130	"	"	"	11:01	119	2677.5
	L32	345	149	"	"	"	11:10	144	3240
	L33	345	64	"	"	"	11:20	49	1102.5
	L34	344	132	"	"	"	1:00	114	2565
	L35	295 344	196	"	"	"	1:09	196 x 22.5 = 4410	21420 ✓
	Page Total							952 x 22.5 = 21420 ✓	
	Cumulative Total	60mil HDPE 342,106.5 / 40mil LLDPE 72,575						38,767.5	

60mil HDPE 17347.5
Tot 342,106.5 ✓

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-4

SCS Field Trial Weld Logs

SCS ENGINEERS

TRIAL WELD LOG 60mil

SHEET 1 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-22-10 TO 11-23-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL						SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED											
S/S	1010	AP	9	70			450	7.5	105/119	117/120	121/117				152	157			P
S/S	1010	SP	8	1			450	7.5	122/120	117/120	113/115				152	153			P
S/S	1010	JW	102				450	7.5	113/103	110/105	113/108				151	154			P
S/S	1045	BV	1	70			450	7.5	113/120	115/117	121/118				150	154			P
T/T	1045	BV	1	70			450	7.5	115/117	119/120	121/120				152	155			P
S/S	1500	BV	1	80			450	7.5	113/105	111/123	120/118				145	150			
T/T	1500	BV	1				450	7.5	110/108	121/113	114/112				148	151			
S/S	1500	SP	8						110/113	109/115	108/107				145	150			
T/T	1500	SP	8						123/120	125/119	130/129				151	152			
S/S	1500	AP	9						111/112	115/116	113/114				150	153			
S/S	1500	JW	102				450	7.5	110/109	121/110	113/116				151	149			
T/T	1449	MS	5	80	287	260	~~450~~		130	129	128				160	168			P
					11-23-10														
T/T	0740	AP	9				450	7.5	123/129	126/130	127/123				155	151			P
S/S	0742	AP	9						116/123	134/120	130/128				152	154			
T/T	0745	SP	8						120/115	115/126	122/125				163	165			
S/S	0748	SP	8						118/115	110/127	128/126				157	160			
T/T	0810	BV	1						140/142	137/125	141/139				167	169			
S/S	0815	BV	1				450	7.5	120/129	121/123	130/129				160	159			
T/T	0810	MS	5		275	260									159	163			
S/S	0820	JW	3				450	7.5	111/113	112/109	114/113				151	152			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG

60 mil & 40

SHEET 2 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-23-10 to 11-24-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL						SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED											
SS	1240	SP	1				450	7.5	112 110	115 113	117 118	~~149~~	~~152~~		149	152			P
TT	1245	SP	1				450	7.5	130 132	135 133	129 131				155	160			
TT	1300	MS	5		275	260			142	139	145				170	173			
SS	1300	AP	9				450	7.5	112 114	116 122	118 115				148	150			
TT	1300	AP	9				450	7.5	136 138	131 133	138 131				150	155			
SS	JW ↔ 1360		3				450	7.5	112 113	111 112	113 112				145	150			P
					11-24-10														
SS40	0830	AP	9				450	12	80 79	79 78	78 77				89	91			P
TT40	0832	AP	9						79 76	78 81	80 82				88	90			
SS40	0840	BV	3						80 81	77 76	79 76				89	87			
TT40	0843	BV	3				450	12	80 76	78 75	76 77				90	92			
TT60	0800	MS	5		280	260			130	132	127				180	179			
SS40	0840	SP	1				450	12	78 76	80 77	78 77				91	87			
TT40	0842	SP	1				450	12	79 75	82 79	81 79				90	89			
TT60	1300	MS	5		280	260			123	126	124				153	160			
SS40	1320	PK	1				450	12	77 78	75 76	69 74				89	87			
TT40	1325	PK	1						78 79	80 78	75 78				85	87			
SS40	1400	SP	3						72 73	73 70	71 72				88	85			
TT40	1402	SP	3				450	12	70 72	73 69	75 76				86	87			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG 60mil

SHEET 3 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-26-10 to 11-29-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS BARREL TEMP.	EXTRUSION WELDS PREHEAT TEMP.	FUSION WELDS WEDGE TEMP	FUSION WELDS WEDGE SPEED	PEEL					SHEAR				P/F
TT60	0800	MS	5		280	260			132	131	135			160	162			P
SS60	0840	SP	3				450	7.5	110 113	112 115	117 113			159	160			P
TT60	0842	SP	3				450	7.5	115 117	118 116	120 123			160	163			P
				11-27-10														
SS60	0820	SP	3				450	7.5	120 121	127 113	121 112			170	173			P
TT60	0822	SP	3				450	7.5	112 123	135 121	123 120			172	169			P
SS60	0815	JW	8				450	7.5	116 113	127 119	105 111			165	165			P
SS60	0815	TAN	9				450	7.5	122 164	120 112	105 110			160	159			P
				11-29-10														
GOTT	0800	JW	8				450	7.5	132 113	129 114	113 114			165	163			P
SS60	0803	JW	8				450	7.5	FOIL				NOT used - repair					F
SS60	0800	SP	3				450	7.5	115 117	129 119	108 115			159	162			P
TT60	0803	SP	3				450	7.5	119 123	122 124	120 119			163	158			P
TT60	TAN ↔ 0830		6 8		268	235			124	120	122			160	163			P
TT60	MS ↔ 0800		5		280	260			118	116	110			159	157			P
SS60	BV ↔ 0810		9				450	7.5	110 115	117 120	118 115			160	158			P
TT60	BV ↔ 0815		9				450	7.5	123 127	118 122	119 120			161	163			P
SS60	0930	JW	2				450	7.5	115 114	118 113	110 115			159	160			P
TT60	0935	JW	2				450	7.5	120 122	121 119	130 127			165	163			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

TRIAL WELD LOG

SHEET 4 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL					SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED										
TTGO	1300	JW	9				450	7.5	117/119	110/105	108/109			159	158			P
SSGO	1302	JW	9						109/109	110/124	115/123			160	163			P
SSGO	1300	SP	3						110/109	113/110	112/115			157	157			P
TTGO	1302	SP	3						107/117	118/120	115/117			159	157			P
TTGO	1300	BV	2						117/119	121/118	115/118			160	158			P
SSGO	1302	BV	2				450	7.5	109/110	113/107	109/110			157	159			P
TTGO	1300	TAN	G8		260	235			119	123	121			159	161			P
TTGO	1300	MS	G5		280	260			123	117	120			158	160			P
				11-30-10														
SSGO	0800	SP	3				450	7.5	114/125	107/120	111/124			169	169			P
TTGO	0802	SP	3				450	7.5	123/115	120/119	123/121			160	165			F
TT40/60	0800	MS	5		280	260			81	88	82			91	92			P
TT40/60	0805	MS	5		280	260			79	80	80			90	91			P
TT40	0825	PK	8		265	230			78	80	81			90	92			P
TT40	1315	PK	8		265	230			78	79	79			90	91			P
TT40	1315	MS	5		270	260			72	73	75			89	92			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG

SHEET 5 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-2-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL					SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED										
TT40	1315	PK	8		260	230			83	80	82			82	85			P
TT60	1315	TAN	10		260	230			134	129	131			162	163			P
TT60	1315	MS	5		280	260			135	132	136			162	160			P
				12-3-10														
SS60	0800	SP	9				450	7.5	122 119	121 123	117 118			160	159			P
TT60	0802	SP	9				450	7.5	123 120	131 118	127 119			161	160			P
TT60	0800	MS	5		280	260			144	140	128			189	190			P
SS60	0920	SP	3				450	7.5	134 136	129 140	132 137			180	195			P
TT60	1000	PK	8				450	7.5	136 122	148 135	150 129			180	185			P
TT60	1000	SP	3				450	7.5	130 131	129 127	131 132			170	173			P
SS40	1245	SP	6				750	7.5	65 72	80 84	80 82			87	86			P
TT40	1247	SP	6				750	7.5	80 81	82 79	80 81			87	85			P
SS40	1250	BV	M02				750	7.5	72 67	76 72	70 71			84	85			P
TT40	1255	BV	M02				750	7.5	79 80	77 81	82 80			88	87			P
TT60	1300	MS	5		280	260			123	140	149			181	163			P
				12-4-10														
TT60	0800	MS	5		286	260			140	130	135			190	195			P
TT60	0806	PK	8		265	230			123	124	120			185	186			P
TT60/40	0803	TAN	10		260	230			109	105	108			108	109			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG

SHEET 6 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-6-10 12-14-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL					SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED										
TT60	0830	BV	G 8		280	260			139	145	137			197	198			P
TT60	0835	BV	W 8				450	7.5	142/150	147/138	136/137			197	196			\
TT60	1250	BV	G 8		280	260			130	132	130			180	178			\
TT60	1255	BV	W 8				450	7.5	139/122	139/136	140/137			185	183			P
				12-8-10														/
TT40	1300	PK	G8		260	230			85	82	87			90	89			P
				12-10-10														
TT40	1305	PK	G5		260	230			80	83	85			90	91			P
SS40	1430	SP	106				750	6.5	80/83	80/81	82/83			90	92			\
TT40	1435	SP	106				750	6.5	80/82	83/80	82/83			90	89			\
TT40/60	1530	BV/MS	G5		287	270	0		87	85	90			91	90			P
				12-14-10														
SS40	0830	SP	106				750	6.5	90/89	100/99	92/93			100	102			P
TT40	0835	SP	106					6.5	91/89	93/100	101/100			105	107			\
SS40	0830	BV	10					7.0	90/93	89/95	97/92			102	103			\
TT40	0832	BV	10					7.0	89/93	90/92	95/94			103	105			\
SS40	0830	~~RKSH~~	108					6.5	89/93	94/92	95/94			101	107			\
TT40	0832	~~RKSH~~	108				750	6.5	100/102	103/99	100/101			111	108			P
TT40/60	0930	PV	G 5						110	107	109			110	113			
									95/93	94/97	100/99							

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG

SHEET 8 7 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL					SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED										
SS40	1255	BV	10				750	7.5	99 98	89 97	95 81			107	105			P
TT40	1300	BV	10					7.5	96 85	90 86	85 84			107	106			
SS40	1250	SH	108					6.5	84 100	84 86	87 93			110	108			
TT40	1253	SH	108					6.5	100 101	97 98	87 89			112	113			
SS40	1255	SP	106					7.5	104 101	100 99	97 87			107	109			
TT40	1300	SP	106				750	7.5	94 93	93 87	85 89			106	104			
TT40/60	1245	PV	5		287	275			110	112	111			112	111			
TT40	1250	PV	6 5		287	275			96	97	97			100	101			P
						12-15-10												
SS40	0800	SP	106	32			750	7.5	101 102	99 100	101 103			109	110			P
TT40	0803	SP	106					7.5	103 101	101 100	102 100			107	110			
SS40	0800	SH	108					6.5	106 102	99 108	89 98			106	108			
TT40	0802	SH	108				750	6.5	106 107	106 105	100 103			107	111			
TT40/60	0830	TAN	G 10		260	230			105	109	107			113	115			P
SS40	1300	SP	106				750	7.5	89 86	87 83	84 83			90	92			P
TT40	1302	SP	106				750	7.5	85 87	88 85	84 87			93	95			
SS40	1300	SH	108				750	6.5	86 85	87 86	85 87			93	94			
TT40	1303	SH	108				750	6.5	86 87	88 84	85 87			95	97			
TT40/60	1300	TAN	G 10		260	230			87	86	87			87	88			
TT40	1303	TAN	G 10		260	230			84	85	86			87	85			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

TRIAL WELD LOG

SHEET 8 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE ~~12-14-10~~ 12-16-10

	TIME	TECH I.D.	MACH. I.D.	AMB. TEMP	EXTRUSION WELDS		FUSION WELDS		PEEL					SHEAR				P/F
					BARREL TEMP.	PREHEAT TEMP.	WEDGE TEMP	WEDGE SPEED										
T40	0800	Vegas (40)	G5		287	230			75	77	81			103	100			P
T40/60	0800	TAN	G10		270	230			103	97	90			104	110			|
T40	0805	TAN	G10		270	230			87	90	89			95	98			|
T40	1300	TAN	G10		270	230			80	79	78			87	85			|
T40/60	1302	TAN	G10		270	230			81	82	80			88	86			|
T40	1300	VV	G5		287	230			81	80	79			87	87			P

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-5

SCS Geomembrane Seaming Logs

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 1 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-22-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P1/P2	186	AP	9	F	7.5	1100	70	450	
P2/P4	143	SP	8			1105			
P1/P3	134	AP	9			1125			
P2/P3	33	BV	1			1105			
P3/P4	155	SP	8			1125			
P4/P5	~~273~~ 157	JW	102			1110	78		
P5/P6	242	BV	1			1300	80		
P6/P7	215	JW	102			1303			
P7/P8	190	SP	8			1315			
P8/P9	100	AP	9			1350			
P8/P10	68	AP	9			1330			
P9/P11	52	JW	102			~~1400~~ 1400			
P10/P11	982	JW	102			1350			
P9/P10	83	BV	1			1343			
P11/P12	122	SP	8			1355			
P12/P13	98	AP	9			1400			
P13/P14	68	JW	102			1419			
P1/P15	318	SP	8	F	7.5	1422	80	450	
Page Total							2406		
Cumulative Total							2406		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

186 + 143 / 329

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 2 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-22-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P4/P5	116	BV	1	F	7.5	1115	78	450	
P15/P17	153	AP	9			1515	81		
P15/P16	161	AP	9			1540			
P16/P17	33	BV	1			1505			
P17/P18	127	BV	1			1520			
P16/P18	189	BV	1			1545			
P18/P19	318	SP	8			1550			
P19/P21	102	AP	9			1620			
P19/P20	200	AP	9			1635			
P21/P22	102	SP	8			1640			
P20/P22	188	SP	8			1652		450	
P20/P21	225	BV	1	F	7.5	1613	82	450	
Page Total							1711.5		
Cumulative Total							4117.5		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 3 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P22/P23	94	AP	9	F	7.5	0825	65	450	
P22/P24	182	AP	9			0800			
P23/P24	33	SP	8			0800			
P23/P25	107	SP	8			0836			
P24/P25	160	SP	8			0815			
P25/P26	42	BV	1			0935			
P26/P27	33	SP	8			0855			
P25/P27	206	BV	1			0908			
P26/P28	54	JW	3			0929			
P27/P28	184	JW	3			0905	70		
P28/P30	100	AP	9			0945			
P28/P29	116	AP	9			0930			
P29/P30	225	AP	9			0925			
P29/P32	114	JW	3			0948			
P30/P32	74	JW	3	F	7.5	1003		450	
P14/P33	52	SP	8			1125			
P33/P34	36	SP	8			1135	75		
P-				F	7.5			450	
Page Total							1604.5		
Cumulative Total							5722		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 4 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P34/P35	23	AP	9	F	7.5	1138	75	450	
P33/P35	32	AP	9			1142			
P14/P35	33	AP	9			1147			
P13/P35	34	AP	9			1100			
P12/P35	34	AP	9			1105			
P11/P35	32	AP	9			1109			
P9/P35	34	AP	9			1114			
P8/P35	33	AP	9			1119			
P7/P35	35	AP	9			1124			
P6/P35	35	AP	9			1129			
P5/P35	35	AP	9			1134			
P4/P35	36	AP	9			1245			
P2/P35	33	AP	9			1250			
P35/P36	452	JW	3			1253	80		
P36/P40	23	SP	1			1405			
P36/P39	32	SP	1			1410			
P36/P38	30	SP	1			1414			
P36/P37	31	SP	1	F	7.5	1526		450	
Page Total							997		
Cumulative Total							6719		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 5 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-22-10 To 11-24-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P34/TI	14	MS	5	E		1135	70	260	11-23-10
P33/TI	22.5					1110			
P14/TI						1045			
P13/TI						1020			
P12/TI						0955			
P11/TI						0930			
P10/TI						0845			
P8/TI						0820	65		11-23-10
P7/TI						1710	70		11-22-10
P6/TI						1655			
P5/TI						1620			
P4/TI						1555			
P3/TI						1525			
P1/TI						1500			11-22-10
P15/TI						0815	65		11-24-10
P17/TI						0840			
P18/TI						0905			
P19/TI	22.5	MS	5	E		0930		260	11-24-10
Page Total			17 x 22.5 = 382.5 + 14 = 396.5						
Cumulative Total						715.5			

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 6 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P21/TI	22.5	MS	5	E		1000	75	260	11-24-10
P22/TI						1025			
P24/TI						1050			
P25/TI						1115			
P27/TI						1310	80		
P28/TI	22.5					1335			
P29/TI	11					1405			
P31 TI	34					1415			
P31/P32	22.5					1445			
P29/P31	11.5	MS	5	E		1510		260	11-24-10
Page Total							214		
Cumulative Total							7329.5		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS 60/40 mil

GEOMEMBRANE SEAMING LOG

SHEET 7 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L1/P32	100	BV	3	~~A~~F	7.5	~~0945~~ 0954	65	450	11-24-10
L2/P32	63	BV	3	F		0945			
L11/P32	37	BV	3			0940			
L1/L2	54	BV	3			0925			
L2/L3	112	SP	1			0915			
L3/L4	100	AP	9			0850			
L4/L5	94	AP	9			0915			
L5/L6	76	SP	1			0925			
L6/L7	~~42~~62	SP	1			0946			
L7/L8	30	SP	1			0940			
L8/L9	14	SP	1			0944			
L2/L11	8	SP	1			1108	70		
L3/L11	15	SP	1			1115			
L3/L10	9	SP	1			1114			
L4/L10	14	SP	1			1101			
L4/L12	2	SP	1			1100			11-24-10
~~L10~~/L11	30 ~~BV~~	BV	3	F	7.5	0940	65	450	11-30-10
L10/P32	36	MS	5	F		0940		~~280~~ 260	11-30-10
Page Total						856			
Cumulative Total						8185.5			

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 8 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L10/P30	36	MS	5	E		1010	70	~~280~~ 260	11-30-10
L10/P28	30	MS	5	E		1035		~~280~~ 260	11-30-10
~~L10/P26~~									
L10/L12	126	BV	3	F	12	1000		450	11-24-10
L12/L13	72	SP	1	F	12	0934		450	11-24-10
L23/P26	24	MS	5	E		1126		~~280~~ 260	11-30-10
L25/P25	26	MS	5	E		1330		~~280~~ 260	11-30-10
L10/L23	30	MS	5	E		1100		~~280~~ 260	11-30-10
L10/L22	17	PK	1	F	12	1616		450	11-30-10
L25/P23	11	MS	5	E		1355		~~280~~ 260	11-30-10
L12/L22	19	PK	1	F	12	1613		450	11-24-10
L12/L21	32	PK	1	F		1610		1	
L13/L20	41	PK	1	F		1605			
L13/L19	25	PK	1	F		1602			
L13/L14	9	PK	1	F		1600			
L14/L15	108	SP	1	F		1035			
L15/L16	80	SP	1	F		1045			
L16/L17	36	SP	1	F	12	1050	↓	450	11-24-10
Page Total				+					
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 9 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10 To 12-

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L16/L18	32	JP	1	~~A~~F	~~12~~ 9	1055	70	450	11-24-10
L17/L18	10	SP	1		12	10			
L14/L19	126	PK	1			1355			
L19/L20	136	PK	1			1410			
L20/L21	164	SP	3			1440			
L21/L27	182	PK	1	F	12	1450		450	11-24-10
L9/TI	25	PK	8	E		8:35		~~265~~ 230	GFFR + chute 11/30/10
L8/TI	~~23~~ 16	PK	8						GFFR TI ~~chute~~ 11-30-10
L7/TI	~~32~~ 32	PK	8						~~GFFR TI~~ chute GFFR 11-30-10
L6/TI	26	PK	8						chute 11-30-10
L5/TI	28	PK	8	E					chute 11-30-10
L12/TI	25	~~PK~~ MS	~~8~~	E					11-30 chute
L13/TI	23			E					
L14/TI	26			E					11-30
L15/TI	34								
L16/TI	32								
L17/TI	~~46~~ 46								11-30
L18/TI	32	~~PK~~ MS	~~8~~	E		11:55		~~265~~ 230	11-30
Page Total							995		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 10 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10 To

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L22/L23	57	PK	1	F	7.5	1520	75	450	11-24
L22/L24	139	PK	1	F	7.5	1520		450	
L23/L25	95	SP	3	F	7.5	1515		450	
L23/L24	33	PK	1	F	7.5	1540		450	
L24/L25	155	SP	3	F	7.5	1540		450	11-24
L9/chute	29	PK	8	E		1340		~~230~~	12-2
L7/chute	30	PK	8	E		1340		~~230~~	12-2
L4/chute	10	PK	8	E		1340		~~230~~	12-2
Page Total							548		
Cumulative Total									

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GEOMEMBRANE SEAMING LOG

SHEET 11 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P39/P40	18	SP	1	F	7.5	1335	75	450	11-23-10
P38/P39	38	SP	1			1330			
P37/P38	63	SP	1			1372			
~~P39~~									
P37/P41	82	SP	1			1350			
P41/P42	104	AP	9			1400			
P42/P43	80	SP	1			1425			
P43/P44	34	SP	1			1440			
P42 ~~P42~~/P44	46	SP	1			1435			
P43/P45	84	AP	9			1436			
P44/P45	64	AP	9			1447			
P45/P46	168	SP	1			~~1452~~			
P46/P47	76	JW	3			1504			
P46/P48	112	JW	3			1514			
P47/P49	72	AP	9			1515			
P48/P49	132	AP	9			1525			
P47/P48	33	AP	9			1508			
P49/P50	125	JW	3	F	7.5	1545	"	490	11-23-10
Page Total						1331			
Cumulative Total									

PRINT NAME: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 12 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-23-10 To 11-27-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P49/P51	101	JW	3	F	7.5	1602	75	450	11-23-10
P50/P51	225	JW	3			1615			
P50/P52	147	AP	9			1600			
P51/P52	101	AP	9			1620			
P52/P53	120	SP	1			1610			
P52/P54	144	SP	1			1626			
P53/P54	33	SP	1			1630	"		11-23-10
P53/P55	116	SP	3			0830	65		11-27-10
P54/P55	166	SP	3			0845			11-27-10
P55/P56	306	TAN	9			0847			
P56/P57	204	JW	8			0920			
P56/P58	116	JW	8			0947			
P57/P58	33	JW	8			0850			
P57/P59	176	TAN	9			0950			
P58/P59	134	TAN	9			1013			
P59/P60	64	JW	8			1006			
P59/P61	248	JW	8			1014			
P60/P61	33	SP	3	F	7.5	1008	65	450	11-27-10
Page Total						2,264.5			
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 13 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-27-10 To 11-27-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P60/P62	40	SP	3	F	7.5	1010	70	450	~~11-23~~ 11-27-10
P61/P62	180	SP	3			1015			11-27-10
P61/P63	94	TAN	9			1035			11-27-10
P62/P63	22.5	TAN	9			1025			11-27-10
P36/P41	30	SP	9			1530	75		11-23-10
P36/P42	31	SP	9			1534			
P36/P43	30	SP	9			1539			
P36/P45	31	SP	9			1543			
P36/P46	29	SP	9			1544			
P36/P47	30	SP	9			1547			
P36/P49	30	SP	9			1551			
P36/P50	28	SP	9			1554			
P36/P52	31	SP	9			1558			
P36/P53	30	SP	9			1602			
P36/P55	30	SP	9			1604			11-23-10
P36/P56	30	TAN	9	F	7.5	0843	65	450	11-27-10
Page Total							696.5		
Cumulative Total									

est 666.5
+ 30
696.5

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

60 mil

GEOMEMBRANE SEAMING LOG

SHEET 14 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-29-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
~~P62/P64~~	214	JW	2	F	7.5	1100	75	450	11-29-10
P63/P64	94	JW	2			1125	75		
P64/P65	82	SP	3			0850	65		
P64/P66	206	SP	3	F		0900			
P65/P67	68	~~JW~~	~~2~~	E		0906			equip. problem Fusion } Capped ~~extrudo seam~~
P66/P67	~~210~~57	~~JW~~	~~2~~	E		0915			" " "
P66/P67	153	SP	3	F		0958			
P66/P68	18	SP	3			0955			
P67/P68	33	BV	9			0920			
P67/P69	244	BV	9			~~0925~~ 0931	↓		
P68/P69	44	BV	9			0925	65		
P69/P70	222	SP	3			1025	70		
P69/P71	56	SP	3			1055	↓		
P70/P72	176	BV	9			1045	↓		
P71/P72	80	BV	9			1108	70		
P72/P73	158	~~JW~~BV	92			1404	75		
P72/P74	92	BV	2			1352	75		
P70/P71	33	BV	9	F	7.5	1105	70	450	11-29-10
Page Total							2030		
Cumulative Total									

PRINT NAME: ~~Dennis~~ G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 15 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P65/P66	22.5	JW	2	F	7.5	0900	65	450	equip. problem Fusion — capped extrude seam
P73/P74	22.5	BV	9	F		1140	70		11-29-10
P73/P75	150	JW	9			1350	75		
P74/P75	90	JW	9			1402			
P75/P76	145	SP	3			1350			
P75/P77	89	SP	3			1410			
P76/P77	22.5	SP	3			1320			
P76/P78	135	SP	3			1432			
P77/P78	93	SP	3			1420			
P78/P79	186	JW	9			1447			
P78/P80	52	JW	9			1440			
P79/P80	33	JW	9			1434			
P79/P81	156	SP	3			1455			
P80/P81	56	SP	3			1516			
P80/P82	208	JW	9			1510			
P82/P83	208	SP	3			1535			
P83/P84	228	JW	9	F	7.5	1553		450	11-29-10
~~P84/P85~~									
Page Total							1896.5		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 16 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11/30/10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P84/P85	260	SP	SP#3	F	7.5	9:30	70	450	11-30-10
P85/P86	242	SP	SP#3	F	7.5	10:20	70	450	11-30-10
Page Total						502			
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 17 16 9 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-3-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P91/P89	16	PK	PK 8	F	7.5	1051	60°	450	12-3-10
P92/P89	83	PK	PK #8	F	7.5	1053		450	
P89/P88	28	SP	3	F ~~Ex~~	7.5	1055		450	CAP
P89/P88	91	SP	SP #3	F	7.5	~~10:54~~ 1055	11:00	450	
P88/P90	36	SP	SP #3	F	7.5	~~10:54~~ 1055	60	450	
P88/P87	174	PK	PK #8	F	7.5	10:10		450	
P87/P86	191	SP	SP #9	F	7.5	8:50		450	12-3-10
~~P84/P85~~	~~210~~	~~SP~~	~~3~~	~~F~~	~~7.5~~	~~0930~~		~~450~~	~~11-30-10~~
~~P85/P86~~	~~247~~	~~SP~~	~~3~~	~~F~~	~~7.5~~	~~1020~~		~~450~~	~~11-30-10~~
P86/P87	35	SP	3	F	7.5	1015		450	12-3-10
P89/P90	25	SP	3	F	7.5	1100		450	12-3-10
Page Total			~~679~~		679				
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET #8 of 18
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-3-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L26/L27	63	SP	#6	F	6.5	1:15	61	450	12-3-10
L27/L28	45	SP	#6	F	6.5	1:05		750	12-3-10
L27/P92	18	PK	G 8	EX		9:45		265/230	12-4-10
L27/P89	11	PK	G 8	EX		10:00		265/230	12-4-10
L28/P92	25	PK	G 8	EX		10:09		265/230	12-4-10
L28/L29	35	BV	#2	F	7.5	1:07		750	12-3-10
L29/P94	8	PK	G #8	EX		8:30		265/230	PATCH 12/4/10
L29/P93	32	PK	G 8	EX		8:36		265/230	12-4-10
L29/P92	17	PK	G 8	EX		9:30		265/230	12-4-10
P93/P94	11	PK	G #8	EX		8:30		265/230	PATCH 12-4-10
P93/P94	35	PK	8	F	7.5	11:25		450	12-3-10
P94/PATCH	7	PK	G #8	EX		8:30		265/230	PATCH 12-4-10
P93/P91	24	PK	#8	F	7.5	11:15		450	12-3-10
P93/P91	16	PK	G #8	EX		10:30		265/230	South WEST OF MANHOLE patch 12-4-10
P93/PATCH	10	PK	G #8	EX		10:40		265/230	AT AC 12-4-10
P93/P92	47	PK	#8	F	7.5	11:20		450	12-3-10
P91/P92	29	SP	#3	F	7.5	10:25		450	12-3-10
P91/P90	47	SPK	8	F	7.5	1045		450	12-3-10
Page Total						480			
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 9 of 19
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-3-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L37/L36	159	BV	BV#2	F	7.5	2:51	61	750	12-3-10
L35/L36	196	SP	SP#6	F	7.5	2:42		750	"
L35/L34	138	BV	BV#2	F	7.5	2:35		750	"
L35/L33	57	BV	BV#2	F	7.5	2:35		750	12-3-10
L33/P84	17	MS	G5	EX		10:58		286/260	12-4-10
L33/P85	24	MS	G5	EX		10:35		286/260	12-4-10
L33/L32	37	SP	SP#3	F	6.5	2:25		7:50	12-3-10
L33/L34	30	SP	SP#3	F	6.5	215		7:50	"
L32/L34	119	SP	SP#3	F	6.5	2:25		2:50	"
L32/L31	129	BV	BV#108	F	7.5	1:48		750	12-3-10
L32/P86	35	MS	G5	EX		10:03		286/260	12-4-10
L31/P86	23	"	G5	EX		9:44		"	12-4-10
L31/P87	23	"	G5	EX		9:24		"	12-4-10
L30/P87	23	MS	G5	EX		904		286/260	12-4-10
L31/L30	106	BV	BV#2	F	7.5	1:25		750	12-3-10
L26/L30	94	SP	SP#6	F	7.5	1:30		750	12-3-10
L26/P88	28	MS	G5	EX		8:38		286/260	12-4-10
L26/P89	19	MS	G5	EX		8:20		286/260	12-4-10
Page Total			1257 ✓ OGO						
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

ENGINEERS

SHEET 1 of 2
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-3-10

GEOMEMBRANE SEAMING LOG

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L46/L39	28	BV	BV#2	F	7.5	4:50	62	750	12-3-10
L46/L40	45	BV	BV#2	F		4:50			
L40/L41	32	BV	BV#2	F		4:50			
L46/L42	13	BV	BV#2	F		4:50			
L46/L43	46	BV	BV#2	F		4:50			
L46/L44	46	BV	BV#2	F		4:50			
L46/L45	27	BV	BV#2	F	7.5	4:50		750	
L45/L44	24	SP	SP#6	F	7.5	4:20			
L44/L43	61	SP	SP#6	F		4:10			
L42/L43	100	BV	BV#2	F	7.5	4:05			
L42/L41	16	SP	SP#6	F	6.5	3:47			
L41/L40	27	SP	SP#6	F		1550			
L42/L40	110	SP	6	F	6.5	1553			
L39/L40	176	BV	BV#2	F	7.5	3:35		750	
L39/L37	168	SP	SP#6	F	6.5	3:18		750	
L39/L38	26	SP	SP#6	F	6.5	3:18		250	
L38/L37	25	BV	BV#2	F	7.5	320		750	
L38/L36	34	BV	BV#2	F	7.5	2:51		750	12-3-10
Page Total			1006 V D60						
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 21 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-10-10 TO 12-16-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L25/L47	168	SP	#106	F	7.5	2:50	70	650	12-10-10
P22/L47	28	MS	# 5	E		3:15	70	280/265	
L48/L47	178	SP	#106	F	7.5	3:10	70	6:50	
L48/L50	129	SP	# 106	F	7.5	3:40	70	650	
L48/L49	56	SP	# 106	F	7.5	3:40	70	650	
L49/L50	22.5	SP	# 106	F	7.5	3:25	70	650	
L48/P20	17	MS	# 5	E		3:15	70	280/265	
L48/P22	13	MS	# 5	E		3:15	70	280/265	
L49/P19	32	MS	# 5	E		3:15	70	280/265	
L51/P18	25	MS	# 5	E		3:15	70	280/265	
L51/L49	78	SP	# 106	F	7.5	4:00	65	650	
L51/L50	127	SP	# 106	F	7.5	4:00	65	650	12-10-10
L49/L54	20	VV	5	E		1420		267/230	12-16-10
Page Total			873.5						
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 22 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-14-10 To 12-16-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L25/L52	104	SP	106	F	6.5	0910		750	12-14-10
L47/L52	~~70~~ 22.5	BV	10	|	7.0	0920		|	|
L25/L52	106	SP	106	|	6.5	0926		|	|
L52/L53	112	SP	106	F	6.5	0853		750	12-14-10
L47/L53	8	VV	5	E		1410		~~780~~ 730	12-16-10
L48/L53	22.5	BV	10	F	7.0	0928		750	12-14-10
L53/L54	106	SH	108	|	6.5	0900		|	|
L50/L54	22.5	SH	108	|	6.5	0940		|	|
L51/L55	22.5	SH	108	|	6.5	0935		|	|
L54/L55	124	SH	108	|	6.5	0915		|	|
L55/L56	126	SH	108	|	6.5	1010		|	|
L56/extension	36 ~~36~~ 14	SP	106	|	6.5	1000		|	|
L51/L56	160	SH	108	|	6.5	1030		|	|
L56/L58	260	BV	10	|	7.0	1030		|	|
L56/L57	160	BV	10	|	7.0	1105		|	|
L57/L58	22.5	SP	106	|	6.5	1025		|	|
L57/L59	152	SP	106	|	6.5	1129		|	|
L58/L59	~~267~~ 123	SP	106	F	6.5	1055		750	12-14-10
Page Total							1849.5		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 23 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L58/L59	39	BV	10	F	7.5	1315		750	12-14-10
L59/L60	40	SH	108		6.5	~~1115~~ 1200			
L59/L61	310	SH	108		6.5	1115			
L59/L61	56	BV	10		7.5	1320			
L60/L61	22.5	SP	106		7.5	1310			
L60/L62	36	BV	10		7.5	1423			
L61/L62	310	BV	10		7.5	1342			
L61/L63	57	BV	10		7.5	1335			
L62/L63	22.5	SP	106		7.5	1325			
L62/L64	338	SP	106		7.5	1337			
L63/L64	57	SP	106		7.5	1330			
L64/L65	254	SH	108		6.5	1410			
L64/L66	126	SH	108		6.5	1350			
L65/L66	22.5	SH	108		6.5	1405			
L65/L67	~~128~~ 296	SP	106		7.5	1432			
L66/L67	128	SP	106		7.5	1415			
L67/L68	207	~~BV~~ SP	106		7.5	1522			
L67/L69	197	BV	10	F	7.5	1500		750	12-14-10
Page Total							2404.5		
Cumulative Total									

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GEOMEMBRANE SEAMING LOG

SHEET 24 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-14-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L67/L69	18	SP	106	F	7.5	1520		750	12-14-10
L68/L69	33	BV	10	F	7.5	1450		750	12-14-10
L51/L56	5	PV	G5	E		1030		287/275	
P16/L56	10	PV	G5	E		1035		287/275	
P15/L56	23	PV	G5	E		1100		287/275	
P1/L56	23	PV	G5	E		1125		287/275	
P35/L56	15	PV	G5	E		1150		287/275	
P35/L57	22	PV	G5	E		1310		287/275	
P35/L59	2					1330			
P36/L59	21					1332			
P36/L60	10					1350			
P56/L60	13					1357			
P56/L62	10					1406			
P57/L62	13					1418			
P57/L64	10					1430			
P59/L64	13					1442			
P59/L65	9					1455			
P60/L65	14	PV	G5	E		1503		287/275	12-14-10
Page Total							265		
Cumulative Total									

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GEOMEMBRANE SEAMING LOG

SHEET 24A of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P60/L67	7	PV	G5	E		1518		287/275	12-14-10
P67/L67	16	"	"	"		1573		"	"
P62/L68	7	"	"	"		1536		"	"
P64/L68	16	"	"	"		1542		"	"
P64/L70	7	"	"	"		1558		"	"
P65/L70	16	"	"	"		1605		"	"
P65/L71	17	PV	G5	E		1621		287/275	12-14-10
~~P16/ext~~		~~PV~~	~~G5~~	~~E~~					~~12-14~~
~~P16/ext~~		~~PV~~	~~G5~~	~~E~~					
~~L51/L56~~		~~PV~~	~~G5~~	~~E~~					
L51/L56	10	PV	G5	E		1710		287/275	12-14-10
Page Total							91		
Cumulative Total									

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SIGNATURE: Dennis G DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 25 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L69/L70	183	SH	108	F	6.5	1525		750	12-14-10
L69/L70	177	SH	108		6.5	1545			12-14-10
L70/L71	118	SH	108		6.5	1615			12-14-10
L70/L72	244	SP	106		7.5	1600			12-14-10
L71/L72	225	SP	106		7.5	1559			12-14-10
L71/L73	116	SH	108		6.5	1118			12-15-10
L72/L73	246	SH	108		6.5	1040			
L73/L75	270	SH	108		6.5	0905			
L73/L74	94	SH	108		6.5	0935			
L74/L75	225	SH	108		6.5	0855			
L94/L76	92	SP	106		7.5	0910			
L75/L76	270	SP	106		7.5	0922			
L76/L78	318	SH	108		6.5	0950			
L76/L77	52	SH	108		6.5	1039			
L77/L78	225	SP	106		7.5	0952			
L78/L79	318	SP	106		7.5	1006			
L77/L79	50	SP	106		7.5	1048			
L79/L80	362	SP	106	F	7.5	1055		750	12-15-10
Page Total						2977.5			
Cumulative Total									

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SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 26 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L80/L83	12	SH	108	F	6.5	1125		750	12-15-10
L80/L81	348	SH	108		6.5	1127			
L81/L83	225	SH	108		6.5	1313			
L81/L82	348	SH	108		6.5	1322			
L82/L83	312	SH	108		6.5	1320			
L82/L84	336	SP	106		7.5	1315			
L87/L90	72	SP	106		7.5	1440			
L84/L90	225	SH	108		6.5	1430			
L84/L85	162	SH	108		6.5	1400			
L85/L86	150	SP	106		7.5	1405			
L86/L87	60	SP	106		7.5	1420			
L86/L88	44	SP	106		7.5	1428			
L87/L88	225	SP	106		7.5	1355			
L84/L89	174	SH	108		6.5	1448			
L89/L90	72	SH	108		6.5	1445			
L89/L91	100	SP	106		7.5	1455			
L89/L92	92	SP	106		7.5	1508			
L91/L92	72.5	SP	106	F	7.5	1445		750	12-15-10
Page Total							1952		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

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GEOMEMBRANE SEAMING LOG

SHEET 27 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-15-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
L91/L93	98	SH	108	F	6.5	1515		750	12-15-10
L92/L93	40	SH	108		6.5	1530			
L93/L94	110	SP	106		7.5	1575			
L94/L95	82	SH	108		6.5	1540			
L95/L96	50	SP	106		7.5	1540			
L96/L97	20	SP	106		7.5	1545			
L46/L89	28	SH	108		6.5	1600			
L46/L92	39	SH	108		6.5	1604			
L46/L93	38	SH	108		6.5	1610			
L46/L94	38	SP	106		7.5	1555			
L46/L95	38	SP	106		7.5	1600			
L46/L96	38	SP	106		7.5	1605			
L46/L97	19	SP	106	F	7.5	1610		750	12-15-10
Page Total							638		
Cumulative Total									

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SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 28 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELD TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P67/L71	11	TAN	G10	E		0807		260/230	12-15-10
P67/L73	12					0817			
P69/L73	11					0828			
P69/L75	15					0838			
P70/L75	8					0846			
P70/L76	24					0853			
P72/L76	2					0916			
P72/L77	23					0918			
P73/L79	23					0940			
P75/L80	23					1003			
P75/L81	4					1007			
P76/L81	20					1020			
P76/L82	4					1040			
P78/L82	19					1045			
P78/L84	6					1515			
P79/L84	18					1520			
P79/L85	8					1539			
P81/L85	15	TAN	G10	E		1546		260/230	12-15-10
Page Total							246		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE SEAMING LOG

SHEET 29 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	LENGTH OR SIZE	TECH. ID	MACH. NO.	WELL TYPE	SPEED SET	TIME	AIR TEMP (deg. F)	MACH. TEMP	WEATHER/CONDITIONS/COMMENTS
P81/L86	9	TAN	G10	E		1600		260/230	12-15-10
P82/L86	15					1610			12-15-10
P82/L88	9					0935			12-16-10
P83/L88	29 ft					0944			
P83/L88	11 ft					1010			
P84/L88	5					1020			
P84/L87	18					1025			
L33/L87	12					1043			12-16-10
L35/L87	23					1301			12-16-10
L36/L87	4					1322			
L36/L86	19					1326			
L37/L86	23					1345			
L39/L86	10					1407			
L46/L86	2					1416			
L46/L85	21					1418			
L85/L89	7	TAN	G10	E		1438		260/230	12-16-10
Page Total							217		
Cumulative Total									

PRINT NAME: Dennis G. DuPont

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Attachment 5-6

SCS Geomembrane Repair Logs

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 1 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10 To 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-23-10	R 1	P9/P10 @ berm pipe		WC	2x9	MS	5	11/30/10	SP	
11-23-10	2	P9/P10/berm pipe		BS	5X8					
11-23-10	3	P13/P14/P35		T	4X5					
11-25-10	4	P14/P33/P35		T	2X2					
11-25-10	5	P33/P34/P35		T	2X2					
11-23-10	6	P34/P35 @ berm		WC	2X19					
11-23-10	7	P33/P34/TI		T	2X8					
11-23-10	8	P35/P36/berm		WC	2X5					
11-23-10	9	P35/P36/berm		WC	2X3					
11-22-10	10	P9/P10/P11		T	2X2					
11-23-10	11	P8/P9/ berm pipe		BS	6X8					
11-22-10	12	P8/P9/P10		T	2X3					
11-24-10	13	P25/P27, 18'	N of TI	DS	2X4					DS 13
11-24-10	14	P29/P32, 13'	N of TI	DS	2X4					DS 14
11-24-10	15	P29/P31/P32		EXT	23'					
11-24-10	16	P29/P31/P32		T	2X3	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

AT = anchor Trench
TI = Tie in

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 2 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-24-10 TO 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-24-10	R 17	P31/P32/L1		T	8X8	MS	5	11-30-10	SP	
11-29-10	18	P22/TI and 10E of P21/P22		DS	2X4					DT 12
11-29-10	19	P21/P22 and 17's of P21/P21		DS	2X4					DT 9
11-29-10	20	P20/P21/P22		T	2X2					
11-29-10	21	P19/P20/P21		T	2X2					
11-29-10	22	P16/P17/P18		T	2X2					
11-29-10	23	P16/P17 and 10'N of P16/P17/P18		DS	2X4					DT 8
11-24-10	24	P15/P16/P17		T	2X2					
11-29-10	25	P1/P2, 16'N of P1/P2/P3		DS	2X4					DT 1
11-29-10	26	P1/P2/P3		T	2X2					
11-29-10	27	P2/P3/P4		T	2X2					
11-29-10	28	P3/TI 10'W of P1		DS	2X4					DT 11
11-29-10	29	P3/P4, 18'N of TI		DS	2X4					DT 2
11-29-10	30	P4/P5, 23'N of TI		DS	2X4					DT 3
11-29-10	31	P5/P6, 27'N of TI		DS	2X4					DT 4
11-29-10	32	P6/P7, 40'N of TI		DS	2X4	MS	5	11-30-10	SP	DT 5

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 3 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10 To 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 33	P7/P8 ; 20'N of TI		DS	2X4	MS	5	11-30-10	SP	DT 6
11-29-10	34	P13/TI, 5' W of P12/P13		DS	2X4	MS	1			DT 10
11-29-10	35	P8/P10, 18'N of TI		DS	2X4	MS	5			DT 7
11-29-10	36	P36/P43/P45		T	2X2	TAN	8			
11-29-10	37	P36/P43/P42		T	2X2					
11-29-10	38	P36/P42, 21' NE P36/P41/P42		DS	2X4					DT 17
11-29-10	39	P36/P42, 11' NE P36/P41/P42		BO	2X2					
11-29-10	40	P36/P41/P42		T	2X6					
11-29-10	41	P36/P37/P41		T	2X3					
11-29-10	42	P36/P37/P38		T	2X2					
11-29-10	43	P36/P38/P39		T	2X2					
11-29-10	44	P36/P39/P40		T	2X2					
11-29-10	45	P13/35, 20' NE of P35/P13/P14		DS	2X4					DT 16
11-29-10	46	P12/P13/P35		T	2X2					
11-29-10	47	P11/P12/P35		T	2X2					
11-29-10	48	P11/P35, 14' NE of P11/P12/P35		BO	2X3	TAN	8	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 4 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10 To 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 49	P9/P11/P35		T	2X2	TAN	8	11-30-10	SP	
	50	P8/P9/P35		T	2X2	TAN	8			
	51	P7/P8/P35		T	2X2	MS	5			
	52	P6/P7/P35		T	2X2					
	53	P5/P6/P35		T	6X8					
	54	P4/P5/P35		T	2X3					
	55	P4/P5, berm pipe		BS	3X8					
	56	P2/P4 at berm		WC	2X3					
	57	P2/P4 at berm		WC	3X5					
	58	P2/P4 at berm pipe		BS	5X8					
	59	P2/P4/P35		T	2X3					
	60	~~P36/P52~~ P36/P52, 8'NE P36/P52		BO	2X3					
	61	P36/P50/P52		T	2X2					
	62	P36/P49/P50		T	2X2					
	63	P36/P47/P49		T	2X2	MS	5			
11-29-10	64	P36/P46/P47		T	2X2	~~MS~~ TAN	~~5~~ 8	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 5 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-26-10 To ~~11-30-10~~ 12-2-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 65	P36/P45/P46		T	2X2	TAN	8	12-2-10	NP	
11-29-10	66	P37/P41, 16' E of AT		DS	2X4					DT 18
	67	P42/P43/P44		T	5X6					
11-29-10	68	P42/P43, 11' W of P42/P43/P44		BO	2X2					
11-29-10	69	P43/P44/P45		T	2X2	TAN	8			
12-2-10	70	P46/P48, 23' E of AT		DS	4X4	TAN	10			DT 19
11-29-10	71	P46/P47/P48		T	2X2	TAN	8			
	72	P47/P48/P49		T	2X2					
	73	P49/P50/P51		T	2X5					
	74	P50/P51/P52		T	2X2					
	75	P52/P54, 10' W of P52/P53/P54		DS	2X4					DT 20
11-29-10	76	P52/P53/P54		T	2X4	TAN	8	12-2-10	NP	
11-26-10	77	P28/P29/P30		T	2X2	MS	5	11-30-10	SP	
11-26-10	78	P29/P30, 12' E of P28/P29/P30		DS	2X4					DT 15
11-26-10	79	P29/P30/P32		T	2X2					
11-27-10	80	P26/P27/P28		T	2X2	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 6 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE ~~11-30-10~~ 11-24-10 TO 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-27-10	R 81	P25/P26/P27		T	2X2	MS	5	11-30-10	SP	
11-27-10	~~82~~	P23/P24/P25		T	2X2					
11-27-10	83	~~P22~~/P23/P24		T	2X2					
11-30-10	84	~~P22/P24~~ P23, 87'N of P22/P23/P24		~~BO~~ B O/PTC	2X2					
11-30-10	85	~~P22/P24~~ P23, 61'N of P22/P23/P24		BS	5X8					
11-24-10	86	P32/~~L1~~/L2		T	2X2					
	87	P32/L1/L2		ext/usion	172'			11-30-10	SP	
	88	L2/L3, 32' N of AT		PTC ~~BO~~	2X2			12-8-10	JW	
	89	L3/L4, 30' N of AT		PTC	2X2					
11-24-10	90	L5/L6, AT TO 16'N		PTC/BO	2X16					
11-30-10	91	L5/L6, 31' TO 41' N of AT		PTC/BO	2X10					
11-24-10	92	L5/L6, 51' TO 61' N of AT		PTC/BO	2X10					
11-30-10	93	L6/L7, 42'N of TI		DS ~~24~~	2X4	MS	5			DT 24
12-~~30~~2-10	94	~~L6~~/L7/L8	10'N of TI	PTC/BO	2X2	PK ~~MS~~	~~5~~ 8	12-6-10	JW	
11-30-10	95	P32/L1, 90' N of TI/AT		DS	2X4	MS	5	11-30-10	SP	DT 21
11-30-10	96	P10/P12, 103' N of L4		PTC/BO	2X2	PK	8	12-8-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 7 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-30-10 To 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-30-10	R 97	L10/L12, [illegible] To 93'N of L4		BO/PTC	2X5	PK	8	12-8-10	JW	
11-30-10	98	L4/L10/L12		T	2X2	PK	8			
	99	L13/L14/L19		T	2X2	PK	8			
	100	L14/L19, 117' W of AT		BO	2X2	PK	8			
	101	L13/L19/L20		T	2X3	PK	8			
	102	P25/L25, 15'N, & 13'E of P23/L23		~~BS~~ BO/PTC	~~5X12~~ 5X12	MS	5			
	103	P25/P26/L23/L25		T	3X4	MS	5			
	104	~~L10/L23~~ L12/TI/GFFR		T	1X2	~~MS~~ PK	8 8			
	105	L13/L14/TI-GFFR		T	2X2	PK	8	12-8-10	JW	
	106	P32/HC/L11		T	2X2	MS	5	11-30-10	SP	
	107	P32/L11, 6's L11, 27'SW P33/P10/P11		BS	6X8	MS	5	11-30-10	SP	
	108	L14/L15/TI chute		T	2X4	PK	8	12-8-10	JW	
	109	L14/L15	90'W of AT	BO/PTC	2X2	PK	8			
	110	L16/TI chute, 16'SE of L15/L16 TI		DS	2X4	PK	8	12-8-10	JW	DT 23
	111	P29/P32, 53'N of AT		DS	2X4	MS	5	11-30-10	SP	DT 14B
11-30-10	112	P29/P30, AT To 53'N		FS	2X53	MS	5	11-30-10	SP	Cap

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 8 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10 TO 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-30-10	R113	P30/P32, 24'N of P29/P30		DS	2X4	MS	5	11-30-10	SP	DT 14 A
11-30-10	114	P30/P32, 9'W and 9'N of P29/P30		BS	5X9	MS	5	11-30-10	SP	
11-30-10	115	L2/L3/L11		T	8X2	MS	5	12-8-10	JW	
11-30-10	116	L3/L10/L11		T	2X2	MS	5	"	"	
11-30-10	117	L3/L4/L12		T	2X2	MS	5	12-8-10	JW	
11-24-10	118	L1/L2, 16' to 32' N of AT		PTC/cap	2X16	MS	5	11-30-10	SP	cap
11-30-10	119	L15/L16, 15'N of 26-36 W of AT		BS	10X15	PK	8	12-8-10	JW	manhole 7
11-27-10	120	P10/P11/TI		T	3X4	MS	5	11-30-10	SP	
12-2-10	121	L5/L6/TI		T	2X3	PK	8	12-8-10	JW	
12-2-10	122	L6/TI chute, 10' SE P5/P6/TI		DS	2X4	PK	8	"	"	
12-2-10	123	L6/L7/TI chute		T	2X3	PK	8	"	"	
12-2-10	124	L7/L8/TI chute		T	2X2	PK	8	12-8-10	JW	
12-2-10	125	P36/P52/P53		T	2X6	MS	5	12-2-10	NP	
"	126	P36/P53, 10' N P36/P53/P53		PTC	2X2	"	"	"	"	
"	127	P36/P53/P55		T	2X3	"	"	"	"	
12-2-10	128	P36/P55/P56		T	2X5	MS	5	12-2-10	NP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 9 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-29-10 To 12-2-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 129	P53/P55,	81'E of P53/P54	BO	2X6	MS	5	12-2-10	NP	
11-29-10	130	P53/P55,	49'E of P53/P54	PTC	2X2	MS	5			
12-2-10	131	P53/P54/P55		T	2X3	TAN	10			
	132	P54/P55,	82'E of AT	PTC	2X2					
	133	P52/P54,	39'E of AT	PTC	2X2					
	134	P54/P55,	20'E of AT	DS	2X4					DT 26
	135	P55/P56,	26'E of AT	DS	2X4					DT 27
	136	P56/P58,	20'E of AT	DS	2X4					DT 28
	137	P56/P57/P58		T	2X2					
	138	P57/P58/P59		T	2X2					
	139	P59/P60/P61		T	2X2					
	140	P60/P61/P62		T	2X2					
	141	P61/P62/P63		T	2X2					
	142	P62/P63/P64		T	2X2					
	143	P64/P65/P66		T	2X2					
12-2-10	144	P65/P66/P67		T	2X2	TAN	10	12-2-10	NP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 10 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-~~A~~2-10 To 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R145	P66/P67	57' W of P65/P66	SS	2X2	TAN	10	12-2-10	NP	
	146	P66/P67/P68		T	2X2					
	147	P67/P68/P69		T	2X2					
	148	P67/P69	164' E of P67/P68	PTC	2X2					
	149	P69/P70	162' E of P70/P71	PTC	2X2					
	150	P69/P70/P71		T	2X2					
	151	P69/P71	26' E of AT	PTC	2X2					
	152	P62/P63	5' N of P61	DS	2X4			12-2-10		DT 29
	153	P70/P71/P72		T	2X2			12-4-10		
	154	P72/P73/P74		T	2X2					
	155	P73/P75	50' E of P73/P74	PTC	2X2					
12-2-10	156	P73/P75	20' E of P73/P74	PTC	2X2	TAN	10			
12-3-10	157	P77/P78	73' E of AT	PTC	2X2	MS	5	12-4-10	NP	
12-4-10	158	P86/P87	151' E of AT	PTC	2X2	TAN	10	12-4-10	NP	
12-4-10	159	P86/P87	61' E of AT	PTC	2X2	PK	5	12-4-10	NP	
12-4-10	160	P87/P88	153' E of AT	PTC	10X2					

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 11 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R161	P88/P89, 175' E of AT		CR	~~17~~ 45'	TAN	10	12-4-10	NP	
12-4-10	162	P88/P89, 92' to 112' E of P89/P90		PTC/BO	2X20	TAN	10	12-4-10	NP	
12-4-10	163	P88/P89/P90		T	2X2	PK	8	12-4-10	NP	
	164	P89/P91/P92		T	2X2					
	165	P89/P90/P91		T	2X2					
	166	P91/P92/P93		T	2X2					
	167	P91/P93, 20' E of AT		BS	10X10					
	168	P91/P93, 10' E of AT		SI	10X10	PK	8			
	169	P83/P84, @ TI to 40mil		SI	8X10	MS	5			
	170	P86/P87, 136' E of AT		DS	2X4					DT 38
	171	P88/P90, 38' E of AT		DS	2X4					DT 39
12-4-10	172	P89/P92, 10' E of P91/P92		DS	2X4	MS	5	12-4-10	NP	DT 40
12-7-10	173	P58/P59, 20' N of AT		DS	2X4	BV	8	12-7-10	NP	DT 29C
12-3-10	174	P62/P63, 20' N of P61		DS	2X4	MS	5	12-4-10	NP	DT 29A } under cap
12-3-10	175	P58/P59, 10' E of AT		DS	2X4	MS	5	12-4-10	NP	DT 29B }
12-7-10	176	P58/P59, AT to 20' N of AT		Cap	2X10	BV	8	12-7-10	NP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 12 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10 To 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R 177	P73/P74/P75		T	2X2	TAN	10	12-4-10	NP	
12-3-10	178	P75/P76/P77		T	2X2	MS	5			
	179	P76/P77/P78		T	2X2					
	180	P78/P79/P80		T	2X2					
	181	P79/P80/P81		T	2X2					
	182	P84/P85, 210' E of AT		PTC	2X2					
	183	P84/P85, 120' E of AT		PTC	2X2					
	184	P84/P85, 25' E of AT		PTC	2X2					
	185	P85/P86, 185' E of AT		PTC	2X2					
	186	P65/P66, from P64 To P67		FS	2X23					cap
	187	P66/P67, from 17' E AT To P65/P66		FS	2X57					cap
12-3-10	188	P65/P67, from P65/P67 To 68' E of P65/P66		FS	2X68	MS	5	12-4-10	NP	cap
12-2-10	189	P1/P2, 116' to 134' N of P2/P3		FS	3X18	MS	5	12-2-10	SP	
11-29-10	190	P1/P2, 44' N of P2/P3		PTC	3X4	MS	5	11-30-10	SP	
11-23-10	191	P14/P33, 17' N of AT		PTC	2X2	MS	5	11-30-10	SP	
11-29-10	192	P4/P5, 117' N of AT		PTC	2X2	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 13 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-2-10 TO 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R 193	P2/P35, 24' to 36'	NE of P3/P4	PTC	2X6	MS	5	12-2-10	SP	
12-2-10	194	P1/P2 @ gas vent		BS	3X5	MS	5	12-2-10	SP	
12-2-10	195	P64/P66, 98'	E of AT	DS	2X4	TAN	10	12-2-10	SP	DT 30
12-2-10	196	P69/P70, 37'	E of P70/P71	DS	2X4	TAN	10	12-2-10	NSP	DT 33
12-2-10	197	P72/P74, 72'	W of P73/P74	DS	2X4	TAN	10	12-4-10	NP	DT 34
12-3-10	198	P78/P79, 61'	E of P79/P80	DS	2X4	MS	5	12-4-10	NP	DT 35
12-3-10	199	P79/P81, 36'	E of P79/P80	DS	2X4	MS	5	12-4-10	NP	DT 36
12-3-10	200	P83/P84, 103'	E of AT	DS	2X4	MS	5	12-4-10	NP	DT 37
12-2-10	201	P56/P57, 106'	E of P57/P58	PTC	2X6	MS	5	12-2-10	NP	
12-2-10	202	P57/P59, 134'	E of P57/P58	PTC	2X3	MS	5	12-2-10	NP	
12-2-10	203	P69/P70, 37'	E of P70/P71	DS	2X4	MS	5	12-4-10	NP	DT 32
12-3-10	204	P66/P67, 70'	E of P67/P68	DS	2X4	MS	5	12-4-10	NP	DT 31
12-3-10	205	P62/P63, between	P61+P64	cap/FS	2X23	MS	5	12-4-10	NP	
12-3-10	206	P61/P63, 10'	W of DT 29	Cap/FS	2X10	MS	5	12-4-10	NP	cap for DT 29 to DT 29A
12-3-10	207	P58/P59, AT	TO 10' E	Cap/FS	2X10	MS	5	12-4-10	NP	cap for DT 29B

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 14 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-4-10 TO 12-10-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R 208	L32/L33/L34		T	2X2	MS	5	12-4-10	NP	
	209	L32/L34, 31'S of AT		PTC	2X2	TAN	10	12-10-10	NP	
	210	L36/L37/L38		T	2X2	TAN	10			
	211	L37/L39, 64'S of L37/L38		PTC	2X2	TAN	10			
	212	L37/L38/L39		T	2X2	TAN	10			
	213	L37/L39, 165'S of L37/L38		BS	6X8	PK	8			
	214	L39/L46, 22'SW from L39/L40/L46		BS	8X13	PK	8			
	215	L39/L40/L46		T	2X2	PK	8			
	216	L40/L41/L46		T	2X2	PK	8			
	217	L40/L41/L42		T	2X2	TAN	10			
	218	L41/L42/L46		T	2X2	TAN	10			
	219	L42/L43/L46		T	2X2	TAN	10			
	220	L43/L44/L46		T	2X2	TAN	10			
	221	L44/L45/L46		T	2X2	TAN	10			
	222	L31/L32, 120'S of AT		DS	2X4	TAN	10			DT 41
12-4-10	223	L35/L36, 148'S of AT		DS	2X4	MS	5	12-10-10	NP	DT 42

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 15 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R224	L37/L39,		DS	2X4	PK	8	12-10-10	NP	DT43
	225	L42/L43,		DS	2X4	PK	8	12-10-10	NP	DT44
	226	P87/L30, 10' W of L31		DS	2X4	MS	5	12-4-10	NP	DT45
	227	P92/L28/L29		T	2X2	PK	8	12-4-10	NP	
	228	P92/L27/L28		T	2X2	PK	8			
	229	P89/L26/L27		T	2X2	TAN	10			
	230	P87/L30/L31		T	2X2	TAN	10			
	231	P86/L31/L32		T	2X2	MS	5			
12-4-10	232	L33/L34/L35		T	2X2	MS	5	12-4-10	NP	
12-10-10	233	L45/L46, 13' SW. AT and 10' E of L45		BS	10X15	PK	8	12-10-10	NP	manhole
	234	P23/L25/L47,	"	BS	5X6	MS	5	12-11-10	JW	gas Pipe
	235	L47, 6' E of P23/L25/L47, 5' N of L25		BS	6X8	MS	5	12-11-10	JW	
	236	L47/L48, 88' E of P22/L47/L46		PTC	5	MS	5	12-11-10	JW	
12-10-10	237	L48/L49/L50		T	2X2	MS	5	12-11-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 16 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-8-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-8-10	R 238	L10/L22/L23		T	2X3	PK	8	12-8-10	JW	
"	239	L10/L12/L22		T	2X3	"	"	"	"	
	240	L12/L21/L22		T	2X2					
	241	L23/L24/L25		T	2X2					
	242	L22/L23/L24		T	2X2					
	243	L21/L22, 80'Ea	L12/L21/L22	DS	2X4					DT 25
	244	L12/L13/L20/L21	To 12'E	T	2X12					
	245	L20/L21, 50'Ea	L12/L13/L20/L21	PTC	2X2					
	246	L20/L21, 75'Ea	L12/L13/L20/L21	PTC	2X2					
12-10-10	247	L19/L20, 44'Ea	L13/L19/L20	PTC	2X2	PK	8	12-8-10	JW	
12-10-10	248	L49/L50/L51		T	2X2	MS	5	12-11-0		
12-10-10	249	P19/L49/L51		T	2X2	MS	5	12-11-10	JW	
12-8-10	250	L20/L21, 90'Ea	L12/L13/L20/L21	PTC	2X2	PK	8	12-8-10	JW	
12-14-10	251	P18/P16/L50		EXT	12X4	PV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 17 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-14-10	R 252	L57/L59, 65'E of	P35/L57/L59	PTC	2X2	PV	5	12-16-10	JW	
12-16-10	253	L57/L59, 105'E of	P35/L57/L59	PTC	2X2	PV	5	12-17-10		
12-16-10	254	L57/L59, 119'E of	P35/L57/L59	PTC	2X2	PV	5	12-17-10		
12-14-10	255	L56/L57, 50'E of	P35/L56/L57	PTC	2X2	PV	5	12-16-10		
	256	L56/L57, 85'TO 95'E of	P35/L56/L57	PTC	2X10	PV	5			
	257	L59/L60/L61		T	2X2	PV	5			
	258	L60/L62, 20'E of	P56/L60/L62	PTC	2X2					
	259	L60/L61/L62		T	2X2					
	260	L64/L65, 6'E+7½ of	P59/L64/L65	BS	6X8					gas well vent
	261	L64/L65, 8'E of	P59/L64/L65	BS	5X8					gas well vent
	262	L65/L67, 30'E of	P60/L65/L67	PTC	2X2					
	263	L65/L67, 65'E of	P60/L65/L67	PTC	2X2					
	264	L67/L68, 40'E of	P62/L67/L68	PTC	2X2					
12-14-10	265	L61/L62, 88'TO 96'E of	P60/L61/L62	PTC	6X8	PV	5			
12-15-10	266	L79/L80, 5'E, 5'S of	P73/P75/L79/L80	BS	5X5	TAN	10			gas well vent
12-15-10	267	L79/L80, 5'E, 13'S of	P73/P75/L79/L80	BS	6X7	TAN	10	12-16-10	JW	gas vent

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Denais G. DuPont

SIGNATURE: Denais G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 18 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-15-10	R 268	L85/L86, 7'E, 3'N of L81/L85/L86		BS	5X6	TAN	10	12/16/10	JW	gas vent
12-16-10	269	L50/L51, 14'W of L50/L51/L54/L55		DS	2X4	VV	5			DT 48
	270	L45/L47/L52		T	2X2					
	271	L45/L52, 25'W of AT		PTC	2X2					
	272	L52/L53, 70'W of AT		PTC	2X2					
	273	L47/L52/L53		T	2X2					
	274	L47/L48/L53		T	2X2					
	275	L48/L50/L54		T	2X2					
	276	L48/L53/L54		T	2X2					
	277	L50/L51/L54/L55		T	2X3					
	278	L50/L55/L56		T	2X2					
	279	L55/L56, 4'E of L51/L55/L56		DS	2X4					DT 49
	280	L56/L58, 28'W of AT		PTC	2X2					
	281	L58/L59, 124'W of AT		PTC	2X2					
	282	L58/L59, 39'W of AT		PTC	2X2					
12-16-10	283	L59/L61, 56'W of AT		PTC	2X2	VV	5	12/16/10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 19 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R284	L57/L59, 13'W of L57/L58/L59		DS	2X4	VV	5	12-17-10	JW	DT 50
	285	L57/L58/L59		T	2X2			12-17-10		
	286	L56/L57, 50'W of L56/L57/L58		PTC	2X2					
	287	L56/L57, 20'W of L56/L57/L58		PTC	2X2					
	288	L56/L57, 10'W of L56/L57/L58		PTC	2X2			12-17-10		
	289	L61/L62/L63		T	2X2			12-16-10		
	290	L56/L57/L58		T	2X2			12-17-10		
12-16-10	291	L62/L63, 12'N of L61/L62/L63		DS	2X4	VV	5	12-16-10		DT 52
12-14-10	292	L51/L56/ext.		T	AD	PV	5	12-16-10		
12-16-10	293	L51/L56, 190' W of L51/L55/L58		PTC	2X2	VV	5	12-17-10		
	294	L59, 52'E of L57/L58/L59, 7'N of L58		BS	5X8	VV	5	12-1-10		
	295	L61, 15'E of L60/L61, 6'N of L59		BS	6X7			12-17-10		
	296	L70, 37'W of L68/L69/L70, 7'N L68		BS	7X8			12-17-10		
	297	L62/L63/L64		T	2X6			12-16-10		
	298	L64/L65/L66		T	2X2			12-16-10		
12-16-10	299	L65/L66/L67, 4	10'W	T	2X10	VV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 20 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R300	L66/L67, 24' E of L65/L66/L67		DS	2X4	VW	5	12-16-10	JW	DT 55
	301	L67/L69, 16' E of L67/L68/L69		PTC	2X2					
	302	L67/L68/L69		T	2X2					
	303	L68/L69, 10' NW of L67/L68/L69		DS	2X4					DT 56
	304	L68/L69/L70		T	2X2					
	305	L69/L70, 32' E of L68/L69/L70		PTC	2X2					
	306	L70/L72, 19' W of AT		PTC	2X2					
	307	L70/L72, 94' NW of AT		PTC	2X2					
	308	L72/L73, 47' W of AT		PTC	2X2					
	309	L73/L74/L75		T	2X2					
	310	L74/L75, 12' W of L73/L74/L75		DS	2X4					DT 60
	311	L74/L76, AT To 12' W		PTC	2X12					
	312	L74/L75/L76		T	2X2					
	313	L80/L81/L83		T	2X2					
	314	L81/L82/L83		T	2X2					
12-16-10	315	L82/L84/L90		T	2X2	VV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 21 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-16-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R316	L89/L89/L90		T	2X3	VV	5	12-16-10	JW	
	317	L89/L92, 20'E of	L46/L89/L92	PTC	2X2					
	318	L89/L91/L92		T	2X2					
	319	L89/L91, 3'E of	L89/L91/L92	DS	2X4					DT67
	320	L92/L93, 5'W of	L91/L92/L93	DS	2X4					DT68
	321	L91/L92/L93		T	2X2					
	322	L46/L84/L85/L89		T	4X6					
	323	L46/L89/L92		T	2X2					
	324	L46/L92/L93		T	2X2					
	325	L46/L93/L94		T	2X2					
	326	L46/L94, 10'NE of	L46/L93/L94	DS	2X4					DT69
	327	L46/L94/L95		T	2X2					
	328	L46/L95/L96		T	2X2					
	329	L46/L96/L97		T	2X2			12-16-10		
	330	L81/L82, 114'E of	P76	PTC	2X2			12-17-10		
12-16-10	331	L80/L81, 75'E of	P75	DS	2X4	VV	5	12-17-10	JW	DT63

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 22 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R 332	L79/L80, 20'E of P75/P75/L79/L80		DS	2X4	VV	5	12-17-10	JW	DT62
	333	L67/L68, 10'E of P78		DS	2X4					DT65
	334	P76/L81, 5'S of P76/L81/L82		DS	2X4					DT64
	335	L89/L85, 25'E of P79		DS	2X4					DT66
	336	L77/L76, 12'N of P76/L77/L78		DS	2X4					DT61
	337	L76/L78, 142'W of AT		PTC	2X2					
	338	L76/L78, 180'W of AT		PTC	2X2					
	339	L77/L78/L79		T	2X2					
	340	L76/L77/L78		T	2X2					
	341	L75/L76, 124'W of L74/L75/L76		PTC	2X2					
	342	L71/L73, 31'W of L71/L72/L73		PTC	2X2					
	343	L71/L73, 6'W of L71/L72/L73		DS	2X4					DT59
	344	L71/L72/L73		T	2X2					
	345	L70/L71, 8'W of L70/L71/L72		DS	2X4					DT58
	346	L70/L71/L72 + 12'E		T	2X12					
12-16-10	347	L70/L72, 20'E of L70/L71/L72		PTC	2X2	VV	5	12-17-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET 23 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R348	L68/L70, 86'E of P64		PTC	2X2	VV	5	12-17-10	JW	
	349	L64/L65, 25'E of P59		DS	2X4					DT54
	350	L64/L65, 140'E of P59		PTC	2X2					
	351	L62/L64, 125'E of P57		PTC	2X2					
	352	L59/L61, 45'To 55'E of L59/L60/L61		PTC	2X10					
	353	L59/L61, 75'E of L59/L60/L61		PTC	2X2					
	354	L59/L61, 95'E of L59/L60/L61		PTC	2X2					
	355	L59/L61, 120'E of L59/L60/L61		PTC	2X2					
	356	L61/L62, 10'E of L61/L62/L63		DS	2X4					DT53
	357	P36/L60, 5'N of P36/L59/L60		DS	2X4			12-17-10		DT57
	358	L59/L60, 10'W of L60/L61		DS	2X4	VV	5	12-17-10		DT57
	359	P83/P84/L88	at seam +5's	BS	5X6	TAN	10	12-16-10	JW	
	360	L86/L87/L88		T	2X2	TAN	10	12-17-10	JW	
	361	L79, 3'N, 100'E of L77/L78/L79		BS	6X8	TAN	10			gas vent
	362	L80, 10'N, 144'W of AT		BS	5X6	TAN	10			gas vent
12-16-10	363	L69, 13'S of L69/L70, 19'To 29'W of AT		BS	8X10	TAN	10	12-17-10	JW	manhole

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-7

SCS Non-Destructive Test Logs

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 1 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-22-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
P1/P2	SJ	X30	30	0	1306	1311	5	P		
P1/P2		30	29	1	1328	1333	5	P		
P1/P3		30	30	0	1344	1349	5	P		
P2/P4		30	30	0	1325	1330	5	P		
P2/P4		30	30	0	1320	1325	5	P		
P2/P3		30	30	0	1340	1345	5	P		
P3/P4		30	30	0	1347	1352	5	P		
P4/P5		30	30	0	1410	1415	5	P		
P4/P5		30	29	1	1402	1407	5	P		
P5/P6		30	30	0	1413	1418	5	P		
P6/P7		30	29	1	1419	1425	5	P		
P7/P8		30	29	1	1435	1440	5	P		
P8/P9		30	30	0	1448	1453	5	P		
P8/P10		30	30	0	1456	1501	5	P		
P9/P10		30	29	1	1504	1509	5	P		
P9/P11		30	29	1	1511	1516	5	P		
P10/P11		30	30	0	1507	1512	5	P		
P11/P12		30	29	1	1518	1523	5	P		
P12/P13		30	30	0	1520	1525	5	P		
P13/P14		30	29	1	1527	1533	5	P		
P1/P15	SJ	30	29	1	1554	1559	5	P		
P15/P16		30	30	0	1624	1629	5	P		
P15/P17		30	30	0	1606	1605	5	P		
P4/P5	SJ	30	30	0	1354	1359	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 2 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-22-10 TO 11-23-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P16/P18	SJ	30	29	1	1626	1631	5	P		
P17/P18		30	29	1	1610	1615	5	P		
P18/P19		30	30	0	1637	1642	5	P		
P19/P20		30	30	0	0810	0815	5	P		11-23-10
P16/P17		30	30	0	1613	1618	5	P		
P19/P21		30	30	0	1649	~~1655~~ 1652	5	P		
P20/P21		30	30	0	1655	1700	5	P		
P21/P22		30	30	0	1708	1713	5	P		
P20/P22		30	29	1	0814	0819	5	P		11-23-10
P8/P9	SJ	30	29	1	1453	1458	5	P		11-22-10
P2/P4		30	30	0	1309	1314	5	P		
P22/P23		30	29	1	0920	0925	5	P		
P22/P23		30	30	0	0912	0917	5	P		
P23/P24		30	30	0	0855	0900				
P22/P24		30	30	0	0851	0856				
P23/P25		30	30	0	0922	0927				
P24/P25		30	29	1	0902	0907				
P25/P26		30	30	0	1006	1011				
P26/P27		30	30	0	0934	0939				
P25/P27		30	29	1	0944	0949				
P26/P28		30	30	0	1008	1013				
P27/P28		30	30	0	0942	0947				
P29/P30	SJ	30	29	1	1021	1026	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 3 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P30/P32	SJ	30	30	0	1023	1028	5	P		
P29/P30		30	30	0	1036	1041				
P28/P29		30	30	0	1044	1049				
P30/P32		30	30	0	1033	1048				
P29/P32		30	30	0	1042	1047				
P14/P33		30	30	0	1253	1258				
P14/P33		30	30	0	1253	1258				
P33/P34		30	29 ~~30~~	1	1305 ~~3~~	1308				
P34/P35		30	29	1	1305	1310				
P33/P35			30	0	1305	1310				
P14/P35			30	0	1311	1316				
P13/P35			29	1	1137	1142				
P12/P35			30	0	1137	1142				
P11/P35			30	0	1327	1327				
P11/P35			30	0	1322	1327				
P9/P35			29	1	1332	1337				
P8/P35			30	0	1332	1337				
P7/P35			29	1	1342	1347				
P6/P35			30	0	1342	1347				
P5/P35			29	1	1356	1401				
P4/P35			29	1	1356	1401				
P2/P35			30	0	1405	1410				
P35/P36	SJ	30	29	1	1418	1423	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 4 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10 to

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P35/P36	SJ	30	30	0	1422	1427	5	P		
P35/P36			30	0	1426	1431				
P37/P38			29	1	1504	1509				
P38/P39			29	1	1450	1455				
P39/P40			30	0	1439	1444				
P37/P41			30	0	1518	1523				
P41/P42			30	0	1534	1539				
P42/P43			30	0	1554	1559				
P42/P43			29	1	1554	1559				
P43/P44			29	1	1624	1629				
P42/P44			30	0	1614	1619				
P43/P45			30	0	1633	1638				
P44/P45			29	1	1621	1626				
P45/P46			29	1	1651	1656				
P36/P40			30	0	1436	1441				
P36/P39			29	1	1445	1450				
P36/P38			30	0	1453	1458				
P36/P37			30	0	1507	1512				
P36/P41			29	1	1536	1541				
P36/P42			30	0	1546	1551				
P36/P42			30	0	1546	1551				
P36/P43			30	0	1644	1649				
P36/P45	SJ	30	29	1	1644	1649	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 5 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-23-10 To 11-24-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
P36/P46	SJ	30	30	0	1702	1707	5	P		11-23
P36/P47			29	1	1702	1707				11-23
P36/P49			29	1	0835	0840				11-24
P36/P50			30	0	0835	0840				
P36/P52			30	0	0843	0848				
P36/P52			30	0	0843	0848				
P36/P53			30	0	0851	0856				
P36/P53			29	1	0851	0856				
P46/P47			29	1	0742	0747				
P47/P48			29	1	0738	0743				
P46/P48			30	0	0726	0731				
P47/P49			29	1	0734	0739				
P48/P49			29	1	0729	0734				
P49/P50			30	0	0803	0808				
P50/P51			30	0	0745	0750				
P48/P51			30	0	0748	0753				
P50/P52			29	1	0806	0811				
P51/P52			29	1	0754	0759				
P52/P53			29	1	0826	0831				
P53/P54			30	0	0823	0828				
P52/P54			29	1	0815	0820				
P52/P54	SJ	30	30	0	0815	0820	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

40 mil

NON-DESTRUCTIVE TEST LOG

SHEET 6 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-29-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L1/L2	SJ	30	30	0	1127	1132	5	P		
L1/L2			29	1	1127	1132				
L2/L3			30	0	1105	1110				
L2/L3			30	0	1112	1117				
L3/L4			30	0	1052	1057				
L3/L4			29	1	1059	1104				
L4/L5			29	1	1043	1048				
L5/L6			29	1	1018	1023				
L5/L6			29	1	1026	1031				
L5/L6			30	0	1029	1034				
L6/L7			29	1	1012	1017				
L7/L8			30	0	1003	1008				
L7/L8			29	1	1003	1008				
L8/L9			30	0	0955	1000	"			
L10/L11			29	1	1136	1141				
L10/L12			30	0	1312	1317				
L10/L12			29	1	1304	1309				
L10/L12			30	0	1302	1307				
L12/L13			29	1	1319	1324				
L4/L10			29	1	1143	1148				
L3/L10			30	0	1143	1148				
L3/L11			29	1	1130	1135				
L7/L11	SJ	30	30	0	1130	1135	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 1 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11-26-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L17/L18	SJ	30	30	0	0728	0733	5	P		11-26-10
L16/L17			30	0	0725	0730				
L16/L18			30	0	0725	0730				
L15/L16			30	0	0739	0744				
L15/L16			29	1	0731	0736				
L14/L15			29	1	0739	0744				
L14/L15			30	0	0739	0744				
L14/L19			29	1	0754	0759				
L14/L19			29	1	0754	0759				
L19/L20			29	1	0805	0810				
L19/L20			30	0	0805	0810				
L13/L14			30	0	0812	0817				
L13/L19			29	1	0812	0819				
L13/L20			29	1	0823	0828				11-26-10
L20/L21			29	1	0840	0845				11-30-10
L20/L21			30	0	0840	0845				
L20/L21			30	0	0846	0851				
L20/L21			30	0	0849	0854				
L12/L21			29	1	0806	0811				
L21/L22			30	0	0744	0749				
L12/L22			30	0	0742	0747				
L10/L22			30	0	0742	0747				
L22/L23	SJ	30	30	0	0732	0737	5	P		11-30-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 7A of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-30-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
P1/Tie in	SP								P	11-30-10
P3/TI										
P4/TI										
P5/TI										
P6/TI										
P7/TI										
P8/TI										
P10/TI										
P11/TI										
P12/TI										
P13/TI										
P14/TI										
P33/TI										
P34/TI										
P15/TI										
P17/TI										
P16/TI										
P19/TI										
P21/TI										
P22/TI										
P24/TI										
P25/TI										
P27/TI	SP								P	11-30-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 26 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-30-10 To 12-8-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P28/TI	SP								P	11-30-10
P29/TI	SP								P	11-30-10
P31/TI	SP								P	11-30-10
L4/chute	JW									12-8-10
L5/chute										
L6/chute										
L7/chute										
L8/chute										
L9/chute										
L7/GFFR										
L8/GFFR										
L9/GFFR	JW								P	12-8-10
P18/L51	JW								P	12-11-10
P19/L51										
P19/L49										
P20/L49										
P20/L48										
P22/L48										
P22/L47										
P23/L47	JW								P	12-11-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 8 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-30-10 to 12-8-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
L23/L24	SJ	30	30	0	0814	0819	5	P		11-30-10
L22/L24	"	"	29	1	0817	0822	"	"		"
L23/L25	"	"	29	1	0730	0735	"	"		"
L24/L25	SJ	30	30	0	0921	0926	5	P		"
P29/P31	JW SP								P	11-30-10
P31/P32	SP								P	11-30-10
RL10/L23	JW								P	12-8-10
L12/chute	JW								P	12-8-10
L13/chute	JW								P	12-8-10
L10/chute	JW								P	12-8-10
P32/P11	SP								P	11-30-10
P32/P10	SP								P	11-30-10
P30/L10	SP								P	"
P29/L10	SP								P	"
P26/L23	SP								P	"
P25/L25	SP								P	"
P23/L25	SP								P	11-30-10
L19/chute	JW								P	12-8-10
L15/chute	JW								P	12-8-10
L16/chute	JW								P	"
L17/chute/GFFR	JW								P	"
L18/GFFR	JW								P	12-8-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 9 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11/29 -

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P55 / P36	SOS	30	30	0	7:28	7:33	5	P		
P55 / P53	SJ	30	29	1	7:41	7:46	5	P		
P55 / P53		30	30	0	7:44	7:49	5	P		
P55 / P53		30	30	0	7:48	7:53	5	P		
P55 / P54		30	29	1	7:54	7:59	5	P		
P55 / P54		30	30	0	8:02	8:07	5	P		
P56 / P55		30	29	1	8:10	8:15	5	P		
P56 / P57		30	29	1	8:18	8:23	5	P		
P56 / P58		30	30	0	8:38	8:43	5	P		
P57 / P58		30	30	0	8:27	8:32	5	P		
P58 / P59		30	29	1	8:31	8:36	5	P		
P58 / P59		30	30	0	8:26	8:21	5	P		
P59 / P60		30	30	0	9:06	9:11	5	P		
P60 / P61		30	30	0	9:15	9:20	5	P		
P61 / P59		30	29	0	9:03	9:08	5	P		
P61 / P63		30	30	0	9:43	9:48	5	P		NEED MAYBE UNDER CAP
P63 / P62		30	30	0	9:50	9:55	5	P		
P62 / P61		30	29	1	9:40	9:45	5	P		
P62 / P60		30	30	0	9:13	9:17	5	P		
P62 / P64		30	29	1	12:45	12:50	5	P		
P63 / P64		30	30	0	12:41	12:46	5	P		
P66 / P64		30	30	0	10:13	10:18	5	P		
P66 / P65		30	29	1	10:15	10:20	5	P		
P64 / P65	SJ	30	30	0	10 26	10 31	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 10 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/29/10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P65/P66	ST	30	29	1	10:34	10:39	5	P		CAP
P66/P67		30	29	1	10:24	10:29	5	P		CAP
P66/P67		30	29	1	10:04	10:09	5	P		
P68/P66		30	30	0	11:28	11:33	5	P		
P67/P68		30	30	0	11:17	11:22	5	P		
P68/P69		30	30	0	11:24	11:29	5	P		
P67/P69		30	30	0	11:13	11:18	5	P		
P67/P69		30	30	0	10:41	10:46	5	P		
P69/P70		30	30	0	10:48	10:53	5	P		
P69/P70		30	29	1	11:34	11:39	5	P		
P69/P71		30	29	1	1:01	1:06	5	P		
P70/P71		30	30	0	1:08	1:13	5	P		
P69/P71		30	29	1	1:01	1:06	5	P		
P71/P72		30	29	1	1:14	1:19	5	P		
P70/P72		30	29	1	1:23	1:28	5	P		
P72/P73		30	30	0	2:33	2:38	5	P		
P73/P74		30	30	0	2:05	2:10	5	P		
P74/P72		30	29	1	2:15	2:20	5	P		
P74/P75		30	30	0	2:19	2:24	5	P		
P73/P75		30	30	0	2:26	2:21	5	P		
P73/P76		30	30	0	2:41	2:46	5	P		
P73/P75		30	29	1	2:44	2:49	5	P		
P75/P76		30	29	1	2:51	2:56	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 8 11 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 11/29/10 To 12-3-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P75/P77	SJ	30	30	0	3:25	3:30	5	P		11-29-10
P77/P78		30	30	0	3:18	3:23	5	P		
P76/P77		30	29	1	3:12	3:17	5	P		
P76/P78		30	30	0	2:58	3:03	5	P		
P78/P79		30	29	1	3:37	3:42	5	P		
P80/P78		30	30	0	3:31	3:36	5	P		
P80/P79		30	30	0	3:49	3:54	5	P		
P81/P80		30	30	0	3:43	3:48	5	P		
P81/P79		30	29	1	3:52	3:57	5	P		
P81/P82		30	29	1	4:01	4:06	5	P		
P82/P83		30	30	0	4:04	4:09	5	P		~~PASSED~~
P83/P84		30	30	0	4:25	4:30	5	P		11-29-10
P84/P85		30	30	0	9:50	9:55	5	P		11/30/10
P84/P85		30	30	0	10:04	10:09	5	P		11/30/10
P84/P85		30	30	0	10:10	10:15	5	P		
P84/P85		30	30	0	10:22	10:27	5	P		
P85/P86		30	30	0	10:40	10:45	5	P		
P85/P86		30	30	0	10:50	10:55	5	P		11-30-10
P86/L32	NP							P	P	EX 12/3/10
P86/L31	NP							P	P	EX 12/3/10
P86/P87	SJ	30	30	0	10:37	10:32	5	P	P	12/3/10
P/L31/P87	NP								P	EX 12/3/10
~~P81/L32~~										~~EX~~
P77/P78	SJ	30	29	1	3:18	3:23	5	P		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 9/12 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/3/10 To 12-4-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	END	DROP	AIR TEST TIME START	END	DURATION	P/F	VACUUM BOX P/F	COMMENTS
P86/P87	SJ	30	30	0	10:28	10:33	5	P		12/3/10
P87/P86	↓	30	29	1	10:30	10:38	5	P		↓
P87/P88		30	29	1	10:41	10:46	5	P		
P87/P88	↓	30	30	0	10:45	10:60	5	P		12-3-10
P88/L30	NP								P	EX 12-4-10
P87/L30	NP								P	EX 12-4-10
P88/P89	NP								P	EX CAP 12-4-10
P88/P89	SJ	30	30	0	11:20	11:25	5	P		12-3-10
P88/P90	↓	30	30	0	10:58	11:03	5	P		↓
P89/P90		30	30	0	11:08	11:13	5	P		
P90/P91		30	29	1	11:01	11:06	5	P		
P89/P91		30	30	0	11:14	11:19	5	P		12-3-10
P89/P92	↓	30	30	0	11:27	11:32	5	P		? ~~COVERED~~ 12-3-10
P89/L27	NP								P	EX 12-4-10
P92/L27	NP								P	EX 12-4-10
P92/L28	NP								P	EX 12-4-10
P92/L29	NP								P	EX 12-4-10
P92/P93	SJ	30	29	1	12:54	12:59	5	P		12-3-10
P91/P92	↓	30	30	0	11:36	11:41	5	P		12-3-10
P91/P93		30	30	0	12:50	12:55	5	P		12-3-10
P91/P93	NP								P	EX ~~JOINT~~ E. OF MANHOLE 12-4-10
P93/P94	↓	30	30	0	1:04	1:09	5	P		12-3-10
P93/P94	NP								P	EX 12-4-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 13 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/3/10 TO 12-4-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
P93/L29	NP								P	EX 12-4-10
P94/L29	NP								P	EX 12-4-10
PL29/L28	SJ	30	29	1	1:21	1:26	5	P		
PL28/L27	"	30	30	0	1:23	1:28	5	P		
PL27/L26	"	30	29	1	1:38	1:43	5	P		
PL26/P89	NP								P	EX 12-4-10
P88/L26	NP								P	EX 12-4-10
PL26/L30	SJ	30	30		1:47	1:52	5	P		12-4-10
PL30/P88	NP								P	EX 12/4
PL30/P87	NP								P	EX 12/4
PL31/PL32	SJ	30	29	1	2:16	2:21	5	P		
PL32/L33	"	30	30	0	2:24	2:29	5	P		
PL33/L34	"	30	30	0	2:33	2:38	5	P		
P84/L33	NP								P	EX 12-4-10
P85/L33	NP								P	EX 12-4-10
PL32/L34	SJ	30	29	1	2:44	2:49	5	P		
PL32/L34	SJ	30	30	0	2:48	2:53	5	P		
PL34/L35	SJ	30	29	1	2:40	2:48	5	P		
PL35/L33	SJ	30	30	0	2:42	2:47	5	P		
PL35/L36	SJ	30	30	0	3:18	3:23	5	P		
PL36/L37	SJ	30	29	1	3:29	3:34	5	P		
PL36/L38	SJ	30	30	0	3:36	3:41	5	P		
PL37/L38	SJ	30	30	0	3:43	3:48	5	P		12-4-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 14 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 11-29-10 TO 12-4-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
PL39/L38	SJ	30	30	0	3:46	3:51	5	P		12-4-10
PL37/L39		30	29	1	3:53	3:58	5	P		"
PL37/L39		30	30	0	3:59	4:04	5	P		12-4-10
PL37/L39		30	30	0	3:59	4:04	5	P		2X
PL41/L46		30	29	1	7:46	7:51	5	P		12/4
PL39/L40		30	30	0	4:06	4:11	5	P		12-4
PL40/L42		30	30	0	4:20	4:25	5	P		12-3-10
PL40/L41		30	30	0	4:24	4:29	5	P		12-4-10
PL41/L42		30	30	0	4:27	4:32	5	P		12-4-10
PL42/L46		30	29	1	7:46	7:51	5	P		12/4
PL42/L43		30	30	0	4:30	4:35	5	P		12-3-10
PL46/L45		30	29	1	7:54	7:59	5	P		12-4-10
PL44/L43		30	29	1	4:36	4:41	5	P		12-3-10
PL44/L46		30	30	0	7:54	7:59	5	P		12/4
PL44/L45		30	30	0	4:38	4:43	5	P		12/3
PL46/L45		30	29	1	8:08	8:13	5	P		12/4
PL46/L40		30	30	0	7:41	7:46	5	P		12/4
PL46/L39		30	30	0	7:41	7:46	5	P		12/4
L30/L31	"	30	29	1	13:54	13:59	5	P		12-4-10
PL65/PL67	"	30	30	0	10:20	10:25	5	P		12/29/10
L42/L43	"	30	30	0	4:30	4:35	5	P		12-3-10
~~L30/L31~~	~~SJ~~	~~30~~	~~29~~	~~1~~	~~1254~~	~~1359~~	~~5~~	~~P~~		~~12-4-10~~

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 15 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/10/10 TO 12-11-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L25/L47	SJ	30	29	1	3:41	3:46	5	P		12-10-10
L47/L48	SJ	30	30	0	3:48	3:53	5	P		12-10-10
L47/P22	JW								P	EX. 12-11-10
L47/L48	SJ	30	30	0	3:48	3:53	5	P		12-10-10
L48/L50	"	30	30	0	4:02	4:07	5	P		"
L49/L50	"	30	30	0	3:51	3:56	5	P		"
L48/L49	"	30	30	0	3:54	3:59	5	P		"
L49/L51	SJ	30	29	1	4:22	4:27	5	P		12-10-10
L48/P30	JW								P	EX 12-11-10
L48/P22	JW								P	EX 12-11-10
L49/P19	JW								P	EX 12-11-10
L51/P18	JW							X	P	EX 12-11-10
L51/L50	SJ	30	30	0	4:15	4:20	5	P		12-10-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 16 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-14-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L25/L52	SJ	30	29	1	0926	0931	5	P		12-14-10
L47/L52			30	0	0930	0935				
L52/L53			29	1	0922	0927				
L52/L53			30	0	0915	0920				
L48/L53			30	0	0946	0951				
L53/L54			29	1	0954	0959				
L50/L54			30	0	1001	1006				
L54/L55			30	0	1008	1013				
L51/L55			30	0	1021	1026				
L55/L56			29	1	1024	1029				
L51/L56			29	1	1046	1051				
L51/L56			30	0	1051	1051				
L56/L58			29	1	1321	1326				
L56/L58			29	1	1054	1059				
L57/L58			30	0	1040	1045				
L56/L57			30	0	1102	1107				
L56/L57			30	0	1102	1107				
L56/L57			30	0	1105	1110				
L56/L57			29	1	1111	1116				
L56/L57			29	1	1121	1126				
L56/L57			30	0	1121	1126				
L57/L59			30	0	1132	1137				
L57/L59	SJ	30	29	1	1132	1137	5	P		
L25/L52	SJ	30	30	0	0926	0931	5	P		12-14-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 176 of

PROJECT TITLE Hardee County Landfill - Phase I Closure

PROJECT NO. 09199033.21

DATE 12-14-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L57/L59	SJ	30	30	0	1142	1147	5	P		12-14-10
L57/L59			29	1	1142	1147				
L58/L59			30	0	1250	1255				
L58/L59			30	0	1254	1259				
L58/L59			30	0	1304	1309				
L58/L59			30	0	1325	1330				
L59/L60			29	1	1406	1411				
L60/L61			30	0	1409	1414				
L59/L61			30	0	1404	1409				
L59/L61			30	0	1352	1357				
L59/L61			30	0	1352	1357				
L59/L61			30	0	1351	1356				
L59/L61			29	1	1341	1346				
L59/L61			29	1	1313	1318				
L59/L61			29	1	1334	1339				
L61/L63			29	1	1459	1504				
L62/L63			30	0	1453	1458				
L61/L62			29	1	1444	1449				
L61/L62			29	1	1430	1435				
L60/L62			30	0	1427	1432				
L60/L62			30	0	1427	1432				
L63/L64			30	0	1502	1507				
L62/L64	SJ	30	30	0	1447	1452	5	P		12-14-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 18 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12/14/10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
L62/L64	SJ	30	29	1	1436	1441	5	P		12-14-10
L64/L65	"	"	29	1	1546	1551	"	"		"
L64/L65			30	0	1530	1535				
L64/L66			29	1	1511	1516				
L65/L66			30	0	1513	1518				
L66/L67			30	0	1517	1522				
L65/L67			29	1	1532	1537				
L65/L67			30	0	1533	1538				
L65/L67			30	0	1538	1543				
L67/L68			29	1	1602	1607				
L67/L68			29	1	1623	1628				
L68/L69			30	0	1638	1643				
L68/L70			29	1	1609	1614				
L68/L70			30	0	1616	1621				
L69/L70	SJ	30	30	0	1631	1636	5	P		12-14-10
L56/ext	SJ	30	30	0	1049	1054	5	P		extension patch 12-14-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 19 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
L67/L69	SJ	30	30	0	0719	0724	5	P		12-15-10
L67/L69	"	"	30	0	0734	0739	"	"		"
L69/L70	"	"	30	0	0723	0728	"	"		"
L69/L70	"	"	30	0	0731	0736	"	"		"
L70/L71	"	"	29	1	0810	0815	"	"		"
L71/L72	"	"	30	0	0806	0811	"	"		"
L70/L72	"	"	30	0	0803	0808	"	"		"
L70/L72	"	"	30	0	0742	0747	"	"		"
L70/L72	"	"	29	1	0749	0754	"	"		"
L70/L72	"	"	30	0	0756	0801	"	"		"
L71/L73	"	"	30	0	1132	1137	"	"		"
L71/L73	"	"	29	1	1124	1129	"	"		"
L72/L73	"	"	29	1	1113	1118	"	"		"
L72/L73	"	"	30	0	1104	1109	"	"		"
L73/L75	"	"	29	1	0949	0954	"	"		"
L74/L75	"	"	30	0	0938	0943	"	"		"
L73/L74	"	"	29	1	0929	0934	"	"		"
L75/L76	"	"	30	0	1002	1007	"	"		"
L75/L76	"	"	30	0	0953	0958	"	"		"
L74/L76	"	"	30	0	0932	0937	"	"		"
L76/L77	"	"	30	0	1052	1057	"	"		"
L77/L78	"	"	30	0	1048	1053	"	"		"
L77/L79	SJ	30	30	0	1054	1059	5	P		12-15-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 20 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L76/L78	SJ	30	29	1	1018	1023	5	P		12-15-10
L76/L78			30	0	1021	1026				
L76/L78			29	1	1033	1038				
L78/L79			29	1	1044	1049				
L79/L80			30	0	1140	1045				
L79/L80			29	1	1143	1048				
L80/L81			29	1	1045	1250				
L81/L83			30	0	1319	1324				
L89/L83			30	0	1323	1328				
L81/L82			29	1	1354	1359				
L81/L82			29	1	1348	1353				
L83/L87			30	0	1333	1338				
L82/L84			30	0	1404	1409				
L84/L90			30	0	1502	1507				
L82/L90			30	0	1506	1511				
L84/L85			30	0	1418	1423				
L85/L86			30	0	1426	1431				
L86/L88			30	0	1437	1442				
L87/L88			30	0	1444	1449				
L86/L87			29	1	1437	1442				
L90/L89			30	0	1504	1509				
L84/L89			29	1	1519	1524				
L89/L92	SJ	30	30	0	1548	1553	5	P		12-15-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 21 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-15-10

SEAM NO.	TECH I.D.	AIR TEST PRESSURE (psi) START	PRESSURE (psi) END	PRESSURE (psi) DROP	TIME START	TIME END	TIME DURATION	P/F	VACUUM BOX P/F	COMMENTS
L89/L92	SJ	30	30	0	1544	1549	5	P		12-15-10
L91/L92			30	0	1537	1542				
L89/L91			30	0	1538	1533				
L92/L93			30	0	1546	1551				
L91/L93			30	0	1534	1539				
L93/L94			30	0	1554	1559				
L94/L95			30	0	1601	1606				
L95/L96			30	0	1611	1616				
L96/L97			30	0	1617	1622				
L46/L97			30	0	1620	1625				12-15-10
L46/L96			29	1	0812	0817				12-16-10
L46/L95			30	0	0803	0808				
L46/L94			30	0	0756	0801				
L46/L93			30	0	0748	0753				
L46/L92			30	0	0741	0746				
L46/L89	SJ	30	29	1	0734	0739	5	P		12-16-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 22 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
P18/ext	JW							P	P	12-16-10
P16/ext										
P15/L56										
P1/L56										
P7/L56										
P35/L56										
P35/L57										
P35/L59										
P36/L59										
P36/L60										
P56/L60										
P56/L62										
P57/L62										
P57/L64										
P59/L64										
P59/L65										
P60/L65										
P60/L67										
P64/L67										
P62/L68										
P64/L68										
P64/L70										
P65/L70										
P65/L71	JW							P	P	12-16-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 23 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
P67/L71	JW							P	P	12-16-10
P67/L73										
P69/L73										
P69/L75										
P70/L75										
P70/L76										
P72/L76										
P72/L77										
P73/L79										
P75/L80										
P75/L81										
P76/L81										
P76/L82										
P78/L82										
P78/L84										
P79/L84										
P79/L85										
P81/L85										
P81/L86										
P82/L86										
P82/L88										
P83/L88										
P84/L88	JW							P	P	12-16-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

NON-DESTRUCTIVE TEST LOG

SHEET 24 of
PROJECT TITLE Hardee County Landfill - Phase I Closure
PROJECT NO. 09199033.21
DATE 12-16-10

SEAM NO.	TECH I.D.	AIR TEST							VACUUM BOX P/F	COMMENTS
		PRESSURE (psi)			TIME			P/F		
		START	END	DROP	START	END	DURATION			
L33/L87	JW								P	12-16-10
L35/L87										
L36/L87										
L36/L86										
L37/L86										
L39/L86										
L46/L86										
L46/L85										
L85/L89	JW								P	12-16-10

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-8

SCS Destructive Test Logs

SCS ENGINEERS

DESTRUCTIVE TEST LOG

SHEET: 1 of 4
PROJECT TITLE: Hardee County Landfill - Phase I Closure
PROJECT NO: 09199033.21
DATE: 11-23-10

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS PASS/FAIL			COMMENTS
						INSTALLER	SCS	ARCH	
DT 1	P1/P2 nr. P2/P3	9	F	11-22-10	11-27-10	pass	pass		shipped 1-9 on 11-29-10
DT 2	P3/P4 nr. TI	8							
DT 3	P4/P5 nr. TI	1							
DT 4	P5/P6 nr. TI	1							
DT 5	P6/P7 nr. TI	102							
DT 6	P7/P8 nr. TI	8							
DT 7	P8/P9 nr. P9/P10	9							
DT 8	P6/P17 nr. P16/P18	1							
DT 9	P21/P22 nr. P20/P21	8	F	11-22-10	11-27-10	Pass			
DT 10	P13/TI nr. P13/P14	5	E	11-22-10	11-27-10	Pass	pass		
DT 11	P3/TI nr. P3/P4	5	E	11-22-10	11-27-10	Pass			
DT 12	~~P24/TI nr. P24/P25~~	5	E	11-24-10	1	Pass			
DT 13	P25/P27 nr. TI	1	F	11-23-10		Pass	Pass		
DT 14	P29/P32 nr. TI	3	F	11-23-10		Fail	—		
DT 15	P29/P30 nr. P28/P30	9		11-23-10		Pass	Pass		
DT 16	P35/P13 nr. P13/P14	9		11-23-10		Pass			
DT 17	P36/P42 nr. P42/P43	1		11-23-10		Pass			
DT 18	P37/P41 nr. AT	1		11-23-10	11-27-10	Pass			
DT 19	P46/P48 nr AT	3		11-23-10	11-20-10	Pass			
DT 20	P52/P54 nr. P53/P54	1	F	11-23-10	11-30-10	Pass	Pass		
	P22/TI nr P22/P24		F						
DT 14A	P30/P32, 24' N P29/P30	3	F	11-23-10	11-27-10	pass	pass		
DT 14B	P29/P32, 53' N of AT	3	F	11-23-10	11-27-10	pass	pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

DESTRUCTIVE TEST LOG

SHEET: 2 of 4
PROJECT TITLE: Hardee County Landfill - Phase I Closure
PROJECT NO: 09199033.21
DATE: 11-24-10 TO 12-

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS PASS/FAIL			COMMENTS
						INSTALLER	SCS	ARCH	
DT 21	P32/L1	~~B~~ 3	E	11-24-10	11-30-10	Pass	Pass		
DT 22	L6/T1	8	E	12-2-10	12-3-10	Pass	Pass		
DT 23	L16/T1	8	E	11-30-10	11-30-10	Pass	Pass		
DT 24	L5/L6	1	F	11-24-10					
DT 25	L21/L22	1	F	11-24-10					
DT 26	P54/P55	~~8~~ 3	F	11-27-10					
DT 27	P55/P56	9	F	11-27-10					
DT 28	P56/P58	8	F	11-27-10			Pass		
DT 29	P62/P63	9	F	11-27-10	11-30-10	Pass	Fail		
DT 30	P64/P66	3	F	11-29-10	12-3-10	Pass	Pass		
DT 31	P65/P67	2	F	11-29-10	12-3-10	Pass			
DT 32	P67/P69	3	~~E~~ F	11-29-10					
DT 33	P69/P70	3	F	11-29-10					
DT 34	P72/P73	2							
DT 35	P78/P79	9							
DT 36	P79/P81	3							
DT 37	P83/P84	9	F	~~11-29-10~~ 11-30-10	12-3-10		Pass		
DT 29A	P61/P63	9	~~E~~ F	11-27-10	12-3-10		Pass		
DT 29B	P58/P59	9	~~E~~ F	11-27-10	12-3-10	Pass	Fail		
DT 29C	P58/P59	9	~~E~~ F	11-27-10	12-7-10	Pass	Pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

SCS ENGINEERS

DESTRUCTIVE TEST LOG

SHEET: 3 of 4
PROJECT TITLE: Hardee County Landfill - Phase I Closure
PROJECT NO: 09199033.21
DATE: 12-3-10

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS PASS/FAIL			COMMENTS
						INSTALLER	SCS	ARCH	
DT 38	P86/P87	9	F	12-3-10	12-6-10	Pass	Pass		
DT 39	P88/P90	3							
DT40	P89/P92	8							
DTA1	L31/L32	M02							
DTA2	L35/L36	6							
DT43	L37/L39	6							
DT44	L42/L43	M02	F						
DT45	P87/L30	10	E	12-4-10	12-6-10	Pass	Pass		
DT46	P65/P67	8	F	12-6-10	12-7-10	Pass	Pass		cap
DTA7	P66/P67	8	F	12-6-10	12-7-10	Pass	Pass		cap
DT48	L50/L51	106	F	12-10-10	12-16-10	Pass	Pass		
DT49	L55/L56	108		12-14-10	12-16-10				
DT50	L57/L59	106							
DT51	L59/L60	108							
DT52	L62/L63	106							
DT53	L61/L62	10							
DT54	L64/L65	108							
DT55	L66/L67	106							
DT56	L68/L69	10	F						
DT57	L60/P36	G5	E	12-14-10	12-16-10	Pass	Pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G DuPont

SCS ENGINEERS

DESTRUCTIVE TEST LOG

SHEET: 4 of 4
PROJECT TITLE: Hardee County Landfill - Phase I Closure
PROJECT NO: 09199033.21
DATE: 12-15-10

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS PASS/FAIL			COMMENTS
						INSTALLER	SCS	ARCH	
DT 58	L70/L71	106	F	12-15-10	12-16-10	Pass	Pass		
DT 59	L71/L73	108							
DT 60	L74/L75	108							
DT 61	L77/L78	106							
DT 62	L79/L80	106							
DT 63	L80/L81	108	F				Pass		
DT 64	P76/L81	G-10	E				Pass		
DT 65	L82/L84	106	F						
DT 66	L84/L85	108							
DT 67	L89/L91	106							
DT 68	L92/L93	108							
DT 69	L46/L94	106	F	12-15-10	12-16-10	Pass	Pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

Attachment 5-9

TRI 40 mil Destructive Seam Test Results

TRI/Environmental, Incorporated
CQA 40 mil LLDPE Seam Destructive Test Results
Hardee County Class I Landfill Phase I Closure
12/17/2010

Destruct Test Number	Destruct Test Location	CQA Testing TRI Reference	Weld Type	Pass/Fail	Retest Pass/Fail
DS-21	32/L1	4926	Extrusion	Pass	
DS-22	L6/TI	4950	Extrusion	Pass	
DS-23	L16/TI	4936	Extrusion	Pass	
DS-24	L6/L7	4936	Fusion	Pass	
DS-25	L21/L22	4936	Fusion	Pass	
DS-41	L31/L32	4973	Fusion	Pass	
DS-42	L35/L36	4973	Fusion	Pass	
DS-43	L37/L39	4973	Fusion	Pass	
DS-44	L42/L43	4973	Fusion	Pass	
DS-45	P87/L30	4974	Extrusion	Pass	
DS-48	L50/L51	5029	Fusion	Pass	
DS-49	L55/L56	5029	Fusion	Pass	
DS-50	L57/L59	5029	Fusion	Pass	
DS-51	L59/L60	5029	Fusion	Pass	
DS-52	L62/L63	5029	Fusion	Pass	
DS-53	L61/L62	5029	Fusion	Pass	
DS-54	L64/L65	5029	Fusion	Pass	
DS-55	L66/L67	5029	Fusion	Pass	
DS-56	L68/69	5029	Fusion	Pass	
DS-57	L60/P36	5030	Fusion	Pass	
DS-58	L70/L71	5029	Fusion	Pass	
DS-59	L71/L73	5029	Fusion	Pass	
DS-60	L74/L75	5029	Fusion	Pass	
DS-61	L77/L78	5029	Fusion	Pass	
DS-62	L79/L80	5029	Fusion	Pass	
DS-63	L80/L81	5029	Fusion	Pass	
DS-64	P76/L81	5033	Extrusion	Pass	
DS-65	L82/L84	5033	Fusion	Pass	
DS-66	L84/L85	5033	Fusion	Pass	
DS-67	L89/L91	5033	Fusion	Pass	
DS-68	L92/L93	5033	Fusion	Pass	
DS-69	L46/L94	5033	Fusion	Pass	

PROPERTY	TEST METHOD	VALUE
Peel Strength (extrusion), ppi	ASTM D6392	48
Peel Strength (fusion), ppi	ASTM D6392	50
Shear Strength (fusion & ext.), ppi	ASTM D6392	60

TRI / Environmental, Inc.
A Texas Research International Company

Date: 2010-12-01

Mail To:

Shane Fischer
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4041 Park Oaks Blvd., Ste .100
Tampa, FL, 33610

Bill To:

SCS Engineers
P.O. #: 09-00140

e-mail: sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4926**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil LLDPE/ 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: 4926

	TEST REPLICATE NUMBER						
PARAMETER	1	2	3	4	5	MEAN	Proj. Spec.
Sample ID: DS-21 | Weld: Single Extrusion							
Side: Peel						**Peel A**	
Peel Strength (ppi)	87	85	88	88	92	**88**	
Peel Incursion (%)	<5	<5	<5	<5	<5		
Peel Locus of Failure Code	SE	SE	SE	SE	SE		
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB		
Shear						**Shear**	
Shear Strength (ppi)	77	79	75	79	77	**77**	
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50		

The testing 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.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-02

Mail To:
Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Ste. 100
Tampa , FL , 33610

Bill To:

SCS Engineers
P.O. # : 09-00140

e-mail:
sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4936**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4936

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	91	91	90	87	91	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	82	79	79	86	81	**81**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	93	99	97	95	92	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	91	92	81	88	90	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	71	74	75	88	74	**76**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	94	97	91	92	89	**93**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4936

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-23 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	74	80	70	87	80	**78**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	84	87	72	77	77	**79**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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Date: 2010-12-06

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P.O. # : 09-00140

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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4950**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4950

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-22 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	91	78	80	84	92	**85**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	94	94	88	83	90	**90**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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Date: 2010-12-08

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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4973**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4973

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-41 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	73	82	85	80	82	**80**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	74	77	77	75	77	**76**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	94	95	95	93	94	**94**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-42 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	86	79	85	85	83	**84**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	76	76	76	77	86	**78**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	95	94	96	92	**94**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4973

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-43 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	89	89	84	88	84	**87**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	85	80	79	83	80	**81**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	97	96	95	92	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-44 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	90	88	89	86	88	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	90	88	90	88	94	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	98	96	99	95	**96**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI / Environmental, Inc.
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Date: 2010-12-08

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Dear Mr. Fischer

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4974**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

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Geosynthetic Services Division
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TRI / Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil LLDPE/ 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: 4974

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-45 | Weld: Single Extrusion						
Side: Peel						**Peel A**
Peel Strength (ppi)	95	99	96	92	92	**95**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	78	78	79	78	79	**78**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-18

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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**5029**
Material(s) Tested:	(15) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-48 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	96	94	91	93	92	**93**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	92	93	90	88	91	**91**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	97	98	96	99	98	**98**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-49 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	88	89	87	87	89	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	91	91	95	92	96	**93**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	97	94	95	95	96	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-50 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	80	95	83	89	96	**89**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	88	88	89	91	89	**89**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	99	98	96	96	99	**98**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-51 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	87	83	80	83	83	**83**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	91	96	93	94	91	**93**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	96	97	94	93	97	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-52 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	90	92	94	93	95	**93**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	92	93	92	91	89	**91**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	93	95	93	95	**94**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-53 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	89	89	91	93	94	**91**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	83	81	83	80	81	**82**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	94	94	98	94	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-54 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	84	81	84	89	79	**83**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	82	81	89	88	86	**85**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	98	97	97	102	97	**98**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-55 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	91	88	90	81	90	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	86	93	84	85	90	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	98	95	101	100	97	**98**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-56 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	92	90	93	91	93	**92**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	90	86	92	88	92	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	91	94	93	90	92	**92**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-58 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	80	83	82	82	84	**82**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	89	83	87	93	85	**87**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	93	95	98	95	97	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-59 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	83	80	82	82	84	**82**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	92	94	91	91	105	**95**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	94	98	93	97	99	**96**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-60 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	96	94	95	95	94	**95**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	95	93	102	91	100	**96**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	96	93	91	96	97	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-61 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	90	100	97	98	93	**96**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	89	92	95	95	95	**93**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	107	113	106	104	103	**107**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-62 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	86	81	87	83	80	**83**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	83	81	85	85	92	**85**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	92	95	96	97	96	**95**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5029

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-63 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	86	85	90	89	85	**87**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	80	78	80	81	86	**81**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	95	95	97	99	93	**96**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI / Environmental, Inc.
A Texas Research International Company

Date: 2010-12-18

Mail To:

Shane Fischer
SCS Engineers
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Tampa, FL, 33610

Bill To:

SCS Engineers
P.O. #: 09-00140

e-mail: sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**5030**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil LLDPE/ 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: 5030

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-57 | Weld: Single Extrusion						
Side: Peel						**Peel A**
Peel Strength (ppi)	88	95	89	89	87	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	87	88	85	86	87	**87**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-20

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SCS Engineers
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Tampa , FL , 33610

Bill To:

SCS Engineers
P.O. # : 09-00140

e-mail:
sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**5033**
Material(s) Tested:	(5) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5033

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-65 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	89	87	90	92	92	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	81	79	75	85	83	**81**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	91	90	96	95	95	**94**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-66 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	75	80	85	68	78	**77**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	80	82	81	94	93	**86**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	92	93	91	95	94	**93**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5033

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-67 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	88	85	86	89	90	**88**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	85	86	88	82	90	**86**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	97	97	95	98	99	**97**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-68 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	92	88	90	92	90	**90**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	94	90	101	99	89	**95**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	92	94	97	98	98	**96**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 5033

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-69 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	89	91	89	92	92	**91**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	88	86	88	91	90	**89**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	93	90	91	93	92	**92**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 5033

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-64 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	97	95	98	98	100	**98**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	90	94	92	89	92	**91**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Attachment 5-10

TRI 60 mil Destructive Seam Test Results

TRI/Environmental, Incorporated
CQA 60 mil HDPE Seam Destructive Test Results
Hardee County Class I Landfill Phase I Closure
12/17/2010

Destruct Test Number	Destruct Test Location	CQA Testing TRI Reference	Weld Type	Pass/Fail	Retest Pass/Fail
DS-1	P1/P2	4922	Fusion	Pass	
DS-2	P3/P4	4922	Fusion	Pass	
DS-3	P4/P5	4922	Fusion	Pass	
DS-4	P5/P6	4922	Fusion	Pass	
DS-5	P6/P7	4922	Fusion	Pass	
DS-6	P7/P8	4922	Fusion	Pass	
DS-7	P8/P9	4922	Fusion	Pass	
DS-8	P16/P17	4922	Fusion	Pass	
DS-9	P21/P22	4922	Fusion	Pass	
DS-10	P13/TI	4922	Extrusion	Pass	
DS-11	P3/TI	4926	Extrusion	Pass	
DS-12	P22/TI	4926	Extrusion	Pass	
DS-13	P25/P27	4926	Fusion	Pass	
DS-14A	P30/P32	4926	Fusion	Pass	
DS-14B	P29/P32	4926	Fusion	Pass	
DS-15	P29/P30	4926	Fusion	Pass	
DS-16	P35/P13	4926	Fusion	Pass	
DS-17	P36/P42	4926	Fusion	Pass	
DS-18	P37/P41	4926	Fusion	Pass	
DS-19	P46/P48	4926	Fusion	Pass	
DS-20	P52/P54	4926	Fusion	Pass	
DS-26	P54/P55	4937	Fusion	Pass	
DS-27	P55/P56	4937	Fusion	Pass	
DS-28	P56/P58	4937	Fusion	Pass	
DS-29	P62/P63	4937	Fusion	Fail	
DS-29A	P61/P63	4949	Fusion		Fail
DS-29B	P58/P59	4949	Fusion		Pass
DS-29C	P58/P59	4975	Fusion	Pass	
DS-30	P64/P66	4949	Fusion	Pass	
DS-31	P66/P67	4949	Fusion	Pass	
DS-32	P67/P69	4949	Fusion	Pass	
DS-33	P69/P70	4949	Fusion	Pass	
DS-34	P72/P74	4949	Fusion	Pass	
DS-35	P78/P79	4949	Fusion	Pass	
DS-36	P79/P81	4949	Fusion	Pass	
DS-37	P83/P84	4949	Fusion	Pass	
DS-38	P86/P87	4975	Fusion	Pass	
DS-39	P88/P90	4975	Fusion	Pass	
DS-40	P89/P92	4975	Fusion	Pass	
DS-46	P65/67	4981	Fusion	Pass	
DS-47	P66/P67	4981	Fusion	Pass	

PROPERTY	TEST METHOD	VALUE
Peel	ASTM D6392	
Wedge Weld (lb/in width)		98
Extrusion Weld (lb/in width)		78
Shear	ASTM D6392	
Wedge Weld (lb/in width)		120
Extrusion Weld (lb/in width)		120

TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-11-30

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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4922**
Material(s) Tested:	(9) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer Tenney
Project Manager
Geosynthetic Services Division
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	116	126	125	121	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	118	116	112	120	114	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	155	154	154	160	158	**156**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	119	123	142	132	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	136	136	134	137	131	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	155	157	155	162	158	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	109	114	114	123	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	119	130	129	128	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	159	157	158	163	161	**160**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	115	137	131	137	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	128	116	125	110	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	155	153	161	156	**156**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	131	121	118	109	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	131	123	130	127	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	148	150	149	156	152	**151**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	118	110	130	128	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	140	120	121	135	116	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	155	156	156	162	158	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	114	114	116	113	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	128	116	113	118	110	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	152	152	156	154	**153**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	151	153	150	156	152	**152**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	147	150	108	148	154	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	163	163	170	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	134	131	131	136	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	121	121	126	120	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	155	155	162	158	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60 mil. HDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4922

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-10 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	145	156	144	132	151	**146**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	160	170	165	165	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-01

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P.O. # : 09-00140

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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4926**
Material(s) Tested:	(9) Heat Fusion Weld Seam(s) (2) Single Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	136	139	134	136	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	108	137	111	137	139	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	144	141	140	144	143	**142**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-14A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	120	118	122	123	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	112	112	115	117	115	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	150	148	155	155	154	**153**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-14B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	117	113	123	115	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	115	110	111	118	**113**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	141	144	143	145	145	**144**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	160	160	161	155	167	**161**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	172	166	170	167	165	**168**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	173	171	172	174	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	152	135	164	127	157	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	168	164	158	154	153	**159**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	165	157	156	163	**160**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	110	116	113	115	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	102	110	110	138	98	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	149	149	152	152	**151**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	124	125	130	127	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	116	118	123	134	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	150	150	148	155	151	**151**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	123	129	129	135	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	123	124	127	135	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	149	152	149	149	152	**150**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	122	123	122	125	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	125	125	116	115	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	146	145	145	150	147	**147**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60 mil. HDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4926

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-11 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	121	111	123	125	129	**122**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	157	155	161	158	**158**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-12 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	152	117	137	118	136	**132**
Peel Incursion (%)	<5%	<5%	<5%	<5%	<5%	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	162	157	168	164	**161**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-02

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Bill To:

SCS Engineers
P.O. # : 09-00140

e-mail:
sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4937**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4937

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	128	120	122	120	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	131	131	131	127	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	146	147	149	151	**149**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	124	131	121	120	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	114	122	119	114	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	151	154	150	158	153	**153**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4937

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	120	120	120	126	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	126	126	125	128	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	155	155	161	157	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	151	154	144	147	146	**148**
Peel Incursion (%)	<5	20	<5	90	<5	
Peel Locus Of Failure Code	SE	AD-BRK	SE	AD-BRK	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	149	149	145	147	146	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	162	164	168	167	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI/Environmental, Inc.
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Date: 2010-12-06

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e-mail:
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Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4949**
Material(s) Tested:	(10) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4949

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-29A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	125	128	124	120	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	114	119	109	114	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	152	163	154	18	**129**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-29B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	132	120	118	125	**124**
Peel Incursion (%)	<5	<5	<5	20	<5	
Peel Locus Of Failure Code	SE	SE	SE	AD-BRK	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	138	128	127	132	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	156	153	158	155	**156**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4949

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-30 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	122	119	124	125	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	123	134	127	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	154	162	158	167	**161**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-31 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	130	131	116	132	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	112	113	121	111	113	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	157	155	159	157	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4949

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-32 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	126	117	131	116	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	122	127	123	122	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	154	156	159	152	153	**155**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-33 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	124	126	122	123	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	115	109	126	109	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	165	167	163	171	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4949

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-34 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	119	120	127	121	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	111	114	121	122	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	160	158	158	155	163	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-35 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	140	138	131	137	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	136	123	136	130	132	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	154	154	155	157	158	**155**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4949

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	129	131	128	131	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	118	119	121	100	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	164	158	158	161	**160**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-37 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	116	130	127	129	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	117	111	115	112	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	151	150	155	150	151	**151**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing is based upon accepted industry practices 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 claims 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.

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9063 Bee Caves Road / Austin, Tx. 78733 / 512.263.2101 / fax: 512.263.2558

TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-08

Mail To:
Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Ste. 100
Tampa , FL , 33610

Bill To:

SCS Engineers
P.O. # : 09-00140

e-mail:
sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4975**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

http://www.geosyntheticstesting.com
9063 Bee Caves Road / Austin, Tx. 78733 / 512.263.2101 / fax: 512.263.2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4975

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-29C | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	117	123	118	125	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	100	102	106	106	108	**104**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	155	153	149	157	**153**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-38 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	145	143	142	146	124	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	106	105	103	109	98	**104**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	153	148	153	148	154	**151**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing is based upon accepted industry practices 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 claims 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.

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: SCS Engineers
Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 4975

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-39 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	138	140	143	135	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	124	130	126	130	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	186	181	187	184	187	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-40 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	140	140	143	139	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	141	133	139	129	125	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	186	189	189	188	187	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing is based upon accepted industry practices 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 claims 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.

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TRI/Environmental, Inc.
A Texas Research International Company

Date: 2010-12-09

Mail To:
Shane Fischer
SCS Engineers
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Tampa , FL , 33610

Bill To:

SCS Engineers
P.O. # : 09-00140

e-mail:
sfischer@scsengineers.com ddupont@scsengineers.com

Dear Mr. Fischer,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee Cty Class I Landfill Phase I Closure**
TRI Job Reference Number:	**4981**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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TRI/Environmental, Inc.
A Texas Research International Company

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: SCS Engineers

Project: Hardee Cty Class I Landfill Phase I Closure

Material: 60mil. HDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 4981

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-46 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	149	133	140	128	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	149	137	131	123	122	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	165	166	174	171	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-47 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	129	123	133	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	121	124	128	126	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	160	163	171	169	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing is based upon accepted industry practices 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 claims 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.

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Attachment 5-11

Agru America 40 mil Geomembrane MQC Certificates

AGRU
MQC Test Results 40 mil LLDPE
Hardee County Class I Landfill Phase I Closure

Number	AGRU Roll Number	QA Tested TRI Reference	Pass/Fail
1	245221	E2348-73-10	**Pass**
2	245224		
3	245225		
4	245226		
5	245227		
6	245228		
7	245229	E2348-75-07	**Pass**
8	245230		
9	245231		
10	245332		
11	245333		
12	245334		
13	245335	E2348-75-07	**Pass**
14	245336		
15	245338		
16	245339		
17	245340		
18	245341		
19	245342	E2348-77-02	**Pass**
20	245343		
21	245344		
22	245345		

agru america quality control dept

quality certificate

ROLL # **245221-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.95** mm	**37** mil
	MAX:	**1.12** mm	**44** mil
Asperity ASTM D7466: **29/32** mil TOP / BOTTOM	AVE:	**1.04** mm	**41** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range	%				**2.16**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**131**	ppi	**3,208**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**512.8**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-9-10**

Signature.....

Quality Control Department

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ROLL # **245224-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.97**	mm	**38**	mil
	MAX:	**1.08**	mm	**43**	mil
Asperity ASTM D7466: **29/31** mil TOP / BOTTOM	AVE:	**1.03**	mm	**41**	mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**169**	

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range	%				**2.16**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**130**	ppi	**3,208**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**512.8**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date:..... **11-10-10**

Signature.....

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ROLL # **245225-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.98**	mm	**39**	mil
	MAX:	**1.09**	mm	**43**	mil
Asperity ASTM D7466: **29/32** mil TOP / BOTTOM	AVE:	**1.02**	mm	**40**	mil

Thickness.....	**1.0**	mm	**40** mil
Length.....	**216.411**	m	**710.0** feet
Width.....	**7.00**	m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g		g/10 min			**.34**	
Carbon Black Content ASTM D4218	Range		%			**2.16**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**129**	ppi	**3,208**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			**512.8**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

Quality Control Department

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ROLL # **245226-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.98** mm	**39** mil
	MAX:	**1.14** mm	**45** mil
Asperity ASTM D7466: **26/30** mil TOP / BOTTOM	AVE:	**1.05** mm	**41** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g		g/10 min			**.34**	
Carbon Black Content ASTM D4218	Range		%			**2.44**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**134**	ppi	**3,236**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			**530.6**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

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ROLL # **245227-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.00 mm	39 mil
	MAX:	1.14 mm	45 mil
Asperity ASTM D7466: 27/29 mil TOP / BOTTOM	AVE:	1.08 mm	43 mil

Thickness.....	1.0 mm	40 mil
Length.....	216.411 m	710.0 feet
Width.....	7.00 m;	23.0 feet

OIT(Standard) ASTM D3895 minutes **169**

							TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc					.938	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min					.34	
Carbon Black Content ASTM D4218	Range	%					2.44	
Carbon Black Dispersion ASTM D5596	Category						10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	138	ppi		3,236	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%					530.6	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%					-0.26	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	134.8	N				30.312	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	380.9	N				85.639	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	387.7	N				87.156	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs					CERTIFIED	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

Quality Control Department

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quality certificate

ROLL # **245228-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.99** mm	**39** mil
	MAX:	**1.15** mm	**45** mil
Asperity ASTM D7466: **27/27** mil TOP / BOTTOM	AVE:	**1.06** mm	**42** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc			**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g		g/10 min			**.34**	
Carbon Black Content ASTM D4218	Range		%			**2.44**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**24**	N/mm	**135**	ppi	**3,236**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%			**530.6**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%			**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245229-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.99** mm	**39** mil
	MAX:	**1.14** mm	**45** mil
Asperity ASTM D7466: **27/29** mil TOP / BOTTOM	AVE:	**1.06** mm	**42** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range	%				**2.44**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**24**	N/mm	**135**	ppi	**3,236**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**530.6**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N			**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N			**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N			**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245230-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.97**	mm	**38**	mil
	MAX:	**1.13**	mm	**44**	mil
Asperity ASTM D7466: **27/28** mil TOP / BOTTOM	AVE:	**1.05**	mm	**41**	mil

Thickness.....	**1.0**	mm	**40 mil**
Length.....	**216.411**	m	**710.0** feet
Width.....	**7.00**	m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**169**		

								TEST RESULTS	
Specific Gravity ASTM D792	Density			g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g			g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range			%				**2.44**	
Carbon Black Dispersion ASTM D5596	Category							**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**134**	ppi			**3,236**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break			%				**530.6**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change			%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**134.8**	N					**30.312**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**380.9**	N					**85.639**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**387.7**	N					**87.156**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs					**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

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ROLL # **245231-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	1.00	mm	39	mil	Length.....	216.411 m	710.0 feet
	MAX:	1.16	mm	46	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 25/28 mil TOP / BOTTOM	AVE:	1.08	mm	43	mil	OIT(Standard) ASTM D3895 minutes	169	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.938
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.34
Carbon Black Content ASTM D4218	Range	%		2.10
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23 N/mm	132 ppi	3,093 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		516.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.26
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	147.5 N		33.150 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	348.8 N		78.417 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	406.4 N		91.374 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245332-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.99** mm	**39** mil
	MAX:	**1.17** mm	**46** mil
Asperity ASTM D7466: **27/27** mil TOP / BOTTOM	AVE:	**1.08** mm	**43** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190ºC /2160 g	g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range	%				**2.10**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**132**	ppi	**3,093**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**516.9**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**147.5**	N			**33.150**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**348.8**	N			**78.417**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**406.4**	N			**91.374**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

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ROLL # **245333-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.02 mm	40 mil
	MAX:	1.15 mm	45 mil
Asperity ASTM D7466: 29/29 mil TOP / BOTTOM	AVE:	1.09 mm	43 mil

Thickness.....	1.0 mm	40 mil
Length.....	216.411 m	710.0 feet
Width.....	7.00 m;	23.0 feet

OIT(Standard) ASTM D3895 minutes **169**

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.938
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.34
Carbon Black Content ASTM D4218	Range	%			2.10
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23 N/mm	133 ppi	3,093	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		516.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.26	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	147.5 N		33.150	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	348.8 N		78.417	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	406.4 N		91.374	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

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ROLL # **245334-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.03	mm	41	mil
	MAX:	1.15	mm	45	mil
Asperity ASTM D7466: 29/30 mil TOP / BOTTOM	AVE:	1.09	mm	43	mil

Thickness.....	1.0 mm		40 mil
Length.....	216.411 m		710.0 feet
Width.....	7.00 m;		23.0 feet
OIT(Standard) ASTM D3895 minutes	169		

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.938	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.34	
Carbon Black Content ASTM D4218	Range	%			2.10	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23	N/mm	133 ppi	3,093	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			516.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.26	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	147.5	N		33.150	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	348.8	N		78.417	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	406.4	N		91.374	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

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ROLL # **245335-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**1.02** mm	**40** mil
	MAX:	**1.16** mm	**46** mil
Asperity ASTM D7466: **29/29** mil TOP / BOTTOM	AVE:	**1.08** mm	**43** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **169**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.938**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.34**	
Carbon Black Content ASTM D4218	Range	%				**2.10**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**132**	ppi	**3,093**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**516.9**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.26**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**147.5**	N			**33.150**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**348.8**	N			**78.417**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**406.4**	N			**91.374**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245336-10** Lot #: **CAK810350** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.04 mm	41 mil
	MAX:	1.20 mm	47 mil
Asperity ASTM D7466: 28/28 mil TOP / BOTTOM	AVE:	1.08 mm	43 mil

Thickness.....	1.0 mm	40 mil
Length.....	216.411 m	710.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	169	

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.938	
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.34	
Carbon Black Content ASTM D4218	Range	%			2.16	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	24	N/mm	139 ppi	3,273	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			559.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.26	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	147.5	N		33.150	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	348.8	N		78.417	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	406.4	N		91.374	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date:..... **11-10-10**

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ROLL # **245338-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	0.99 mm	39 mil
	MAX:	1.09 mm	43 mil
Asperity ASTM D7466: 28/32 mil TOP / BOTTOM	AVE:	1.03 mm	41 mil

Thickness.....	1.0 mm	40 mil
Length.....	216.411 m	710.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	167	

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min			.35
Carbon Black Content ASTM D4218	Range	%			2.16
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23 N/mm	133 ppi		3,273 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%			559.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.82
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	147.5 N			33.150 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	348.8 N			78.417 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	406.4 N			91.374 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245339-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.96**	mm	**38**	mil
	MAX:	**1.13**	mm	**44**	mil
Asperity ASTM D7466: **29/30** mil TOP / BOTTOM	AVE:	**1.04**	mm	**41**	mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**167**	

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.35**	
Carbon Black Content ASTM D4218	Range	%				**2.11**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**134**	ppi	**3,273**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**559.9**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**147.5**	N			**33.150**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**348.8**	N			**78.417**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**406.4**	N			**91.374**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
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ROLL # **245340-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.93** mm	**37** mil
	MAX:	**1.12** mm	**44** mil
Asperity ASTM D7466: **29/29** mil TOP / BOTTOM	AVE:	**1.02** mm	**40** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes **167**		

							TEST RESULTS	
Specific Gravity ASTM D792	Density			g/cc			**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g			g/10 min			**.35**	
Carbon Black Content ASTM D4218	Range			%			**2.11**	
Carbon Black Dispersion ASTM D5596	Category						**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**131**	ppi		**3,273**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break			%			**559.9**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change			%			**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**147.5**	N				**33.150**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**348.8**	N				**78.417**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**406.4**	N				**91.374**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs				**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

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ROLL # **245341-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.98**	mm	**39**	mil
	MAX:	**1.08**	mm	**43**	mil
Asperity ASTM D7466: **29/30** mil TOP / BOTTOM	AVE:	**1.04**	mm	**41**	mil

Thickness.....	**1.0**	mm	**40** mil
Length.....	**216.411**	m	**710.0** feet
Width.....	**7.00**	m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **167**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.35**	
Carbon Black Content ASTM D4218	Range	%				**2.05**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**132**	ppi	**3,230**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**515.2**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**150.5**	N			**33.828**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**371.3**	N			**83.471**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**407.0**	N			**91.500**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

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ROLL # **245342-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**0.92**	mm	**36**	mil
	MAX:	**1.08**	mm	**43**	mil
Asperity ASTM D7466: **29/30** mil TOP / BOTTOM	AVE:	**1.01**	mm	**40**	mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **167**

						TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc				**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g	g/10 min				**.35**	
Carbon Black Content ASTM D4218	Range	%				**2.05**	
Carbon Black Dispersion ASTM D5596	Category					**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**22**	N/mm	**128**	ppi	**3,230**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%				**515.2**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%				**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**150.5**	N			**33.828**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**371.3**	N			**83.471**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**407.0**	N			**91.500**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs			**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

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ROLL # **245343-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.0 mm	40 mil
	MIN:	0.97	mm	38	mil	Length.....	216.411 m	710.0 feet
	MAX:	1.10	mm	43	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 29/29 mil TOP / BOTTOM	AVE:	1.04	mm	41	mil	OIT(Standard) ASTM D3895 minutes	167	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.935
MFI ASTM D1238 COND. E GRADE: 7104	Melt Flow Index 190°C /2160 g	g/10 min		.35
Carbon Black Content ASTM D4218	Range	%		2.05
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	23 N/mm	132 ppi	3,230 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break	%		515.2
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.82
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	150.5 N		33.828 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	371.3 N		83.471 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	407.0 N		91.500 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245344-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.99** mm	**39** mil
	MAX:	**1.14** mm	**45** mil
Asperity ASTM D7466: **28/28** mil TOP / BOTTOM	AVE:	**1.04** mm	**41** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes **167**		

							TEST RESULTS	
Specific Gravity ASTM D792	Density			g/cc			**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g			g/10 min			**.35**	
Carbon Black Content ASTM D4218	Range			%			**2.16**	
Carbon Black Dispersion ASTM D5596	Category						**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**23**	N/mm	**132**	ppi		**3,230**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%				**515.2**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%				**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**150.5**	N				**33.828**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**371.3**	N				**83.471**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**407.0**	N				**91.500**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs				**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

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ROLL # **245345-10** Lot #: **CAK810330** **Liner Type: MICROSPIKE™ LLDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**0.95** mm	**37** mil
	MAX:	**1.15** mm	**45** mil
Asperity ASTM D7466: **28/29** mil TOP / BOTTOM	AVE:	**1.07** mm	**42** mil

Thickness.....	**1.0 mm**	**40 mil**
Length.....	**216.411** m	**710.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**167**	

							TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc				**.935**	
MFI ASTM D1238 COND. E GRADE: **7104**	Melt Flow Index 190°C /2160 g		g/10 min				**.35**	
Carbon Black Content ASTM D4218	Range		%				**2.16**	
Carbon Black Dispersion ASTM D5596	Category						**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Break	**24**	N/mm	**136**	ppi		**3,230**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Break		%				**515.2**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%				**-0.82**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**150.5**	N				**33.828**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**371.3**	N				**83.471**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**407.0**	N				**91.500**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs				**CERTIFIED**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional LF**
Destination **Wauchula, FL**

Date: **11-10-10**

Signature.....

Quality Control Department

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Chevron Phillips Chemical Company LP

CoA Date: 10/07/2010

Certificate of Analysis

Shipped To: AGRU AMERICA INC 500 GARRISON RD GEORGETOWN SC 29440 USA	CPC Delivery #: 88141084 PO #: 5590 Weight: 186700 LB Ship Date: 10/07/2010 Package: BULK
Recipient: PALMER Fax:	Mode: Hopper Car Car #: PSPX002132 Seal No: 463237

Product: PE 7104 BULK

Lot Number: CAK810350

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10mi
HLMI	ASTM D1238	14.26	g/10mi
Pellet Count	ST-905	32	pel/g
Production date		20101006	
Density	D1505 or D4883	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
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.

Kevin Ayres
Quality Control Supervisor

For CoA questions contact Customer Service Representative at +1-832-813-4782

Chevron Phillips Chemical Company LP

CoA Date: 10/07/2010

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 88141083
PO #: 5590
Weight: 188100 LB
Ship Date: 10/07/2010
Package: BULK
Mode: Hopper Car
Car #: CEFX054003
Seal No: 463236

Product: PE 7104 BULK

Lot Number: CAK810330

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.35	g/10mi
HLMI	ASTM D1238	14.71	g/10mi
Pellet Count	ST-905	33	pel/g
Production date		20101006	
Density	D1505 or D4883	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
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.

Kevin Ayres
Quality Control Supervisor

For CoA questions contact Customer Service Representative at +1-832-813-4782

Nat'l Lining Sys Hardee Cty Reg LF doc 15010

Wauchula, FL

PO# 5147

				31 rolls 60 HD micro (505)				left	
	ENGLISH DIMENSIONS			22 rolls 40 LL micro (710)				left	
roll #	wid	len	area	check weld rod qty (if ordered)				wgt	sqs, + 2ft fric from each mat'l	
(X)245221 .10	23	710	16,330.0	40LL	micro	22tot	1	3562	2ft fric + sqs	CAK810350
(X)245224 .10	23	710	16,330.0	40LL	micro	22tot	2	3548		CAK810350
(X)245225 .10	23	710	16,330.0	40LL	micro	22tot	3	3542		CAK810350
(X)245226 .10	23	710	16,330.0	40LL	micro	22tot	4	3544		CAK810350
(X)245227 .10	23	710	16,330.0	40LL	micro	22tot	5	3548		CAK810350
(X)245228 .10	23	710	16,330.0	40LL	micro	22tot	6	3554		CAK810350
(X)245229 .10	23	710	16,330.0	40LL	micro	22tot	7	3558	sqs	CAK810350
(X)245230 .10	23	710	16,330.0	40LL	micro	22tot	8	3556		CAK810350
(X)245231 .10	23	710	16,330.0	40LL	micro	22tot	9	3550		CAK810350
(X)245332 .10	23	710	16,330.0	40LL	micro	22tot	10	3546		CAK810350
(X)245333 .10	23	710	16,330.0	40LL	micro	22tot	11	3550		CAK810350
(X)245334 .10	23	710	16,330.0	40LL	micro	22tot	12	3544		CAK810350
(X)245335 .10	23	710	16,330.0	40LL	micro	22tot	13	3548	sqs	CAK810350
(X)245336 .10	23	710	16,330.0	40LL	micro	22tot	14	3544		CAK810350
(X)245338 .10	23	710	16,330.0	40LL	micro	22tot	15	3546		CAK810330
(X)245339 .10	23	710	16,330.0	40LL	micro	22tot	16	3550		CAK810330
(X)245340 .10	23	710	16,330.0	40LL	micro	22tot	17	3556		CAK810330
(X)245341 .10	23	710	16,330.0	40LL	micro	22tot	18	3554		CAK810330
(X)245342 .10	23	710	16,330.0	do not ship until sampled				3556	sqs	CAK810330
(X)245343 .10	23	710	16,330.0	40LL	micro	22tot	20	3574		CAK810330
(X)245344 .10	23	710	16,330.0	40LL	micro	22tot	21	3576		CAK810330
(X)245345 .10	23	710	16,330.0	40LL	micro	22tot	22	3570		CAK810330

Attachment 5-12

Agru America 60 mil Geomembrane MQC Certificates

AGRU
MQC Test Results 60 mil HDPE
Hardee County Class I Landfill Phase I Closure

Number	AGRU Roll Number	QA Tested TRI Reference	Pass/Fail
1	445101	E2348-74-02	**Pass**
2	445102		
3	445103		
4	445104		
5	445105		
6	445106		
7	445107		
8	445109		
9	445110	E2348-74-01	**Pass**
10	445111		
11	445112		
12	445113		
13	445114		
14	445115		
15	445216		
16	445217		
17	445218		
18	445219	E2348-74-01	**Pass**
19	445220		
20	445221		
21	445222		
22	445223		
23	445224		

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quality certificate

ROLL # **445101-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**1.37**	mm	**54**	mil
	MAX:	**1.72**	mm	**68**	mil
Asperity ASTM D7466: **29/35** mil TOP / BOTTOM	AVE:	**1.56**	mm	**61**	mil

Thickness.....	**1.5**	**mm**	**60 mil**
Length.....	**153.926**	m	**505.0** feet
Width.....	**7.00**	m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**190**		

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		**.948**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		**.21**	
Carbon Black Content ASTM D4218	Range		%		**2.37**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**33**	N/mm (kN/m)	**191** ppi	**3,112**	psi
	Average Strength @ Break	**37**	N/mm (kN/m)	**209** ppi	**3,407**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		**18.85**	
Lo = 2.0" Break	Average Elongation @ Break		%		**446.0**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**209.3**	N		**47.052**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**485.5**	N		**109.14**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**629.5**	N		**141.51**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs		**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300	hrs		**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

Signature: *M Holmes*

Quality Control Department

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ROLL # **445102-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.36	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.72	mm	68	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 32/35 mil TOP / BOTTOM	AVE:	1.52	mm	60	mil	OIT(Standard) ASTM D3895 minutes 190		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.948
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.37
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	33 N/mm (kN/m)	186 ppi	3,112 psi
	Average Strength @ Break	36 N/mm (kN/m)	204 ppi	3,407 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%		18.85
	Average Elongation @ Break	%		446.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	209.3 N		47.052 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	485.5 N		109.14 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	629.5 N		141.51 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

Signature.....

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ROLL # **445103-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH				
	MIN:	1.36	mm	54	mil	Thickness.....	1.5 mm	60 mil
	MAX:	1.70	mm	67	mil	Length.....	153.926 m	505.0 feet
Asperity ASTM D7466: 31/33 mil TOP / BOTTOM	AVE:	1.55	mm	61	mil	Width.....	7.00 m;	23.0 feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc			.948
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min			.21
Carbon Black Content ASTM D4218	Range	%			2.37
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	33 N/mm (kN/m)	190 ppi		3,112 psi
	Average Strength @ Break	36 N/mm (kN/m)	208 ppi		3,407 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%			18.85
	Average Elongation @ Break	%			446.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	209.3 N			47.052 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	485.5 N			109.14 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	629.5 N			141.51 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

Signature: *M Holmes*

Quality Control Department

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ROLL # **445104-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**1.39** mm	**55** mil
	MAX:	**1.69** mm	**67** mil
Asperity ASTM D7466: **30/34** mil TOP / BOTTOM	AVE:	**1.57** mm	**62** mil

Thickness.....	**1.5 mm**	**60 mil**
Length.....	**153.926** m	**505.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		**.949**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		**.21**	
Carbon Black Content ASTM D4218	Range		%		**2.49**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**27** N/mm (kN/m)		**152** ppi	**2,458**	psi
	Average Strength @ Break	**36** N/mm (kN/m)		**207** ppi	**3,352**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield		%		**17.15**	
	Average Elongation @ Break		%		**448.1**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**222.6** N			**50.042**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**408.7** N			**91.882**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**570.6** N			**128.27**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

Signature.....

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ROLL # **445105-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.37	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.78	mm	70	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 32/35 mil TOP / BOTTOM	AVE:	1.53	mm	60	mil	OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.49
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	26 N/mm (kN/m)	148 ppi	2,458 psi
	Average Strength @ Break	35 N/mm (kN/m)	202 ppi	3,352 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%		17.15
	Average Elongation @ Break	%		448.1
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	222.6 N		50.042 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N		91.882 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	570.6 N		128.27 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445106-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**1.37** mm	**54** mil
	MAX:	**1.79** mm	**70** mil
Asperity ASTM D7466: **31/36** mil TOP / BOTTOM	AVE:	**1.56** mm	**61** mil

Thickness.....	**1.5 mm**	**60 mil**
Length.....	**153.926** m	**505.0** feet
Width.....	**7.00** m;	**23.0** feet
OIT(Standard) ASTM D3895 minutes	**190**	

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		**.949**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		**.21**	
Carbon Black Content ASTM D4218	Range		%		**2.49**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**26** N/mm (kN/m)		**151** ppi	**2,458**	psi
	Average Strength @ Break	**36** N/mm (kN/m)		**206** ppi	**3,352**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield		%		**17.15**	
	Average Elongation @ Break		%		**448.1**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**222.6**	N		**50.042**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**408.7**	N		**91.882**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**570.6**	N		**128.27**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445107-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.37 mm	54 mil
	MAX:	1.80 mm	71 mil
Asperity ASTM D7466: 28/29 mil TOP / BOTTOM	AVE:	1.57 mm	62 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.949	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min			.21	
Carbon Black Content ASTM D4218	Range	%			2.49	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	27 N/mm (kN/m)	152 ppi		2,458	psi
	Average Strength @ Break	36 N/mm (kN/m)	207 ppi		3,352	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%			17.15	
Lo = 2.0" Break	Average Elongation @ Break	%			448.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	222.6 N			50.042	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N			91.882	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	570.6 N			128.27	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445109-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	1.37	mm	54	mil
	MAX:	1.79	mm	70	mil
Asperity ASTM D7466: 30/36 mil TOP / BOTTOM	AVE:	1.55	mm	61	mil

Thickness.....	1.5 mm	60 mil	
Length.....	153.926 m	505.0	feet
Width.....	7.00 m;	23.0	feet
OIT(Standard) ASTM D3895 minutes	190		

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.949	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min			.21	
Carbon Black Content ASTM D4218	Range	%			2.49	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	27 N/mm (kN/m)	155 ppi		2,543	psi
	Average Strength @ Break	30 N/mm (kN/m)	170 ppi		2,780	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%			17.05	
Lo = 2.0" Break	Average Elongation @ Break	%			451.9	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	240.1 N			53.973	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	468.2 N			105.25	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N			145.14	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445110-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.38	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.84	mm	72	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 32/34 mil TOP / BOTTOM	AVE:	1.55	mm	61	mil	OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.49
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	27 N/mm (kN/m)	155 ppi	2,543 psi
	Average Strength @ Break	30 N/mm (kN/m)	170 ppi	2,780 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		17.05
Lo = 2.0" Break	Average Elongation @ Break	%		451.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	240.1 N		53.973 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	468.2 N		105.25 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N		145.14 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445111-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.40	mm	55	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.75	mm	69	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 33/35 mil TOP / BOTTOM	AVE:	1.58	mm	62	mil	OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.49
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	28 N/mm (kN/m)	158 ppi	2,543 psi
	Average Strength @ Break	30 N/mm (kN/m)	173 ppi	2,780 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		17.05
Lo = 2.0" Break	Average Elongation @ Break	%		451.9
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	240.1 N		53.973 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	468.2 N		105.25 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N		145.14 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445112-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.44 mm	57 mil
	MAX:	1.67 mm	66 mil
Asperity ASTM D7466: 30/37 mil TOP / BOTTOM	AVE:	1.57 mm	62 mil

Thickness.....	1.5 mm	60 mil	
Length.....	153.926 m	505.0 feet	
Width.....	7.00 m;	23.0 feet	
OIT(Standard) ASTM D3895 minutes	190		

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			.949	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min			.21	
Carbon Black Content ASTM D4218	Range	%			2.46	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	29 N/mm (kN/m)	166 ppi		2,682	psi
	Average Strength @ Break	32 N/mm (kN/m)	181 ppi		2,932	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%			17.20	
Lo = 2.0" Break	Average Elongation @ Break	%			460.5	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	231.8 N			52.116	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N			91.882	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N			145.14	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445113-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.40	mm	55	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.76	mm	69	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 30/33 mil TOP / BOTTOM	AVE:	1.58	mm	62	mil	OIT(Standard) ASTM D3895 minutes 190		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.46
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	29 N/mm (kN/m)	167 ppi	2,682 psi
	Average Strength @ Break	32 N/mm (kN/m)	182 ppi	2,932 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		17.20
Lo = 2.0" Break	Average Elongation @ Break	%		460.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	231.8 N		52.116 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N		91.882 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N		145.14 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

Signature: [signature]

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ROLL # **445114-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.50	mm	59	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.80	mm	71	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 28/35 mil TOP / BOTTOM	AVE:	1.65	mm	65	mil	OIT(Standard) ASTM D3895 minutes 190		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.46
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	31 N/mm (kN/m)	174 ppi	2,682 psi
	Average Strength @ Break	33 N/mm (kN/m)	190 ppi	2,932 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		17.20
Lo = 2.0" Break	Average Elongation @ Break	%		460.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	231.8 N		52.116 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N		91.882 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N		145.14 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445115-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.43 mm	56 mil
	MAX:	1.72 mm	68 mil
Asperity ASTM D7466: 28/35 mil TOP / BOTTOM	AVE:	1.59 mm	63 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.46
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	29 N/mm (kN/m)	168 ppi	2,682 psi
	Average Strength @ Break	32 N/mm (kN/m)	184 ppi	2,932 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%		17.20
	Average Elongation @ Break	%		460.5
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	231.8 N		52.116 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	408.7 N		91.882 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	645.6 N		145.14 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

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ROLL # **445216-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH	Thickness.....	1.5 mm	60 mil
	MIN:	1.38 mm	54 mil	Length.....	153.926 m	505.0 feet
	MAX:	1.79 mm	70 mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 30/33 mil TOP / BOTTOM	AVE:	1.62 mm	64 mil	OIT(Standard) ASTM D3895 minutes	190	TEST RESULTS

Specific Gravity ASTM D792	Density	g/cc		.946
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.40
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	30 N/mm (kN/m)	171 ppi	2,683 psi
	Average Strength @ Break	33 N/mm (kN/m)	190 ppi	2,974 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		16.58
Lo = 2.0" Break	Average Elongation @ Break	%		480.7
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	211.5 N		47.539 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	438.6 N		98.611 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	657.9 N		147.91 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-8-10**

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ROLL # **445217-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**1.44**	mm	**57**	mil
	MAX:	**1.72**	mm	**68**	mil
Asperity ASTM D7466: **32/35** mil TOP / BOTTOM	AVE:	**1.58**	mm	**62**	mil

Thickness.....	**1.5 mm**	**60 mil**
Length.....	**153.926** m	**505.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		**.946**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		**.21**	
Carbon Black Content ASTM D4218	Range		%		**2.40**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**29** N/mm (kN/m)		**167** ppi	**2,683**	psi
	Average Strength @ Break	**32** N/mm (kN/m)		**185** ppi	**2,974**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield		%		**16.58**	
	Average Elongation @ Break		%		**480.7**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**211.5**	N		**47.539**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**438.6**	N		**98.611**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**657.9**	N		**147.91**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445218-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.40	mm	55	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.91	mm	75	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 29/34 mil TOP / BOTTOM	AVE:	1.61	mm	63	mil	OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.946
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.40
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	30 N/mm (kN/m)	170 ppi	2,683 psi
	Average Strength @ Break	33 N/mm (kN/m)	188 ppi	2,974 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		16.58
Lo = 2.0" Break	Average Elongation @ Break	%		480.7
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	211.5 N		47.539 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	438.6 N		98.611 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	657.9 N		147.91 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

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ROLL # **445219-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.40 mm	55 mil
	MAX:	1.82 mm	72 mil
Asperity ASTM D7466: 29/33 mil TOP / BOTTOM	AVE:	1.63 mm	64 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.946	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.40	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	30	N/mm (kN/m)	172 ppi	2,683	psi
	Average Strength @ Break	33	N/mm (kN/m)	191 ppi	2,974	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		16.58	
Lo = 2.0" Break	Average Elongation @ Break		%		480.7	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	211.5	N		47.539	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	438.6	N		98.611	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	657.9	N		147.91	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
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ROLL # **445220-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.41 mm	56 mil
	MAX:	1.82 mm	72 mil
Asperity ASTM D7466: 30/34 mil TOP / BOTTOM	AVE:	1.60 mm	63 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.948	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.53	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	31	N/mm (kN/m)	178 ppi	2,826	psi
	Average Strength @ Break	35	N/mm (kN/m)	201 ppi	3,194	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		16.56	
Lo = 2.0" Break	Average Elongation @ Break		%		473.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	230.2	N		51.759	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	465.7	N		104.69	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	595.6	N		133.89	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

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ROLL # **445221-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.40 mm	55 mil
	MAX:	1.77 mm	70 mil
Asperity ASTM D7466: 30/36 mil TOP / BOTTOM	AVE:	1.57 mm	62 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.948
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.53
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	31 N/mm (kN/m)	175 ppi	2,826 psi
	Average Strength @ Break	35 N/mm (kN/m)	197 ppi	3,194 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		16.56
Lo = 2.0" Break	Average Elongation @ Break	%		473.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	230.2 N		51.759 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	465.7 N		104.69 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	595.6 N		133.89 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445222-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH				
	MIN:	**1.41**	mm	**56**	mil	Thickness.....	**1.5 mm**	**60 mil**
	MAX:	**1.77**	mm	**70**	mil	Length.....	**153.926** m	**505.0** feet
Asperity ASTM D7466: **30/36** mil TOP / BOTTOM	AVE:	**1.58**	mm	**62**	mil	Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		**.948**
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min		**.21**
Carbon Black Content ASTM D4218	Range	%		**2.53**
Carbon Black Dispersion ASTM D5596	Category			**10 In Cat 1**
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**31** N/mm (kN/m)	**176** ppi	**2,826** psi
	Average Strength @ Break	**35** N/mm (kN/m)	**199** ppi	**3,194** psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%		**16.56**
Lo = 2.0" Break	Average Elongation @ Break	%		**473.0**
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		**-0.47**
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**230.2** N		**51.759** lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**465.7** N		**104.69** lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**595.6** N		**133.89** lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		**CERTIFIED**
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		**ONGOING**

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

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ROLL # **445223-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**1.37** mm	**54** mil
	MAX:	**1.68** mm	**66** mil
Asperity ASTM D7466: **29/35** mil TOP / BOTTOM	AVE:	**1.53** mm	**60** mil

Thickness.....	**1.5 mm**	**60 mil**
Length.....	**153.926** m	**505.0** feet
Width.....	**7.00** m;	**23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			**.948**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min			**.21**	
Carbon Black Content ASTM D4218	Range	%			**2.53**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**30** N/mm (kN/m)	**170** ppi		**2,826**	psi
	Average Strength @ Break	**34** N/mm (kN/m)	**192** ppi		**3,194**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%			**16.56**	
Lo = 2.0" Break	Average Elongation @ Break	%			**473.0**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**230.2** N			**51.759**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**465.7** N			**104.69**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**595.6** N			**133.89**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445224-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.37	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.78	mm	70	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 29/36 mil TOP / BOTTOM	AVE:	1.57	mm	62	mil	OIT(Standard) ASTM D3895 minutes 190		

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.949	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	26	N/mm (kN/m)	149 ppi	2,408	psi
	Average Strength @ Break	30	N/mm (kN/m)	173 ppi	2,799	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		14.93	
Lo = 2.0" Break	Average Elongation @ Break		%		469.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	228.1	N		51.277	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	437.9	N		98.457	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	628.4	N		141.28	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445225-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.38	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.69	mm	67	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 28/35 mil TOP / BOTTOM	AVE:	1.54	mm	61	mil	OIT(Standard) ASTM D3895 minutes 190		

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.949
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.25
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	26 N/mm (kN/m)	146 ppi	2,408 psi
	Average Strength @ Break	30 N/mm (kN/m)	170 ppi	2,799 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%		14.93
	Average Elongation @ Break	%		469.1
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	228.1 N		51.277 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	437.9 N		98.457 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	628.4 N		141.28 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445226-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.38	mm	54	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.69	mm	67	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 33/33 mil TOP / BOTTOM	AVE:	1.55	mm	61	mil	OIT(Standard) ASTM D3895 minutes	190	

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.949	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	26	N/mm (kN/m)	147 ppi	2,408	psi
	Average Strength @ Break	30	N/mm (kN/m)	171 ppi	2,799	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		14.93	
Lo = 2.0" Break	Average Elongation @ Break		%		469.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	228.1	N		51.277	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	437.9	N		98.457	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	628.4	N		141.28	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445227-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.42	mm	56	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.65	mm	65	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 31/35 mil TOP / BOTTOM	AVE:	1.53	mm	60	mil	OIT(Standard) ASTM D3895 minutes 190		

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.949	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.25	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	25	N/mm (kN/m)	145 ppi	2,408	psi
	Average Strength @ Break	30	N/mm (kN/m)	169 ppi	2,799	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		14.93	
Lo = 2.0" Break	Average Elongation @ Break		%		469.1	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	228.1	N		51.277	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	437.9	N		98.457	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	628.4	N		141.28	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

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ROLL # **445228-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.39	mm	55	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.69	mm	67	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 30/36 mil TOP / BOTTOM	AVE:	1.58	mm	62	mil	OIT(Standard) ASTM D3895 minutes 190		

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.945	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.42	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	28	N/mm (kN/m)	159 ppi	2,549	psi
	Average Strength @ Break	31	N/mm (kN/m)	174 ppi	2,804	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		18.05	
Lo = 2.0" Break	Average Elongation @ Break		%		453.7	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	223.8	N		50.322	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	467.8	N		105.17	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	598.4	N		134.52	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

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ROLL # **445229-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	**1.40** mm	**55** mil
	MAX:	**1.73** mm	**68** mil
Asperity ASTM D7466: **30/34** mil TOP / BOTTOM	AVE:	**1.62** mm	**64** mil

Thickness..... **1.5 mm** **60 mil**
Length..... **153.926** m **505.0** feet
Width..... **7.00** m; **23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS	
Specific Gravity ASTM D792	Density	g/cc			**.945**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min			**.21**	
Carbon Black Content ASTM D4218	Range	%			**2.42**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**28** N/mm (kN/m)	**163** ppi		**2,549**	psi
	Average Strength @ Break	**31** N/mm (kN/m)	**179** ppi		**2,804**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield	%			**18.05**	
Lo = 2.0" Break	Average Elongation @ Break	%			**453.7**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%			**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**223.8** N			**50.322**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**467.8** N			**105.17**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**598.4** N			**134.52**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

Signature.....

Quality Control Department

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ROLL # **445230-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH		Thickness.....	1.5 mm	60 mil
	MIN:	1.43	mm	56	mil	Length.....	153.926 m	505.0 feet
	MAX:	1.71	mm	67	mil	Width.....	7.00 m;	23.0 feet
Asperity ASTM D7466: 27/32 mil TOP / BOTTOM	AVE:	1.58	mm	62	mil	OIT(Standard) ASTM D3895 minutes	190	

				TEST RESULTS
Specific Gravity ASTM D792	Density	g/cc		.945
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g	g/10 min		.21
Carbon Black Content ASTM D4218	Range	%		2.42
Carbon Black Dispersion ASTM D5596	Category			10 In Cat 1
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	28 N/mm (kN/m)	159 ppi	2,549 psi
	Average Strength @ Break	31 N/mm (kN/m)	174 ppi	2,804 psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	%		18.05
	Average Elongation @ Break	%		453.7
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change	%		-0.47
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	223.8 N		50.322 lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	467.8 N		105.17 lbs
Puncture Resistance ASTM D4833 (Modified)	Load	598.4 N		134.52 lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs		ONGOING

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

Signature: H Holmes

Quality Control Department

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ROLL # **445231-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC	ENGLISH
	MIN:	1.38 mm	54 mil
	MAX:	1.76 mm	69 mil
Asperity ASTM D7466: 30/34 mil TOP / BOTTOM	AVE:	1.56 mm	61 mil

Thickness.....	1.5 mm	60 mil
Length.....	153.926 m	505.0 feet
Width.....	7.00 m;	23.0 feet
OIT(Standard) ASTM D3895 minutes	190	

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		.945	
MFI ASTM D1238 COND. E GRADE: K307	Melt Flow Index 190°C /2160 g		g/10 min		.21	
Carbon Black Content ASTM D4218	Range		%		2.42	
Carbon Black Dispersion ASTM D5596	Category				10 In Cat 1	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	27	N/mm (kN/m)	157 ppi	2,549	psi
	Average Strength @ Break	30	N/mm (kN/m)	172 ppi	2,804	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		18.05	
Lo = 2.0" Break	Average Elongation @ Break		%		453.7	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		-0.47	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	223.8	N		50.322	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	467.8	N		105.17	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	598.4	N		134.52	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500 hrs			CERTIFIED	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300 hrs			ONGOING	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date:..... **11-9-10**

Signature.....

Quality Control Department

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12/23/05

agru america quality control dept

quality certificate

ROLL # **445332-10** Lot #: **7101210** **Liner Type: MICROSPIKE™ HDPE**

Measurement ASTM D5994 (Modified)		METRIC		ENGLISH	
	MIN:	**1.39**	mm	**55**	mil
	MAX:	**1.84**	mm	**72**	mil
Asperity ASTM D7466: **33/36** mil TOP / BOTTOM	AVE:	**1.59**	mm	**63**	mil

Thickness..... **1.5 mm** **60 mil**
Length..... **153.926** m **505.0** feet
Width..... **7.00** m; **23.0** feet

OIT(Standard) ASTM D3895 minutes **190**

					TEST RESULTS	
Specific Gravity ASTM D792	Density		g/cc		**.944**	
MFI ASTM D1238 COND. E GRADE: **K307**	Melt Flow Index 190°C /2160 g		g/10 min		**.21**	
Carbon Black Content ASTM D4218	Range		%		**2.06**	
Carbon Black Dispersion ASTM D5596	Category				**10 In Cat 1**	
Tensile Strength ASTM D6693 ASTM D638 (Modified) (2 inches / minute)	Average Strength @ Yield	**31**	N/mm (kN/m)	**177** ppi	**2,827**	psi
	Average Strength @ Break	**36**	N/mm (kN/m)	**203** ppi	**3,243**	psi
Elongation ASTM D6693 ASTM D638 (Modified) (2 inches / minute) Lo = 1.3" Yield	Average Elongation @ Yield		%		**17.49**	
Lo = 2.0" Break	Average Elongation @ Break		%		**491.1**	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional change		%		**-0.47**	
Tear Resistance ASTM D-1004 (Modified)	Average Tear Resistance	**228.4**	N		**51.346**	lbs
Puncture Resistance FTMS 101 Method 2065 (Modified)	Load	**459.8**	N		**103.36**	lbs
Puncture Resistance ASTM D4833 (Modified)	Load	**636.0**	N		**142.97**	lbs
ESCR ASTM D1693	Minimum Hrs w/o Failures	1500	hrs		**CERTIFIED**	
Notched Constant Tensile Load ASTM D5397	pass / fail @ 30%	300	hrs		**ONGOING**	

Customer: **National Lining Systems, Inc.**
PO: **5147 Hardee Co Regional Landfill**
Destination **Wauchula, FL**

Date: **11-9-10**

Signature.....

Quality Control Department

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REV 03
12/23/05

Chevron Phillips Chemical Company LP

CoA Date: 09/28/2010

Certificate of Analysis

Shipped To: AGRU AMERICA INC
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

CPC Delivery #: 88134918
PO #: 5589
Weight: 194900 LB
Ship Date: 09/28/2010
Package: BULK
Mode: Hopper Car
Car #: CHVX890376
Seal No: 259861

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: 7101210

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.21	g/10mi
HLMI Flow Rate	ASTM D1238	19	g/10mi
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	29	pel/g
Production Date		09/25/2010	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP.
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.

Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at +1-832-813-4782

Chevron Phillips Chemical Company LP

Rex L. Bobsein, Ph.D., Polyethylene Materials and Applications Development
Room 109 PTC ■ Bartlesville, OK 74004■
918-661-0089 ■ bobserl@cpchem.com ■ Fax: 918-662-2550 ■ www.cpchem.com

January 16, 2006

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

Dear Grant:

This letter is to re-report the results of oven aging and UV aging testing (according to GRI-GM13 and GRI-GM17) on Agru America sheet samples that you provided to us in 2004. A graphical summary of the results was sent to you on 4/1/2005. The testing was performed by CPChem's Evaluation Laboratory in Bartlesville, OK. Oven-aging tests were completed 12/17/2004. UV-aging tests were completed on 12/13/2004.

GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) durability testing was done according to the following procedures.

Test	Exposure	Method
Std. OIT	200°C, atmospheric pressure oxygen	D3895
HP-OIT	150°C, 500 psi oxygen	D5885
Oven Aging	90 days, 85°C	D5721
UV Aging	1600 UV hrs (Conditions were 20 hours UVA-340 at 75°C followed by 4 hrs dark with condensation at 60°C. Irradiance was 0.72 W/m^2 at 340nm.)	GRI-GM11

Oven Aging Results

Sample	Initial HP-OIT (min.)	HP-OIT Value after Oven Aging (min.)	% HP-OIT Retained	GRI-GM13 or GRI-GM17 % Retained Requirement
40 mil LLDPE tex Roll # 312588 from Marlex® 7104 Lot # CPN811170	514	396	77	60
60 mil HDPE Roll # 315103-04 from Marlex® K307 Lot # 71-3-1465	1461	1547	106	80

Sample	Initial Std. OIT (min.)	Std. OIT Value after Oven Aging (min.)	% Std. OIT Retained	GRI-GM13 or GRI-GM17 % Retained Requirement
40 mil LLDPE tex Roll # 312588 from Marlex® 7104 Lot # CPN811170	151	58	38	35
60 mil HDPE Roll # 315103-04 from Marlex® K307 Lot # 71-3-1465	201	127	63	55

UV Aging Results

Sample	Initial HP-OIT (min.)	HP-OIT Value after UV Aging (min.)	% HP-OIT Retained	GRI-GM13 or GRI-GM17 % Retained Requirement
40 mil LLDPE tex Roll # 312588 from Marlex® 7104 Lot # CPN811170	514	460	89	35
60 mil HDPE Roll # 315103-04 from Marlex® K307 Lot # 71-3-1465	1461	1513	104	50

According to these test results, the durability requirements are met.

If you have any questions, please call me at 918-661-0089.

Sincerely,

Rex L. Bobsein

Rex L. Bobsein, Ph.D.
Polyethylene Materials and Applications Development

Any technical advice, recommendations, results, or analysis ("Information") contained herein, including, without limitation, Information as it may relate to the selection of a specific product ("Product") for your use and application, is given ***without warranty or guarantee*** *and is accepted at your sole risk. It is imperative that you test the Information (and Product, if applicable) to determine to your own satisfaction whether the Information (and Product, if applicable) are suitable for your intended use and application.* ***You expressly assume, and release Chevron Phillips Chemical Company, from all risk and liability, whether based in contract, tort or otherwise, in connection with the use of, or results obtained from, such Information (and Product, if applicable).***

Chevron Phillips Chemical Company LP

Rex L. Bobsein, Polyethylene Materials and Applications Development
Room 109 PTC ■ Bartlesville, OK 74004■
918-661-0089 ■ bobserl@cpchem.com ■ Fax: 918-662-2550 ■ www.cpchem.com

May 12, 2010

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

Dear Grant:

Per your request for this information, there has been no change to the additive formulation specifications of Marlex® 7104 and K307 polyethylene resins since GRI-GM13 and GRI-GM17 oven- and UV-aging testing was performed on Agru America sheet from these resins in December 2004.

If you have any questions, please call me at 918-661-0089.

Sincerely,

Rex L. Bobsein

Rex L. Bobsein, Ph.D.
Polyethylene Materials and Applications Development

Any technical advice, recommendations, results, or analysis ("Information") contained herein, including, without limitation, Information as it may relate to the selection of a specific product ("Product") for your use and application, is given ***without warranty or guarantee*** *and is accepted at your sole risk. It is imperative that you test the Information (and Product, if applicable) to determine to your own satisfaction whether the Information (and Product, if applicable) are suitable for your intended use and application.* ***You expressly assume, and release Chevron Phillips Chemical Company, from all risk and liability, whether based in contract, tort or otherwise, in connection with the use of, or results obtained from, such Information (and Product, if applicable).***

Nat'l Lining Sys Hardee Cty Reg LF doc 15010

Wauchula, FL

PO#	5147

31 rolls 60 HD micro (505)	left
22 rolls 40 LL micro (710)	left
check weld rod qty (if ordered)	

roll #	ENGLISH DIMENSIONS wid	len	area					wgt	sqs, + 2ft fric from each mat'l	
(X)445101 .10	23	505	11,615.0	60HD	micro	31tot	1	3898	2ft fric + sqs	7101210
(X)445102 .10	23	505	11,615.0	60HD	micro	31tot	2	3898		7101210
(X)445103 .10	23	505	11,615.0	60HD	micro	31tot	3	3904		7101210
(X)445104 .10	23	505	11,615.0	60HD	micro	31tot	4	3940		7101210
(X)445105 .10	23	505	11,615.0	60HD	micro	31tot	5	3956		7101210
(X)445106 .10	23	505	11,615.0	60HD	micro	31tot	6	3955		7101210
(X)445107 .10	23	505	11,615.0	60HD	micro	31tot	7	3947		7101210
(X)445109 .10	23	505	11,615.0	60HD	micro	31tot	8	3957		7101210
(X)445110 .10	23	505	11,615.0	60HD	micro	31tot	9	3955	sqs	7101210
(X)445111 .10	23	505	11,615.0	60HD	micro	31tot	10	3946		7101210
(X)445112 .10	23	505	11,615.0	60HD	micro	31tot	11	3940		7101210
(X)445113 .10	23	505	11,615.0	60HD	micro	31tot	12	3943		7101210
(X)445114 .10	23	505	11,615.0	60HD	micro	31tot	13	3945		7101210
(X)445115 .10	23	505	11,615.0	60HD	micro	31tot	14	3943		7101210
(X)445216 .10	23	505	11,615.0	60HD	micro	31tot	15	3946		7101210
(X)445217 .10	23	505	11,615.0	60HD	micro	31tot	16	3952		7101210
(X)445218 .10	23	505	11,615.0	60HD	micro	31tot	17	3953		7101210
(X)445219 .10	23	505	11,615.0	60HD	micro	31tot	18	3953	sqs	7101210
(X)445220 .10	23	505	11,615.0	60HD	micro	31tot	19	3954		7101210
(X)445221 .10	23	505	11,615.0	60HD	micro	31tot	20	3956		7101210
(X)445222 .10	23	505	11,615.0	60HD	micro	31tot	21	3933		7101210
(X)445223 .10	23	505	11,615.0	60HD	micro	31tot	22	3953		7101210
(X)445224 .10	23	505	11,615.0	60HD	micro	31tot	23	3954		7101210
(X)445225 .10	23	505	11,615.0	60HD	micro	31tot	24	3948		7101210
(X)445226 .10	23	505	11,615.0	60HD	micro	31tot	25	3947		7101210
(X)445227 .10	23	505	11,615.0	60HD	micro	31tot	26	3939	sqs	7101210
(X)445228 .10	23	505	11,615.0	60HD	micro	31tot	27	3947		7101210
(X)445229 .10	23	505	11,615.0	60HD	micro	31tot	28	3935		7101210
(X)445230 .10	23	505	11,615.0	60HD	micro	31tot	29	3945		7101210
(X)445231 .10	23	505	11,615.0	60HD	micro	31tot	30	3947		7101210
(X)445332 .10	23	505	11,615.0	60HD	micro	31tot	31	3958		7101210

Attachment 5-13

SCS 40 mil Geomembrane CQA Conformance Test Results

TRI / Environmental, Inc.
A Texas Research International Company

November 11, 2010
November 22, 2010 Updated with Density, CBC and CBD Result.

Mail To:

Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

<= Same

Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-73-10
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane
Test(s) Requested:	Thickness (ASTM D 5994) Asperity Height (GRI GM 12) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 245221.10
TRI Log #: E2348-73-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	41	40	42	43	43	40	41	41	41	40	**41**	1
											40	<< min
Asperity Height (GRI GM 12)												
Asperity Height (mils) - Side A	34	35	29	28	31	33	28	26	35	32	**31**	3
Asperity Height (mils) - Side B	28	27	29	28	29	31	30	29	29	28	**29**	1
Density (ASTM D 1505)												
Density (g/cm3)	0.934	0.934	0.934								**0.934**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.14	2.19									**2.17**	0.04
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	79	81	78	83	81						**80**	2
TD Yield Strength (ppi)	77	87	82	87	81						**83**	4
MD Break Strength (ppi)	140	140	138	162	122						**140**	14
TD Break Strength (ppi)	134	131	130	127	114						**127**	8
MD Yield Elongation (%)	35	35	35	35	35						**35**	0
TD Yield Elongation (%)	31	24	27	22	34						**28**	5
MD Break Elongation (%)	561	563	398	498	474						**499**	69
TD Break Elongation (%)	584	570	541	553	496						**549**	34

MD Machine Direction TD Transverse Direction NA Not Available

The testing 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.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

November 12, 2010

Mail To:

Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

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Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-75-07
Material(s) Tested:	2 Agru 40 mil Microspike LLDPE Geomembrane
Test(s) Requested:	Thickness (ASTM D 5994) Asperity Height (GRI GM 12) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 245229.10
TRI Log #: E2348-75-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	42	41	43	42	44	42	39	41	41	44	**42**	2
											39	<< min
Asperity Height (GRI GM 12)												
Asperity Height (mils) - Side A	29	30	34	32	31	31	32	26	35	35	**32**	3
Asperity Height (mils) - Side B	31	33	29	32	29	29	30	31	28	30	**30**	2
Density (ASTM D 1505)												
Density (g/cm3)	0.934	0.934	0.934								**0.934**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.24	2.21									**2.23**	0.02
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	81	83	76	81	75						**79**	3
TD Yield Strength (ppi)	79	83	86	81	75						**81**	4
MD Break Strength (ppi)	128	144	134	170	130						**141**	17
TD Break Strength (ppi)	130	109	138	133	103						**123**	16
MD Yield Elongation (%)	32	32	32	32	33						**32**	0
TD Yield Elongation (%)	26	26	23	31	31						**27**	4
MD Break Elongation (%)	474	490	546	465	486						**492**	32
TD Break Elongation (%)	559	468	570	559	465						**524**	53

MD Machine Direction TD Transverse Direction NA Not Available

The testing 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.

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GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 40 mil Microspike LLDPE Geomembrane
Sample Identification: 245335.10
TRI Log #: E2348-75-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	44	42	41	43	44	43	39	40	43	44	**42**	2
											39	<< min
Asperity Height (GRI GM 12)												
Asperity Height (mils) - Side A	26	27	35	35	32	34	37	38	23	23	**31**	6
Asperity Height (mils) - Side B	30	31	28	29	32	29	29	30	31	29	**30**	1
Density (ASTM D 1505)												
Density (g/cm3)	0.934	0.934	0.934								**0.934**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.29	2.28									**2.29**	0.01
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	81	77	78	77	79						**78**	2
TD Yield Strength (ppi)	87	79	90	83	79						**84**	5
MD Break Strength (ppi)	132	140	144	146	158						**144**	9
TD Break Strength (ppi)	134	111	136	133	146						**132**	13
MD Yield Elongation (%)	26	35	35	35	35						**33**	4
TD Yield Elongation (%)	24	23	23	32	31						**27**	5
MD Break Elongation (%)	533	539	470	539	503						**517**	30
TD Break Elongation (%)	578	539	575	561	634						**577**	35

MD Machine Direction TD Transverse Direction NA Not Available

The testing 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.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

November 15, 2010

Mail To:

Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

<= Same

Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-77-02
Material(s) Tested:	1 Agru 40 mil Microspike LLDPE Geomembrane
Test(s) Requested:	Thickness (ASTM D 5994) Asperity Height (GRI GM 12) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 40 mil Microspike LLDPE Geomembrane
Samle Identification: 245342.10
TRI Log #: E2348-77-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	42	40	40	40	40	40	42	41	40	40	**41**	1
											40	<< min
Asperity Height (GRI GM 12)												
Asperity Height (mils) - Side A	32	29	28	29	32	30	30	29	28	29	**30**	1
Asperity Height (mils) - Side B	24	24	24	23	25	27	26	26	27	25	**25**	1
Density (ASTM D 1505)												
Density (g/cm3)	0.933	0.933	0.933								**0.933**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.21	2.24									**2.23**	0.02
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	79	74	78	82	80						**79**	3
TD Yield Strength (ppi)	82	80	87	76	84						**82**	4
MD Break Strength (ppi)	160	113	136	139	120						**134**	18
TD Break Strength (ppi)	125	129	129	111	135						**126**	9
MD Yield Elongation (%)	29	27	31	33	25						**29**	3
TD Yield Elongation (%)	20	24	19	20	20						**21**	2
MD Break Elongation (%)	479	474	441	480	483						**471**	17
TD Break Elongation (%)	534	568	563	526	585						**555**	24

MD Machine Direction TD Transverse Direction NA Not Available

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Attachment 5-14

SCS 60 mil Geomembrane CQC Conformance Test Results

TRI / Environmental, Inc.
A Texas Research International Company

November 11, 2010

Mail To:

Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

<= Same

Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-74-01
Material(s) Tested:	2 Agru 60 mil Microspike HDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 60 mil Microspike HDPE Geomembrane
Sample Identification: 445110.10
TRI Log #: E2348-74-01

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Thickness (ASTM D 5994)												
Thickness (mils)	60	62	65	66	63	60	64	63	66	62	63 60	2 << min
Density (ASTM D 1505)												
Density (g/cm3)	0.944	0.944	0.944								0.944	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.61	2.57									2.59	0.03
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	164	166	171	160	148						162	9
TD Yield Strength (ppi)	176	180	179	178	152						173	12
MD Break Strength (ppi)	215	176	195	212	183						196	17
TD Break Strength (ppi)	118	212	126	198	170						165	42
MD Yield Elongation (%)	21	21	21	21	21						21	0
TD Yield Elongation (%)	17	19	17	18	18						18	1
MD Break Elongation (%)	450	419	439	433	449						438	13
TD Break Elongation (%)	104	565	340	534	508						410	192

MD Machine Direction TD Transverse Direction NA Not Available

The testing 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.

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GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 60 mil Microspike HDPE Geomembrane
Sample Identification: 445219.10
TRI Log #: E2348-74-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	62	69	65	61	69	65	69	64	60	65	**65**	3
											60	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.945	0.945	0.945								**0.945**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.46	2.47									**2.47**	0.01
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	144	148	164	164	172						**158**	12
TD Yield Strength (ppi)	172	182	177	180	156						**173**	10
MD Break Strength (ppi)	195	171	226	188	168						**190**	23
TD Break Strength (ppi)	111	200	185	196	158						**170**	37
MD Yield Elongation (%)	23	23	23	23	23						**23**	0
TD Yield Elongation (%)	18	20	20	17	17						**18**	2
MD Break Elongation (%)	454	400	456	420	345						**415**	46
TD Break Elongation (%)	303	534	500	524	455						**463**	95

MD Machine Direction TD Transverse Direction NA Not Available

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9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

November 11, 2010

Mail To:

Shane Fischer
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

<= Same

Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-74-02
Material(s) Tested:	1 Agru 60 mil Microspike HDPE Geomembrane
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 60 mil Microspike HDPE Geomembrane
Sample Identification: 445101.10
TRI Log #: E2348-74-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	70	65	69	62	60	62	65	69	64	60	65 60	4 << min
Density (ASTM D 1505)												
Density (g/cm3)	0.945	0.945	0.945								0.945	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.47	2.48									2.48	0.01
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	171	188	154	174	154						168	14
TD Yield Strength (ppi)	173	193	179	160	157						172	15
MD Break Strength (ppi)	204	212	172	201	182						194	17
TD Break Strength (ppi)	185	191	187	163	168						179	12
MD Yield Elongation (%)	22	21	21	22	21						21	1
TD Yield Elongation (%)	19	19	19	19	19						19	0
MD Break Elongation (%)	456	426	431	409	424						429	17
TD Break Elongation (%)	479	466	491	455	470						472	14

MD Machine Direction TD Transverse Direction NA Not Available

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TRI / Environmental, Inc.
A Texas Research International Company

November 12, 2010

Mail To:

Shane Fischer
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4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610-9501

Email: sfischer@scsengineers.com

Bill To:

<= Same

Dear Mr. Fischer:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Hardee County Phase 1 Closure**
TRI Job Reference Number:	E2348-75-06
Material(s) Tested:	1 Agru 60 mil Microspike HDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: SCS Engineers
Project: Hardee County Phase 1 Closure

Material: Agru 60 mil Microspike HDPE Geomembrane
Sample Identification: 445227.10
TRI Log #: E2348-75-06

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	61	62	65	66	68	65	66	67	62	65	**65**	2
											61	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.946	0.946	0.946								**0.946**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.62	2.56									**2.59**	0.04
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	164	162	176	173	157						**166**	8
TD Yield Strength (ppi)	174	182	179	173	163						**174**	7
MD Break Strength (ppi)	227	210	190	210	177						**203**	19
TD Break Strength (ppi)	182	195	187	180	184						**186**	6
MD Yield Elongation (%)	23	23	20	23	23						**22**	1
TD Yield Elongation (%)	21	21	18	18	18						**19**	2
MD Break Elongation (%)	464	456	416	446	394						**435**	29
TD Break Elongation (%)	431	510	498	494	524						**491**	36

MD Machine Direction TD Transverse Direction NA Not Available

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Attachment 5-15

SCS CQA Interface Friction Test Results

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

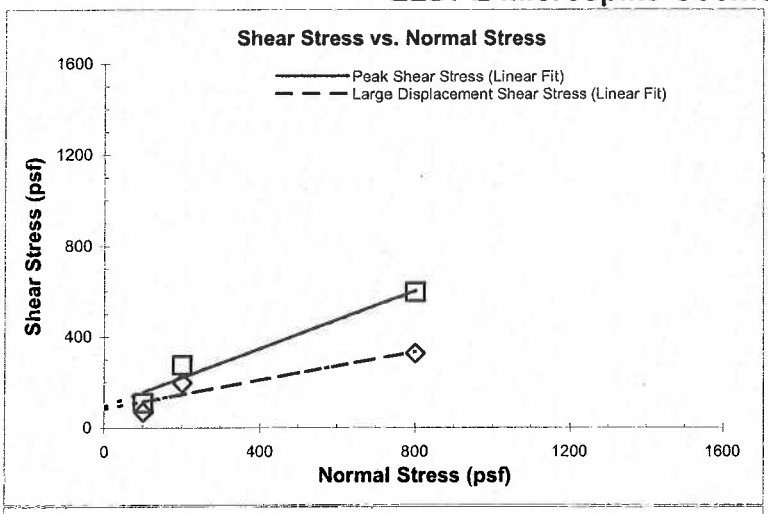
Interface Friction Test Report

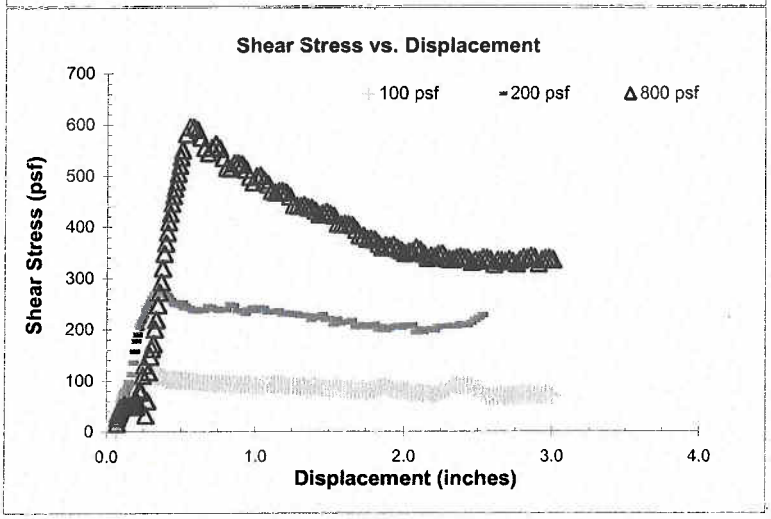
Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/18/10-11/18/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

John M. Allen, P.E., 11/18/2010
Quality Review/Date

Tested Interface: Skaps TN330-2-8 Double-sided Geocomposite (396010001) vs. Agru 40 mil LLDPE Microspike Geomembrane (245221.10)





Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**32.5**	**17.5**
Y-intercept or Adhesion (psf):	**93**	**83**

Shearing occurred at the interface.

Test Conditions

Upper Box &	Skaps TN330-2-8 double-sided geocomposite
Lower Box	Agru 40 mil LLDPE Microspike geomembrane (dull side)

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 1 hour prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	10	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	110	276	596
Corrected Large Displacement Shear Stress (psf)	70	198	328
Peak Secant Angle (degrees)	47.6	54.1	36.7
Large Displacement Secant Angle (degrees)	35.0	44.7	22.3
Asperity (mils)	26.2	28.4	28.6

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.

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

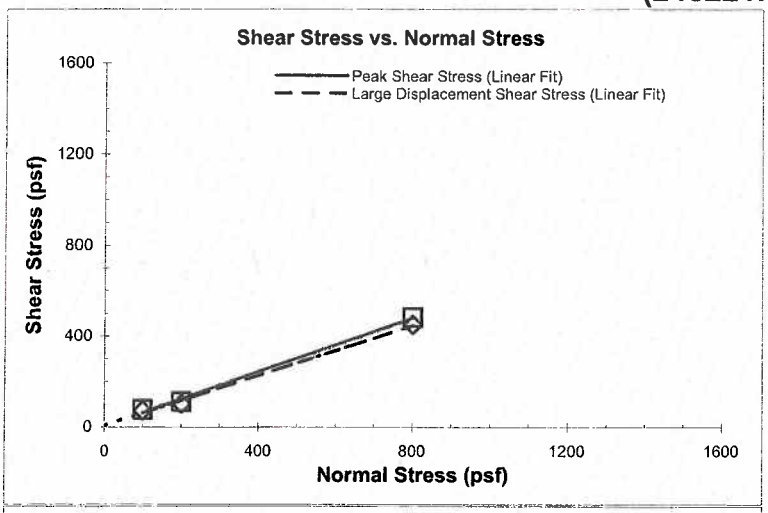
Interface Friction Test Report

Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/19/10-11/22/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

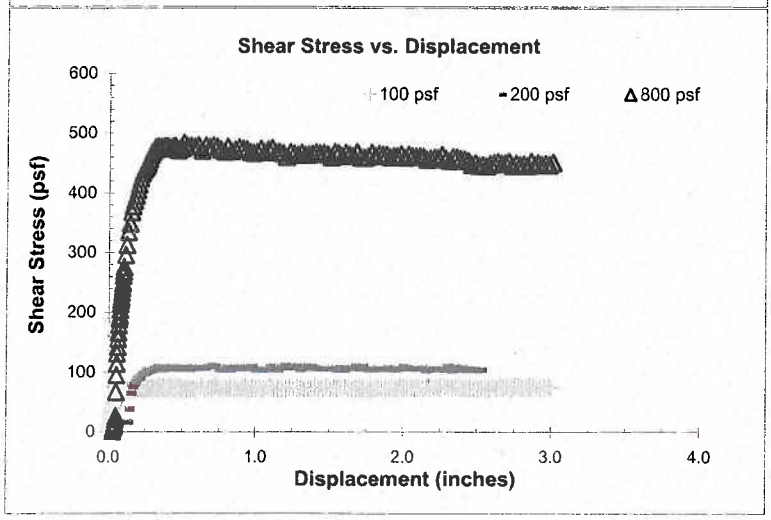
John M. Allen, P.E., 11/22/2010
Quality Review/Date

Tested Interface: Protective Cover Soil vs. Agru 40 mil LLDPE Microspike Geomembrane (245221.10)



Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**30.7**	**29.0**
Y-intercept or Adhesion (psf):	**7**	**7**

Shearing occurred at the interface.



Test Conditions

Upper Box &	Protective Cover Soil remolded to 99.2 pcf at 13.0% moisture content
Lower Box	Agru 40 mil LLDPE Microspike geomembrane (shiny side)

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 24 hours prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	10	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	78	112	484
Corrected Large Displacement Shear Stress (psf)	74	104	452
Peak Secant Angle (degrees)	37.9	29.2	31.2
Large Displacement Secant Angle (degrees)	36.5	27.5	29.5
Asperity (mils)	31.2	26.0	32.4

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.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

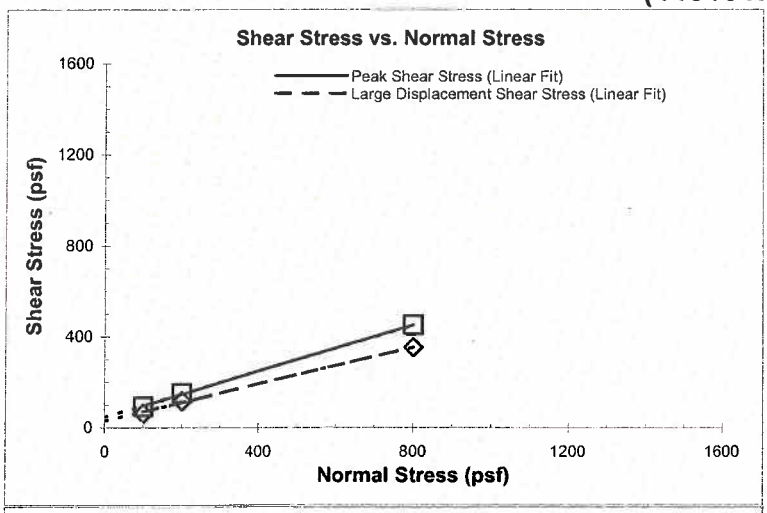
Interface Friction Test Report

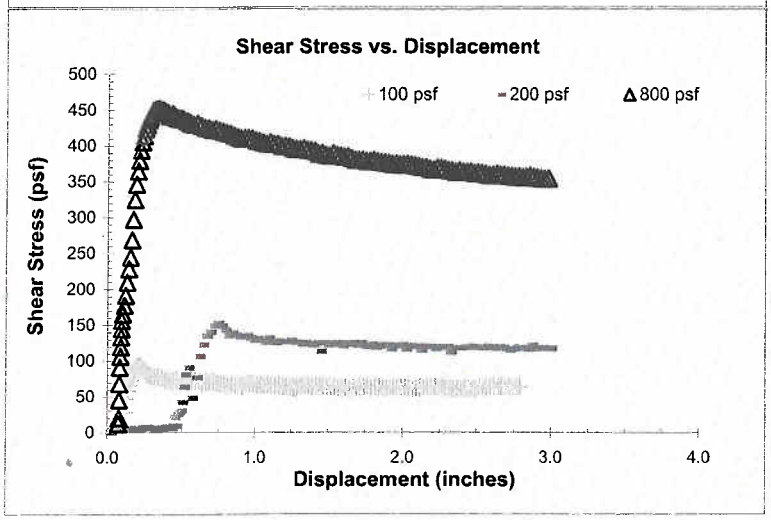
Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/19/10-12/02/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

John M. Allen, P.E., 12/02/2010
Quality Review/Date

Tested Interface: Protective Cover Soil vs. Agru 60 mil HDPE Microspike Geomembrane (445101.10)





Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**27.0**	**22.1**
Y-intercept or Adhesion (psf):	**46**	**30**

Shearing occurred at the interface.

Test Conditions

Upper Box &	Protective Cover Soil remolded to 99.2 pcf at 13.0% moisture content
Lower Box	Agru 60 mil HDPE Microspike Geomembrane (shiny side)

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 24 hours prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	3	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	94	152	453
Corrected Large Displacement Shear Stress (psf)	65	118	354
Peak Secant Angle (degrees)	43.2	37.2	29.5
Large Displacement Secant Angle (degrees)	33.0	30.5	23.9
Asperity (mils)	34.2	33.6	32.6

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TRI/ENVIRONMENTAL, INC.
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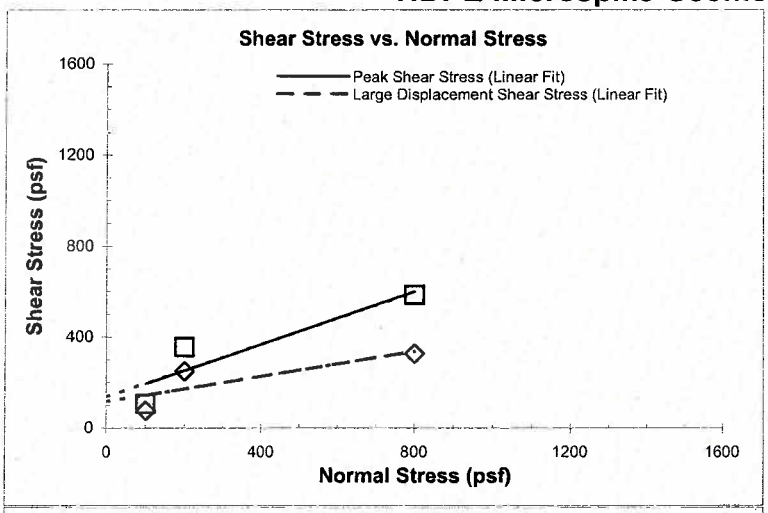
Interface Friction Test Report

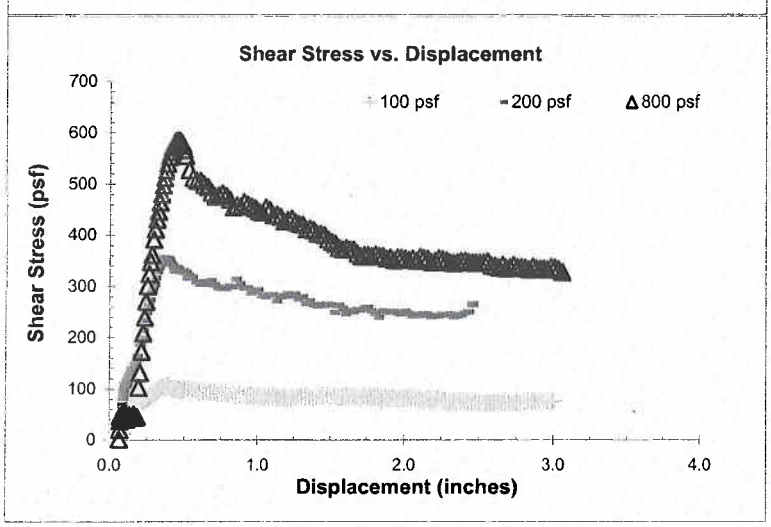
Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/18/10-11/18/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

John M. Allen, P.E., 11/18/2010
Quality Review/Date

Tested Interface: Skaps TN330-2-8 Double-sided Geocomposite (396010001) vs. Agru 60 mil HDPE Microspike Geomembrane (245221.10)





Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**30.1**	**15.6**
Y-intercept or Adhesion (psf):	**137**	**116**

Shearing occurred at the interface.

Test Conditions

Upper Box &	Skaps TN330-2-8 double-sided geocomposite
Lower Box	Agru 60 mil HDPE Microspike geomembrane (dull side)

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 1 hour prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	10	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	107	356	585
Corrected Large Displacement Shear Stress (psf)	77	250	328
Peak Secant Angle (degrees)	46.9	60.7	36.2
Large Displacement Secant Angle (degrees)	37.6	51.3	22.3
Asperity (mils)	27.4	27.8	27.6

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TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

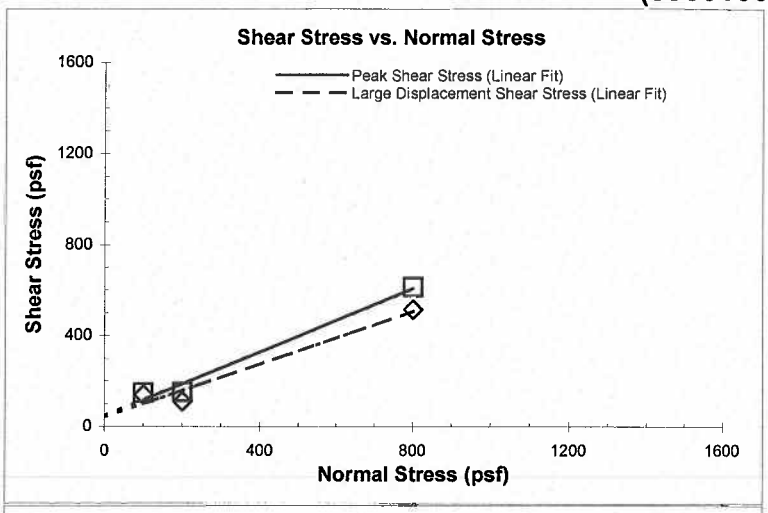
Interface Friction Test Report

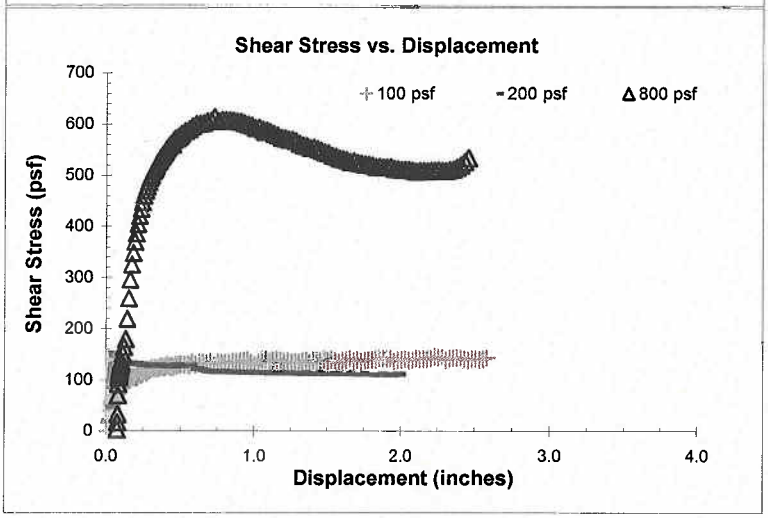
Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/19/10-11/30/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

John M. Allen, P.E., 11/30/2010
Quality Review/Date

Tested Interface: Protective Cover Soil vs. Skaps TN330-2-8 Double-sided Geocomposite (396010001)





Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**35.1**	**30.3**
Y-intercept or Adhesion (psf):	**47**	**41**

Shearing occurred at the interface.

Test Conditions

Upper Box &	Protective Cover Soil remolded to 99.2 pcf at 13.0% moisture content
Lower Box	Skaps TN330-2-8 double-sided geocomposite

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 24 hours prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	0	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	148	153	614
Corrected Large Displacement Shear Stress (psf)	140	111	516
Peak Secant Angle (degrees)	55.9	37.4	37.5
Large Displacement Secant Angle (degrees)	54.5	29.0	32.8

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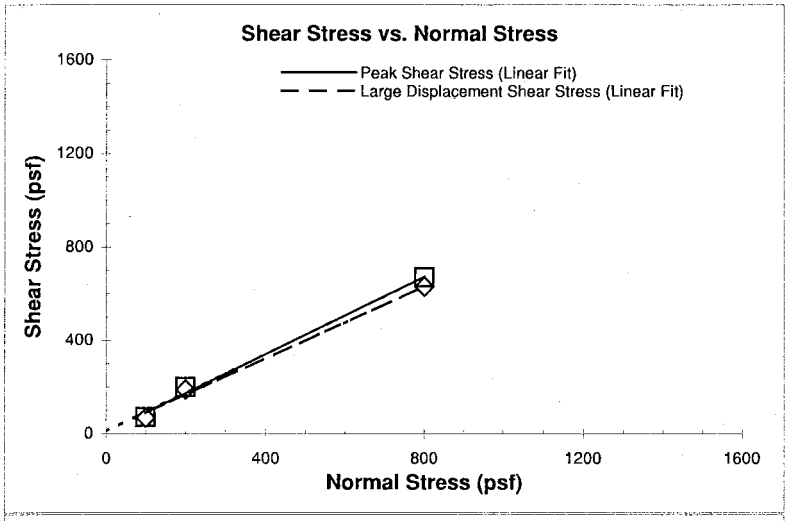
Interface Friction Test Report

Client: **SCS**
Project: **Hardee County Landfill, Phase 1 Closure**
Test Date: 11/23/10-11/29/10

TRI Log#: E2347-31-09
Test Method: ASTM D 5321

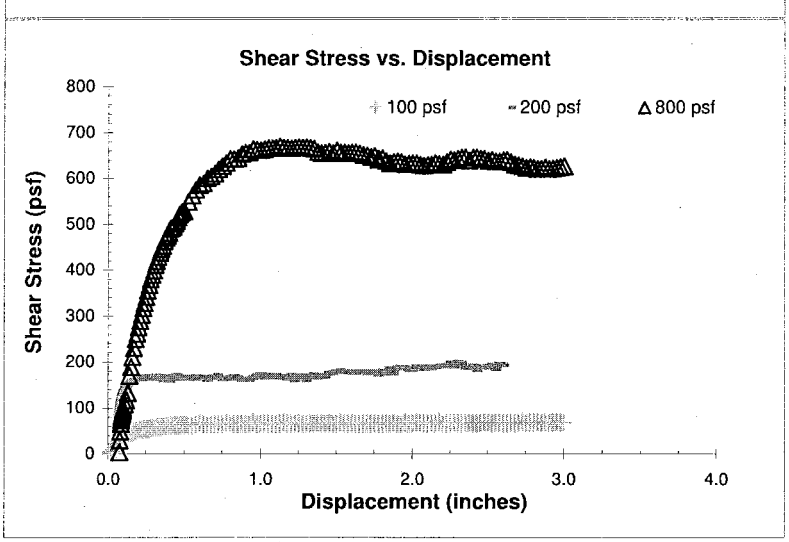
John M. Allen, P.E., 11/29/2010
Quality Review/Date

Tested Interface: Drainage Sand vs. Skaps TN330-2-8 Double-sided Geocomposite (396010001)



Test Results		
	Peak	**Large Displacement (@ 3.0 in.)**
Friction Angle (degrees):	**39.7**	**37.9**
Y-intercept or Adhesion (psf):	**8**	**10**

Shearing occurred at the interface.



Test Conditions

Upper Box &	Drainage Sand remolded to 93.1 pcf at 13.4% moisture content
Lower Box	Skaps TN330-2-8 double-sided geocomposite

Box Dimensions: 12"x12"x4"

Interface Conditioning:	Interface soaked and loading applied for a minimum of 24 hours prior to shear.

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Test Data

Specimen No.	1	2	3
Bearing Slide Resistance (lbs)	3	10	16
Normal Stress (psf)	100	200	800
Corrected Peak Shear Stress (psf)	70	199	669
Corrected Large Displacement Shear Stress (psf)	68	189	630
Peak Secant Angle (degrees)	34.9	44.8	39.9
Large Displacement Secant Angle (degrees)	34.2	43.4	38.2

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