

855 28th Street South St. Petersburg, Florida 33712 Telephone (727) 581-1544 Fax (727) 586-5676 www.angelosrm.com

January 5, 2017

Mr. Steve Morgan Solid Waste Section Florida Department of Environmental Protection - Southwest District 13051 North Telecom Parkway Temple Terrace, Florida 33637-0926

RE: Enterprise Recycling and Disposal Facility Cell 7 Construction Completion Report Angelo's Aggregate Materials, Ltd. FDEP Permit Nos. 177982-019-SC/T3 WACS No.: 87895 Pasco County, Florida

PLORIDA DEPARTMENT OF ENVIRONALIA LEFTAN INTALIA VIRONAL PROTECTION

Dear Mr. Morgan,

The Certification of Construction Completion report for Cell 7 I mailed to you yesterday did not include the signed and sealed survey drawings (Attachment B). I realized that this morning when I saw them folded up on my desk. I've enclosed one set of the originals; please let me know if you need more.

Sincerel

John Arnold, P.E.



January 3, 2017

Mr. Steve Morgan Solid Waste Section Florida Department of Environmental Protection - Southwest District 13051 North Telecom Parkway Temple Terrace, Florida 33637-0926

RE: Enterprise Recycling and Disposal Facility Cell 7 Construction Completion Report Angelo's Aggregate Materials, Ltd. FDEP Permit Nos. 177982-019-SC/T3 WACS No.: 87895 Pasco County, Florida

Dear Mr. Morgan,

This report contains the Certification of Construction Completion (Certification) and Construction Quality Assurance (CQA) data for Cell 7 of the Enterprise Class III landfill and is being submitted to the Florida Department of Environmental Protection (Department) for review and approval.

The CQA program and certification reporting are based on the specific condition requirements contained in FDEP Permit No. 177982-019-SC/T3, which include the following:

- a. 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 (Specific Condition 177982-019-SC/T3, Part B, 2.a.1). The Certification of Construction Completion is provided in Attachment A.
- b. The permittee shall submit Record Drawings/Documents showing all changes (i.e. additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations). The Record Documents shall include, but not be limited to, as-built elevations of the disposal areas (surveys), details and elevations of limerock encountered, and other details as appropriate (Specific Condition 177982-019-SC/T3, Part B, 2.a.2). The Record Drawings are provided in Attachment B.
- c. 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 (Specific Condition 177982-019-SC/T3, Part B, 2.a.3). The narrative report prepared by the professional engineer of record is provided in Attachment C.

- d. The professional engineer of record shall submit to the Department a final report to verify conformance with the project specifications, including all test results for the development of each cell (Specific Condition 177982-019-SC/T3, Part B, 2.a.4). These documents including the Construction Quality Assurance Testing performed by Universal Engineering Sciences, Inc. are provided in Attachment D.
- e. **Prepare and submit financial assurance for the facility in accordance with F.A.C. 62-701.630 and Specific Condition 177982-019-SC/T3, Part D.4).** The financial assurance estimates have been updated to include Cell 7 and are provided in Attachment E. An updated letter of credit that includes Cell 7 will be provided to Fred Wick in the Tallahassee office of the FDEP pending approval of the enclosed estimate by the Department.
- f. Limerock Details and Observations. Details of limerock encountered as part of Cell 7 Construction is provided in Attachment F
- g. **Groundwater Monitoring Wells and Sampling.** Installation, initial sampling, and reporting of the groundwater monitoring wells associated with Cell 7 construction is being coordinated by our sub-consultant, Mr. Locklear P.G. All of the requested materials will be provided to the Department when available, in accordance with the referenced deadlines and requirements.

We trust this submittal, along with the financial assurance update, will satisfy the Department's certification requirements. Please call me at (352) 339-1408 if you have any questions or require any additional information.

Sincerely,

John Ag State (352) 33 cled Materials

Attachment A

Certification of Construction Completion FDEP Form 62-701.900(2)



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# Department of Environmental Protection

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

DEL TOTT P DE 701, 200(4)
Form Title Certification of Construction Completion of a Solid Waste Management Facility
Effective Date May 19, 1994

## Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No:<u>177982-019-SC/T3</u>County: PASCO

Name of Project: ENTERPRISE RECYCLING & DISPOSAL FACILITY

Name of Owner: ANGELO'S AGGREGATE MATERIALS, LTD

Name of Engineer: JOHN P. ARNOLD, P.E.

Type of Project: CELL 7 OF THE CLASS III LANDFILL; CERTIFICATION OF AS-BUILT DRAWINGS

AND CERTIFICATION OF CLAY LINER CONSTRUCTION AND CONFORMANCE TESTING

Cost: Estimate \$250,000 est. \_\_\_\_\_\_ Actual \$250,000 est.

Site Design Quantity: 1,500 ton/day Site Acreage: 10.86 (1,690' x 280') +/- Acres

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

TOP OF CLAY EXCEEDS MINIMUM ELEVATION REQUIRED BY FDEP. CERTIFIED AS-BUILT

DRAWINGS AND SOIL TEST RESULTS SHOW CONSTRUCTION TO BE IN SUBSTANTIAL

ACCORDANCE WITH PERMITTED PLANS.

Address and Telephone No. of Site: 41111 ENTERPRISE RD., DADE CITY, FL 33525

Name(s) of Site Supervisor: MR. ALFREDO MARTINEZ

Date Site inspection is requested: January 18, 2017

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

Dated

Sia

Permit No.:177982-019-SC/T3

Date: January 3, 2017

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

Northeast District 7825 Baymeadows Way, Ste. B200 Jacksonväle, 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

Dade City,

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

illiams Cemetery Rd

3352*5* 

ectiona

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

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#### Attachment B

#### Record Drawings Simmons & Beall, Inc.

Topographic surveys, signed and sealed by a Florida registered Professional Surveyor and Mapper, of the tops of both the over-excavated subgrade and the finished 3-foot thick clay layer are provided. The Surveyor of record is Simmons and Beall. The Surveyor also provided layout and grading control in the field during construction of the cell to monitor and verify conformance with the Department approved requirements.

# As-Built Hard Copies Provided To FDEP (originals) D Simmons + Beall, Inc Final Clay Base D Simmons + Beall, Inc Final Subgrade

## Attachment C

Engineer of Record Narrative Report

. А **Engineer of Record Narrative Report** 

Enterprise Recycling and Disposal Facility Cell 7 Construction FDEP Permits No.: 177982-019-SC/T3 WACS No.: 87895

**Prepared For:** 

Angelo's Aggregate Materials, Ltd. 855 28<sup>th</sup> Street South St. Petersburg, FL 33712

**Prepared By:** Engineer of Record: Jŏhn P. P.E. Ar No. 47164Dates State of Florida P.E. No.: 42164 4 Williams Cemerer Road MILOCity: D 1.33525 39-1408 111111

## **Background**

This report documents the activities and methods of construction for Cell 7 (approximately 10.86 acres in size) in accordance with FDEP Permit No. 177982-019-SC/T3.

Record Drawings of the tops of both the Final Subgrade Final Clay Base (top of clay barrier layer) were performed by the Surveyor and evaluated by the Engineer of Record (Engineer) for conformance with the Department requirements. The Record Drawings are provided in Attachment B. The elevations on the surveys show that the subgrade was over-excavated by 3-feet and then backfilled with clay to construct a 3' thick clay layer. The clay was placed in three (3) approximately 12-inch thick lifts, with each lift being compacted. Geotechnical soils tests were performed on each completed clay lift to ensure the installed clay layer met the Department requirements.

Universal Engineering Sciences, Inc. (UES) performed all field and laboratory testing in accordance with the Construction Quality Assurance (CQA) requirements. Simmons and Beall Land Surveyors provided layout control throughout construction activities and performed Record Surveys of both the over-excavated (subgrade) surface and top-of-clay surface. Mr. John Arnold, P.E. served as the professional engineer of record and he, or his designee was on-site at all times during construction to monitor construction activities.

### **Clay Layer Construction**

Cell 7 was over-excavated by 3 feet so that the finished 3-ft thick clay layer could be installed. This was primarily accomplished as part of the mining activities associated with this site. The over-excavation was performed using tracked excavating equipment. The Surveyor provided grade stakes and performed field layout services to verify that the excavation was sufficient to meet the 3-foot over-excavation criteria. Excluding southern side slope of Cell 7, clay was placed and compacted in the over-excavated cell area using approximatly12-inch lifts to construct the clay layer. The side slope along the south side of Cell 7 was constructed in accordance with Details 1A and 1B – "Typical Clay Side Slope Construction Detail" on Drawing C-23 Details of the approved plans. Clay was placed in several 12-ft wide sections (approximately 2' thick) and compacted up the side slope, with the excess soils removed after construction to create the 3' thick installed layer. Signed and Sealed drawings documenting the As-Built conditions of the over-excavation (Final Subgrade Survey) and top of the installed clay layer (Final Clay Base Survey) are provided in Attachment B.

Clay from on-site was used to construct the clay layer and the clay berms that extend along the west and north sides of Cell 7. The clay was installed in approximately 12-inch lifts and compacted to within at least 95% of the maximum dry density in accordance with ASTM D698. The clay for each lift was spread with a bull dozer and compacted with multiple passes of loaded off-road (articulating) dump trucks. The in-place density and moisture content for each lift of the clay layer was evaluated by the Universal representative using nuclear-density testing and Speedy Moisture Content devices, respectively. Cell 7 was subdivided by row and column into 12 sections for testing. Each section was less than 1 acre in size, which was the approved testing

frequency used for in-place materials, per lift. Lifts were designated as Lift 1, 2, or 3 (from bottom to top). Columns A and B ran north-south and are 140' wide. Rows 1 thru 6 rows ran east-west and are approximately 282' long. A figure depicting the Cell 7 Test Plan is attached.

The UES field technician collected undisturbed Shelby tube samples for each test section, per completed lift, to verify that the installed permeability met or exceeded the Department approved criteria. Permeability testing was performed on the undisturbed Shelby tube samples in the laboratory using a triaxial-permeameter device. The collected samples were also used to evaluate Atterberg Limits.

Results of the density, permeability, and moisture content tests, including the testing plan key map, are in the Universal Testing Report provided as Attachment D.

## **Temporary Stormwater Diversion Swale**

The temporary stormwater diversion swale to the west of Cell 7 was constructed in accordance with the referenced requirements under the observation of the Engineer of Record. The permit documents do not specify a testing schedule for this temporary feature. Field grade stakes and depth measurements were performed on a daily basis for the construction of this feature. The subgrade soils were excavated by a minimum of 3' below the top of the finished swale. Clay from the same source as the bottom liner was used to construct the temporary stormwater diversion swale; which was placed and compacted in approximately 12-inch thick lifts. The subgrade extending approximately 10' west of the temporary stormwater diversion swale was also over-excavated by 3' and backfilled with the same clay used within Cell 7.

### **Limerock**

Limerock encountered within the area of Cell 7 has been documented in Attachment F. All areas where limerock were encountered have been remediated in accordance with the permit requirements.

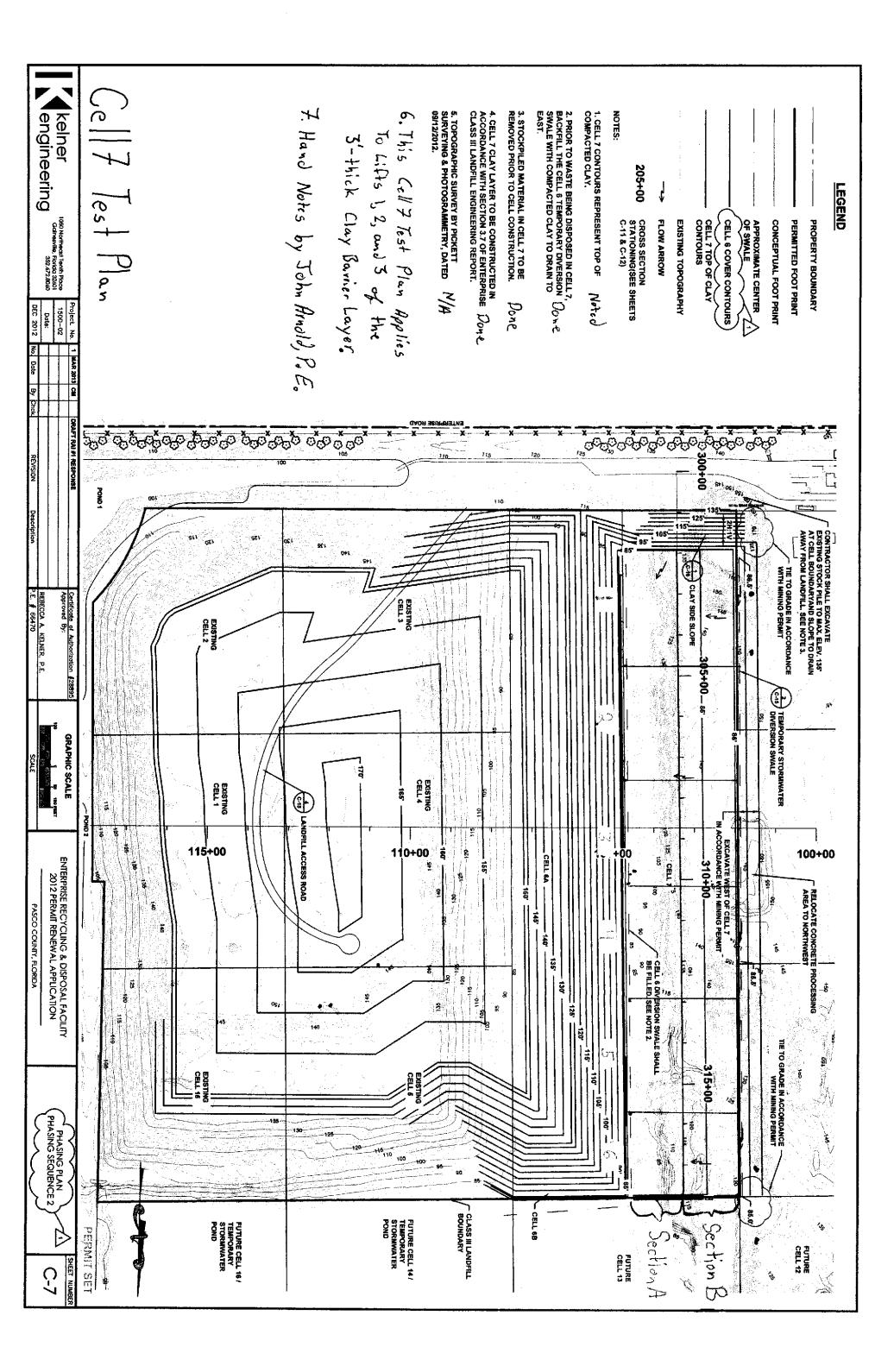
## Field Inspection, Review, Conformance Assessment, and Major Deviations

John Arnold, P.E., serving as the Engineer of Record, reviewed the UES Testing Report, As-Built (Record) drawings, performed daily field inspections/observations, and prepared and submitted this report and Certification of Construction Completion to the Department for review and approval. In accordance with requirements of Specific Condition 177982-019-SC/T3, Part B, 6.b.:

- 1. There were no occurrences of sinkholes, soft zones, ravel areas, or unstable conditions associated with the construction of Cell 7.
- 2. There were no submittal or change orders associated with construction of Cell 7.
- 3. Weekly progress meeting were informal and minutes were not taken.
- 4. Daily observation reports and photographs of construction activity are attached to this Engineer of Record Narrative Report.

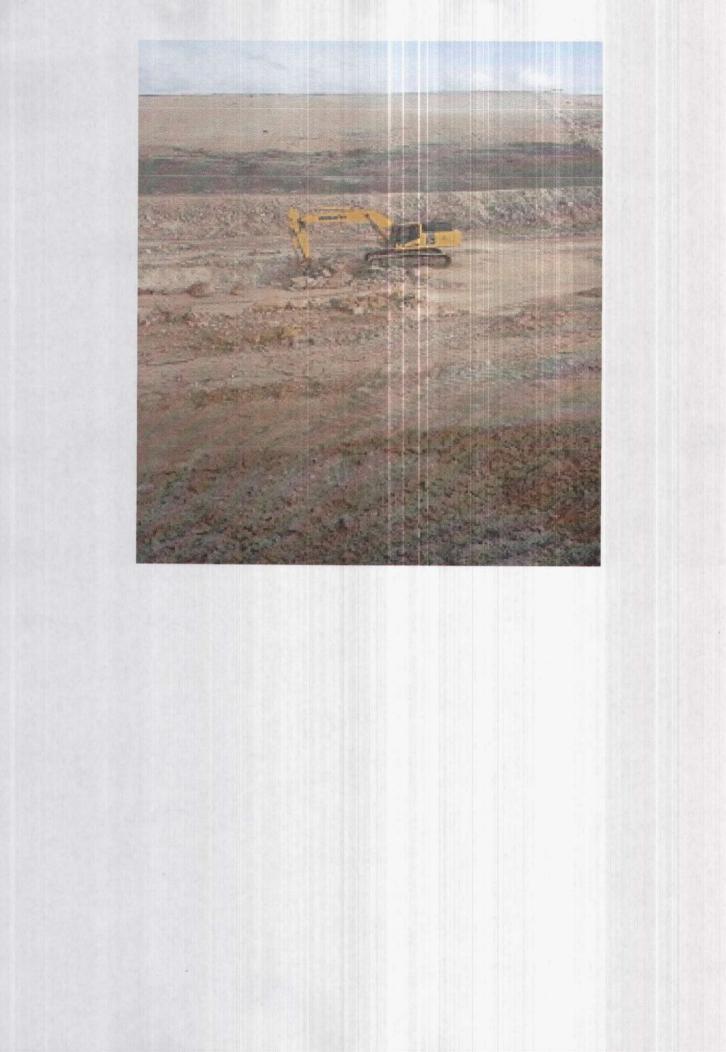
## Summary

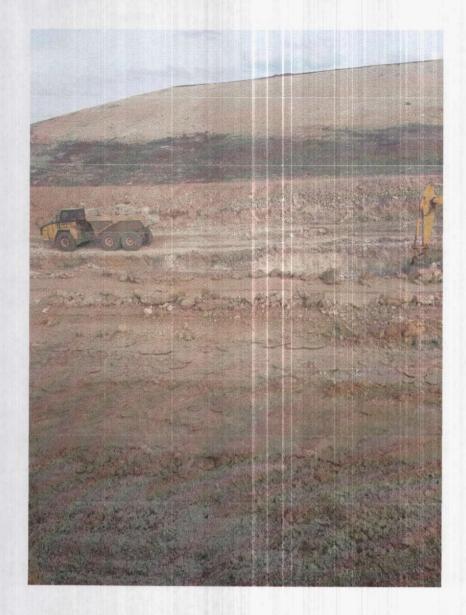
Review of the UES Testing Report, Record Drawings, and field observations during construction indicate that Cell 7 has been constructed in substantial accordance with the Department approved permit requirements.



## **December 2015 Photographs**



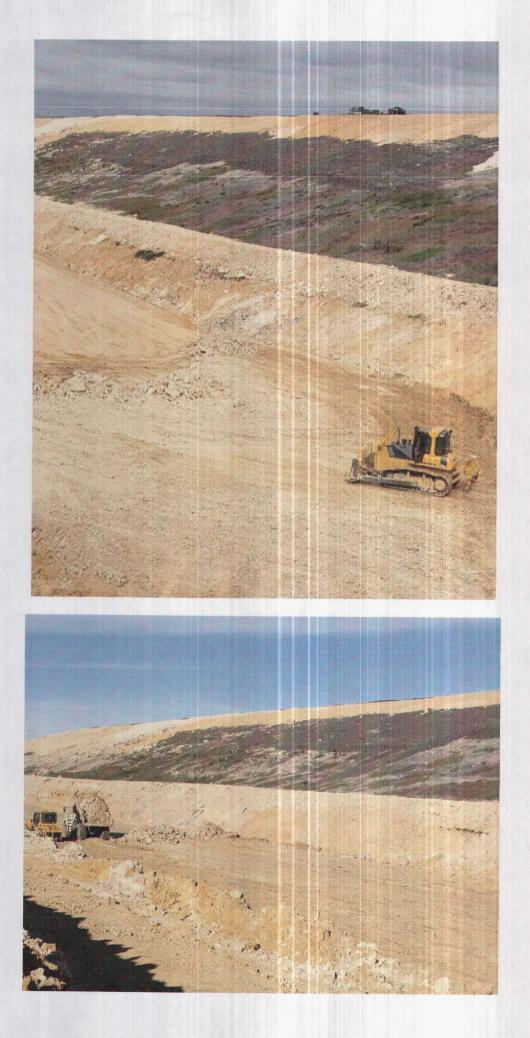




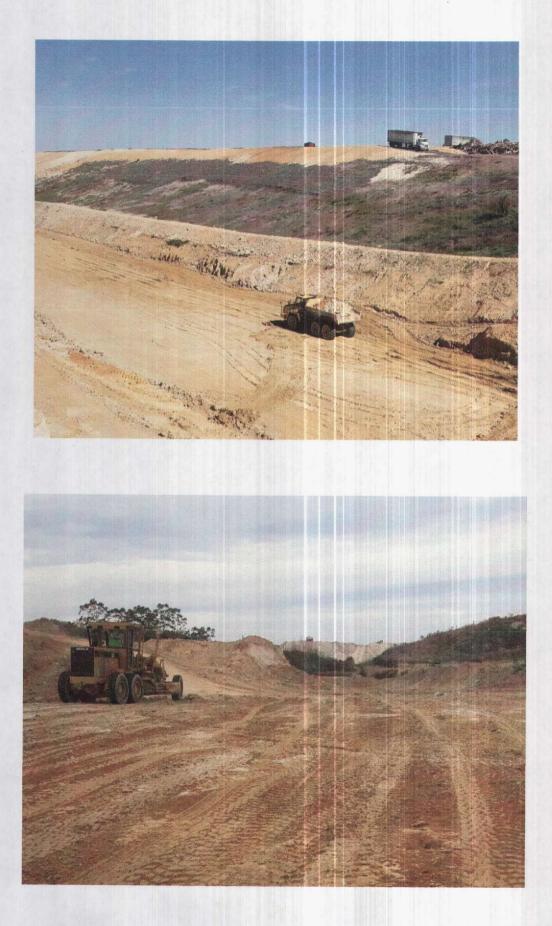
## January 2016 Photographs

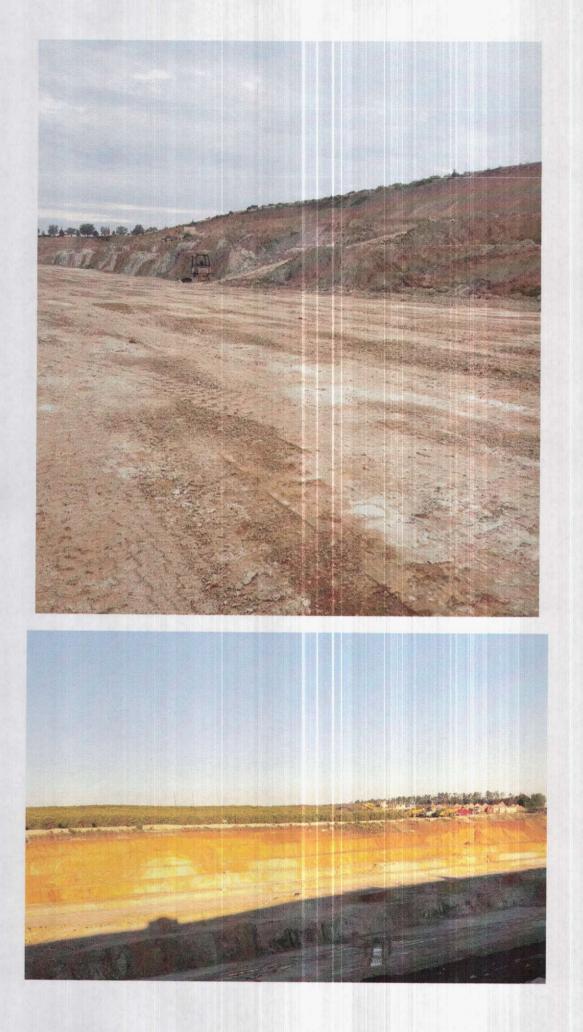






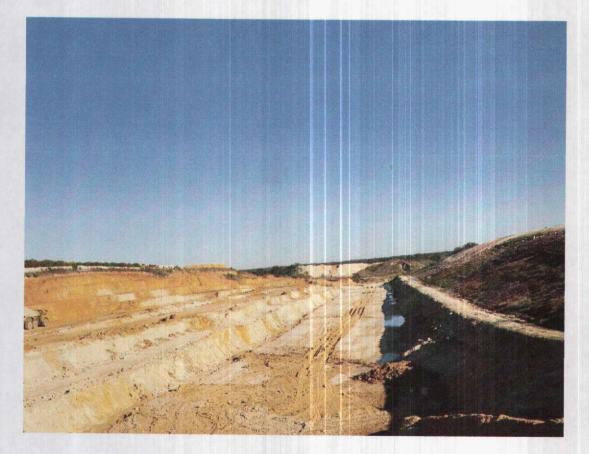
# February 2016 Photographs





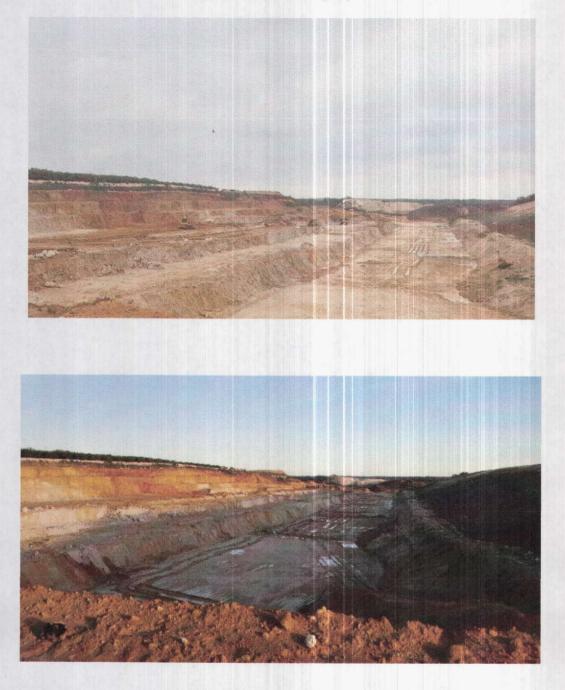
# March 2016 Photographs







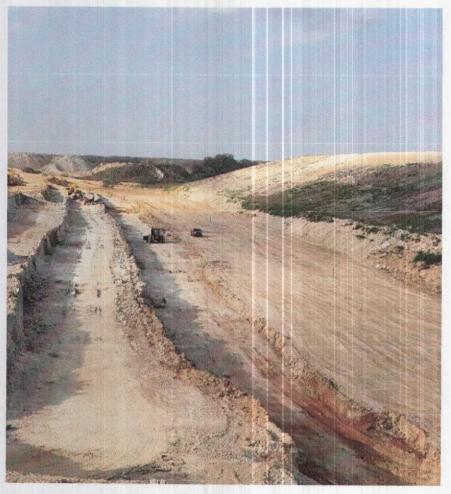
# April 2016 Photographs

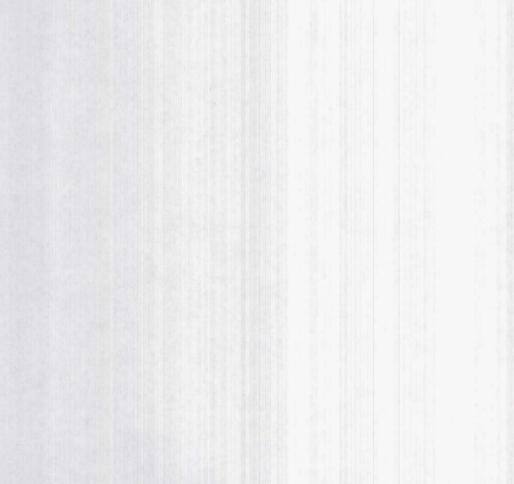






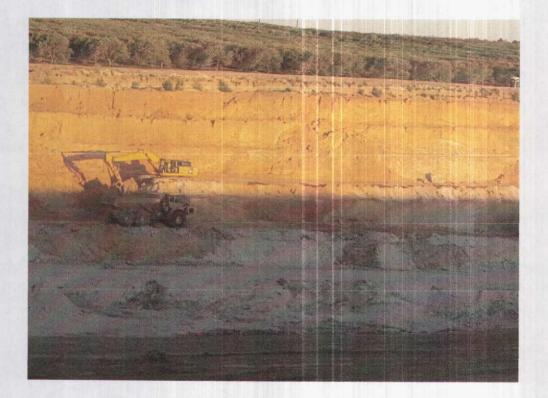






# May 2016 Photographs





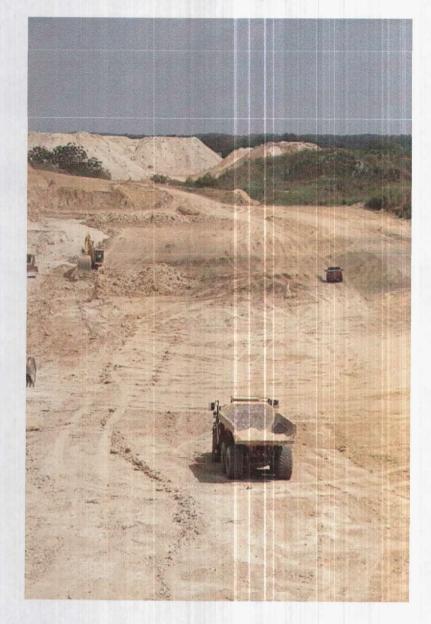


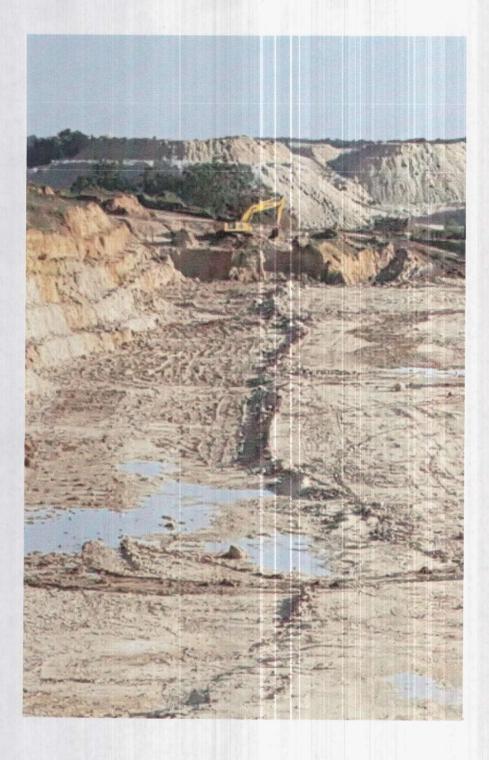




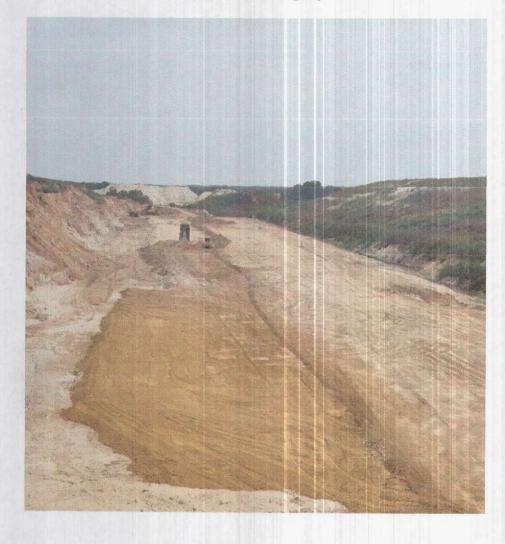


# June 2016 Photographs





# July 2016 Photographs







## Enterprise Recycling and Disposal Facility Cell 7 Construction Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd Engineer of Record: John Arnold, P.E. (JPA) Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc. Surveyor: Simmons and Beal Land Surveyors, Inc.

	Resident	Temp.		
Date	Observer	(F)	Rainfall	Observations and Comments
11/30/15		69		Begin mass excavation
12/1/15	ЛРА	71		same
12/2/15	ЈРА	74	0	same
12/3/15	JPA	70		same
12/4/15		67		same
12/5/15				
12/6/15				
12/7/15		69	0	same
12/8/15		69	0	same
12/9/15		69	0	same
12/10/15		68	0	same
12/11/15	JPA	68	0	same
12/12/15				
12/13/15				
12/14/15		76	0	
12/15/15		72	0	
12/16/15		74	0.25	Rain delay
12/17/15		75	0	Rain delay
12/18/15	JPA	66	0.25	Rain delay
12/19/15				
12/20/15				
12/21/15		67	0	Rain delay
12/22/15		74	0	Rain delay
12/23/15		73	0.2	Rain delay
12/24/15		76	0	No work
12/25/15	ЈРА			Christmas
12/26/15				
12/27/15				
12/28/15		76		Continue mass excavation westward
12/29/15		76		same
12/30/15		75		same
12/31/15		76	0.1	No work
1/1/16	ЛРА 🛛	77		New Years Day
1/2/16				
1/3/16				
1/4/16		53		To wet for work
1/5/16		55		To wet for work
1/6/16		57		Continue mass excavation westward; start clay lift Section A
1/7/16		61	0	same
1/8/16	JPA	65	0.2	same

# Enterprise Recycling and Disposal Facility Cell 7 Construction Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd Engineer of Record: John Arnold, P.E. (JPA) Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc. Surveyor: Simmons and Beal Land Surveyors, Inc.

	Resident	Temp.		
Date	Observer	(F)	Rainfall	Observations and Comments
1/9/16				
1/10/16				
1/11/16	JPA	48	0	same
1/12/16		51		same
1/13/16	JPA	51		same
1/14/16		54	0	Continue mass excavation westward
1/15/16	JPA	65		Universal on-site sample collection Lift 1 Section A
1/16/16				
1/17/16				
1/18/16		49	0	Continue westard excavation; start clay lift Section A Lift 2
1/19/16		47		same
1/20/16		49	0	same
1/21/16		57	0	same
1/22/16	ЈРА	61	0	same
1/23/16				
1/24/16				
1/25/16	ЈРА	51	0	Continue
1/26/16		63	0	same
1/27/16		65	2	Rain delay
1/28/16		63	0.2	Rain delay
1/29/16	JPA	54	1.25	Rain delay
1/30/16				
1/31/16				
2/1/16		70	0	Rain delay
2/2/16		71		Rain delay
2/3/16		75		Rain delay
2/4/16		68	Ō	Excavate higher areas westward
2/5/16	JPA T	60	1	Rain delay
2/6/16				
2/7/16				
2/8/16		56		Excavate higher areas westward
2/9/16		50	0	Continue full excavation can clay placement operations
2/10/16		50		same
2/11/16		52		same
2/12/16	JPA	60	0	same
2/13/16				
2/14/16				
2/15/16		62		same
2/16/16		65		Rain delay
2/17/16	JPA [	61	0	Rain delay

	Resident	Temp.					
Date	Observer	(F)	Rainfall	Observations and Comments			
2/18/16	JPA	59	0	Continue with excavation westward			
2/19/16	JPA	60		Universal on-site sample collection Lift 2 Section A			
2/20/16							
2/21/16							
2/22/16	JPA	67	0	Continue excavation in B section westward in tiers			
2/23/16	JPA	70	0.1	same			
2/24/16		70	0	same			
2/25/16	JPA	56	0.1	same			
2/26/16	JPA	54	0	same			
2/27/16							
2/28/16							
2/29/16		65	0	Continue excavation in Section B; place clay in finished areas of			
3/1/16		66		same			
3/2/16		68	0	same			
3/3/16	JPA	66	0	same			
3/4/16		64	0	same			
3/5/16							
3/6/16							
3/7/16		63	0	Continue clay placement Section A lift 3; excavation westward			
3/8/16		67	Q	same			
3/9/16		71	Ō	same			
3/10/16		74	0	same			
3/11/16	ЛРА	73	0	same			
3/12/16							
3/13/16							
3/14/16		75	0.1	same			
3/15/16		76	0	same			
3/16/16		75	0	same			
3/17/16		76	0	same			
3/18/16	JPA	73	0	same			
3/19/16							
3/20/16							
3/21/16	the second s	56	0	Continue clay placement Section A lift 3; excavation westward			
3/22/16		61	0	same			
3/23/16		69		same			
3/24/16		69		same			
3/25/16	JPA	71	0.5	same			
3/26/16	]						
3/27/16							
3/28/16	JPA	74	0.1	Rain delay			

	Resident	Temp.				
Date	Observer	(F)	Rainfall	Observations and Comments		
3/29/16	JPA	70	0	Rain delay		
3/30/16	ЈРА	71		Rain delay		
3/31/16	JPA	76	0	Rain delay		
4/1/16	ЈРА	77	0	Rain delay		
4/2/16						
4/3/16						
4/4/16		68	0	Work on equipment - No operations for week		
4/5/16	ЈРА	69	0			
4/6/16		70	Ő			
4/7/16		70	0			
4/8/16	JPA	70	0			
4/9/16						
4/10/16		-				
4/11/16		69	0	Finish clay placement Lift 3 Section A		
4/12/16		70		Excavation Section B		
4/13/16		72	0	Universal sampling Lift 3 Section A		
4/14/16		74	0	Continue excavation Section B		
4/15/16	JPA	72	0.2	same		
4/16/16						
4/17/16						
4/18/16		68	0	Excavation Section B		
4/19/16		68	0	same		
4/20/16		70	0	same		
4/21/16		72	0	same		
4/22/16	JPA	73	0	same		
4/23/16						
4/24/16						
4/25/16		75		Excavation Section B		
4/26/16		75		same		
4/27/16		76		same		
4/28/16		77		same		
4/29/16		78	0	same		
4/30/16						
5/1/16						
5/2/16		79		Excavation Section B		
5/3/16		79		same		
5/4/16		72		Rain delay		
5/5/16		68		Rain delay		
5/6/16	JPA	66	0	Rain delay		
5/7/16			ŀ			

	Resident	Temp.	Γ	
Date	Observer	(F)	Rainfall	Observations and Comments
5/8/16				
5/9/16	JPA	73	0	Rain delay
5/10/16	JPA	75		Excavation Section B; begin clay placement Lift 1 Section B
5/11/16		77	0	same
5/12/16		77	0	same
5/13/16	JPA	77	0.1	same
5/14/16				
5/15/16				
5/16/16	ЛРА	77	0	Excavation Section B and south slope
5/17/16	ЈРА	78		same
5/18/16	ЈРА	77	2.2	Rain delay
5/19/16		80		Rain delay
5/20/16	JPA	78		Rain delay
5/21/16				· · · · · · · · · · · · · · · · · · ·
5/22/16				
5/23/16	ЈРА	76	0	Continue tiered excavation in Section B; clay placement Lift 1
5/24/16	JPA	78	0	Start clay placement Lift 2 Section B
5/25/16	ЈРА	77		same
5/26/16	JPA	75	the second s	same
5/27/16	JPA	76	the second s	same
5/28/16				
5/29/16				
5/30/16	JPA			Memorial Day
5/31/16	JPA	80		Universal sample collection Lift 1 Section B
6/1/16	JPA	81		Continue tiered excavation in Section B and clay placement Lift
6/2/16	ЈРА	81		same
6/3/16	ЈРА	83		same
6/4/16				
6/5/16				
6/6/16	ЈРА	75	1.0	Universal sample collection Lift 2 Section B
6/7/16		88	2.5	Rain delay
6/8/16	JPA	88		Rain delay
6/9/16		88		Clay placement Lift 3 Section B
6/10/16		89	0.1	same
6/11/16				
6/12/16	1			
6/13/16	JPA	89	1	Continue tiered excavation and clay placement in Lift 3 Section
6/14/16		90	0.0	same
6/15/16		90		same
6/16/16		88		same

	Resident	Temp.	[				
Date	Observer	(F)	Rainfall	Observations and Comments			
6/17/16	JPA	87	0.1	same			
6/18/16							
6/19/16							
6/20/16	JPA	86	0.0	Continue tiered excavation and clay placement in Lift 3 Section			
6/21/16	ЈРА	88		same			
6/22/16		91	0.0	same			
6/23/16	JPA	95	0.0	same			
6/24/16	JPA	93	0.0	same			
6/25/16							
6/26/16							
6/27/16		89	1	Continue tiered excavtion and clay placement in Lift 3 Section B			
6/28/16		89	0.1	same			
6/29/16		89		same			
6/30/16	ЈРА	89	2.25	Universal sample collection Lift 3 Section B			
7/1/16	JPA	89	0.5	Rain delay			
7/2/16							
7/3/16							
7/4/16				July 4th			
7/5/16		91	0	Rain delay			
7/6/16	JPA	93	0	Rain delay			
7/7/16	ЈРА	93	0	Rain delay			
7/8/16	ЈРА	92	0.1	Shoot top of clay grades and set stakes to fine grade			
7/9/16							
7/10/16							
7/11/16		95	0	Fine grading top of clay			
7/12/16		94		Fine grading top of clay			
7/13/16		93	0.5	Rain delay			
7/14/16		94	0.2	Rain delay			
7/15/16	JPA	93	0	Rain delay			
7/16/16							
7/18/16	JPA	92	0	Work substantially complete for cell and berms			
7/19/16		91	0	Work on fine grading and permieter berms/swales			
7/20/16		94	0	Survey Elevations top of Final Clay			
7/21/16		94	0				
7/22/16	JPA	91	0				
7/23/16							
7/24/16							
7/25/16		92	0.1	No cell work for week			
7/26/16	JPA 🔤	95	0				

	Resident	Temp.		
Date	Observer	(F)	Rainfall	Observations and Comments
7/27/16		95	Ö	
7/28/16		93	0.25	
7/29/16		89	0.0	
7/30/16				
7/31/16				
8/1/16		94	0.1	No cell work for week
8/2/16		93	0	
8/3/16		89	Ő	
8/4/16		89	0	
8/5/16	JPA	89	0.75	
8/6/16				
8/7/16				
8/8/16		81	0.3	No cell work for week
8/9/16	JPA	80	0.5	
8/10/16		92	0	
8/11/16		90	2.25	
8/12/16	JPA	92	0.2	
8/13/16				
8/14/16				
8/15/16		91	0.25	No cell work for week
8/16/16		91	0	
8/17/16		93	0	
8/18/16		90	0	
8/19/16	ЈРА	92	0.75	
8/20/16				
8/21/16				
8/22/16	ЈРА	92	0	
8/23/16		93	0	
8/24/16		88	0.25	
8/25/16		91	0	Universal sampling of North Berm
8/26/16	JPA	91	0	

### Attachment D

**Construction Quality Assurance Test Results Universal Engineering Science, Inc.** 



Fort Myers . Fort Pierce Gainesville Jacksonville Miami Ocala Orlando (Headquarters) Palm Coast Panama City Pensacola Rockledge Sarasota St. Petersburg Tampa

West Palm Beach

LOCATIONS:

Atlanta Davtona Beach

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November 29, 2016

#### **Angelo's Recycled Materials**

41111 Enterprise Road Dade City, Florida 33525

Attention: John Arnold

Reference: John Arnold Enterprise Class III Landfill Cell 7 Dade City, Florida UES Project No. 0810.1500214.0000

Mr. Arnold:

Pursuant to your request, please find attached all related testing reports for the Landfill Cell 7. This letter certifies reports for:

- Proctor Report: Page 1-3 ٠
- Permeability Reports: Pages 1-7
- Site Density Reports: Pages 1-6 •

We trust that these testing reports bound herein, are acceptable to your current needs. However, if you should require additional information please contact us.

We appreciate the opportunity to work with you on this project and look forward to a continued association with Angelo's Recycled Materials. Please do not hesitate to contact us if you should have any questions or if we may further assist you as your plans proceed.

Respectfully submitted,
UNIVERSAL ENGINEERING SCIENCES, INC.
Certificate of Authorization No. 00000549
WWWWWWWWWWWW
LICENSS D
A A A A A A A A A A A A A A A A A A A
Mark Hardy, P.E.
Tampa Regional Manager 57233
Florida PE Registration Number 57233
Date: 11/29/2021 APE OF * * 3
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UNIONAL ENG
CNAL ENCIMENT

9802 Palm River Road, Tampa, FL 33619-4438 • 813-740-8506 • 813-740-8706 www.UniversalEngineering.com

UN			Work Orde	rt No.:	211184 arch 28, 24	016
	Client					
Sa	Project: mple Location:		S 3/CELL /			
	Intended Use:			ed By: M		
Samp	ole Description: Sampled By:				arch 24, 2	
	Date Sampled By			•	oftware Pa arch 28, 2	-
				iottou. m		
		Lab Number:				
		Test Method:			2	
		Maximum Dry Density, pcf:			•	
		Optimum Moisture, %:				
		Passing No. 4 Sieve, %:				
		Passing No. 200 Sieve, %:	: 55.6			
	125		DESCRI		OCTOR TEST	s l
			Tesl Method (1, 2 or 3):	(1) Standard ASTM D 698 (AASHTO T99)	(2) Modëled ASTM D 1557 (AASHTO T180)	(3) Modified ASTM D.1557 (AASHTO T180)
			Vol. of Cylinder, cull ft.	4-In, Dia, Mold 1/30	4-in. Dla. Moid 1/30	6-in. Dia. Mold 1/13.333
	120		Hammer Weight, ibs.	5,5	10	10
			Hammer Drop, In. Hammar Blows per Layer	12	18	18 56
			Number of Layers	Э	5	5
	115		Compaction Energy. Nu-Ibs, per cu, II,	12,375	56,259	56.259
			$\backslash$			
c	110					
t (ncf)	<b>T</b> ( ) ( )					
Drv Unit Wainht (	» 105			urves of 100 pecific Gravi	% Saturation	n for
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ت ۲	100			in the second se	2.70 	
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	0		20 25	30		
		Moisture Content {%	o)			

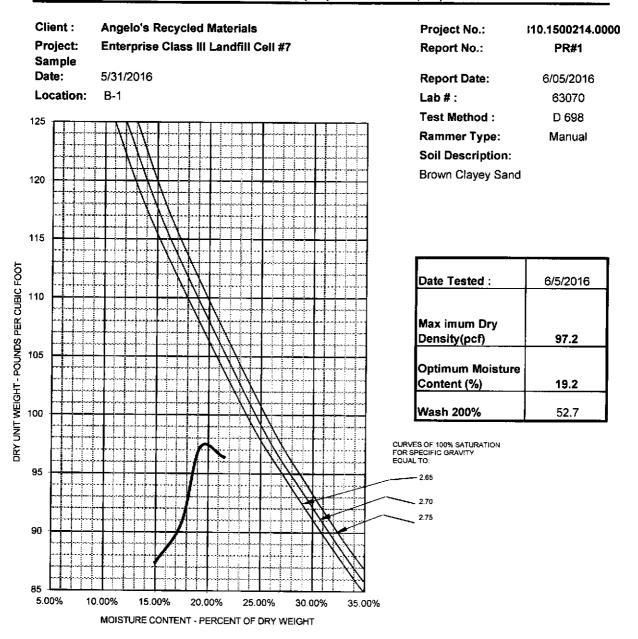
Sampled according to AASHTO T 002.

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This form may not be reproduced without the consent of UES, Inc.

This report has been reviewed by the UES Engineer of Record. The intent of this report is to provide testing information in an Expeditious manner. A signed / sealed cover page for all tests reports can be provided at the completion of the project and / or at the request of the client.

					Work Orde	rt No.:	211184 anuary 20,	2016
	Clien					an karanta s <b>akapa</b> téngak nganganang	TTERNESS F THE DEEX BUT IN THE	
0	Projec				S III LANDFILL	CELL 6		
	ple Location		(TP-27) C	-10	Test	ed By: L	G	
			TAN CLAY	SAND	Date T	-	anuary 15,	2016
	Sample Description: Sampled By:		-				Software Pa	
Da	ate Sampleo	: January	7, 2016		Date P	lotted: J	anuary 20,	2016
			SUMMA	ARY OF TEST	RESULTS			
				Lab Number	: 16-P-04	48		
				Test Method	: AASHTO	T-99 (	2)	
		Ma	ximum Dry	∕ Density, pc⁵	: 94.0			
			Optimum	ı Moisture, %	: 26.0			
			Passing N	lo. 4 Sieve, %	: 100			
		F	Passing No.	200 Sieve, %	: 54.3			
	125 mm				DESCRI	FTION OF P		S
			· · · · · · · · · · · · · · · · · · ·		That frethod (1, 2 or 3);	(1) Standard ASTM D 698 (AASHTO T99 4-In, Dia, Mok		(3) Modified ASTM D 1557 (AASHTO T180) 8-in. Dia. Moic
	120				Vol. of Cylinder, cu. ft.	1/36	1/30	1/13.333
	120				Hammor Weight, Ibs. Hammor Drop, In.	5,5 12	10	10
					Hammer Blows per Layer	25	25	56
	445				Number of Layers	3	5	5
	115				Compaction Energy Raibs, per co. ft.	12.375	53,259	56.259
		1			$\lambda$			
Ē	110		i ·					
(pcf)		ana in 1975. The					'	
Dry Unit Weight	105						0% Saturation vity Equal to:	for
nit V			•			2.6:	5	
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	1979 - 1977 (M. 1987 - 1866)				-	man hill		
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Sampled according to AASHTO T 002.

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Project:

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LOCATIONS: Atlanta •Daytona Beach Fort Myers Fort Pierce Gainesville Jacksonville •Miami ■Ocala Orlando (Headquarters) Palm Coast Panama City Pensacola Rockledge =Sarasota Tampa ■Tifton

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#### REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

 Date Tested:
 February 24, 2016
 Tested By:

 Date Sampled:
 1/15/2016
 Sampled By:

Angelo's Materials's

Enterprise Class 3 Cell 7

Sample Ran At: Permeability: Percent Passing Sample Location Moisture Dry Unit Κ κ No. 200 Sieve Content (%) Weight (pcf) (cm/s)(ft/d) A1-L1 51.00 94.8 1.07 X 10<sup>-8</sup> 3.03 X 10<sup>-5</sup> 26 A2-L1 90.7 2.35 X 10<sup>-9</sup> 63.00 26.9 6.6 X 10<sup>-6</sup> A3-L1 53.70 27.9 90.1 3.14 X 10<sup>-9</sup> 1.42 X 10<sup>-4</sup> A4-L1 94.9 5.42 X 10<sup>-9</sup> 52.30 26.7 4.31 X 10<sup>-5</sup> A5-L1 50.90 22.7 95.8 1.14 X 10<sup>-8</sup> 3.23 X 10<sup>-5</sup> A6-L1 47.00 21 102.2 2.42 X 10<sup>-9</sup> 8.18 X 10<sup>-5</sup>



Project:

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LOCATIONS:

#### Enterprise Class 3 Cell 7

**Angelo's Materials's** 

#### **REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE** (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested: March 29, 2016 Date Sampled: 2/19/2016

Tested By: Sampled By:

\_\_\_\_\_

		Sample	Ran At:	Permeability:		
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)	
A1-L2	38.50	24	97.7	2.21 X 10 <sup>-9</sup>	8.18 X 10 <sup>-5</sup>	
A2-L2	33.60	20.7	104.4	3.62 X 10 <sup>-9</sup>	1.03 X 10 <sup>-6</sup>	
A3-L2	34.20	19.5	103.4	3.14 X 10 <sup>-9</sup>	8.9 X 10 <sup>-6</sup>	
A4-L2	39.00	23.8	101.5	1.03 X 10 <sup>-8</sup>	2.92 X 10 <sup>-5</sup>	
A5-L2	29.90	21	103.4	1.14 X 10 <sup>-8</sup>	3.23 X 10 <sup>-5</sup>	
A6-L2	29.80	19.8	103.4	3.22 X 10 <sup>-9</sup>	9.13 X 10 <sup>-6</sup>	
					· .	



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**Client:** 

**Angelo's Materials's** 

**Project:** 

Enterprise Class 3 Cell 7

LOCATIONS: •Atlanta Daytona Beach Fort Myers Fort Pierce Gainesville Jacksonville •Miami ■Ocala Orlando (Headquarters) Palm Coast ■Panama City Pensacola Rockledge Sarasota ■Tampa \*Tifton

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### **REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE** (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested: May 16, 2016 Date Sampled: 4/13/2016

Tested By: Sampled By: \_\_\_\_\_

		Sample	Ran At:	Permeability:		
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)	
A1-L3	47.30	22	100.7	4.5 X 10 <sup>-9</sup>	1.28 X 10-5	
A2-L3	49.20	20.7	104.4	3.51 X 10 <sup>-9</sup>	9.95 X 10 <sup>-6</sup>	
A3-L3	44.60	19.5	103.4	1.42 X 10 <sup>-9</sup>	4.03 X 10 <sup>-5</sup>	
A4-L3	40.20	23.8	101.5	3.52 X 10 <sup>-9</sup>	9.98 X 10 <sup>-5</sup>	
A5-L3	48.50	21	103.4	3.46 X 10 <sup>-9</sup>	9.81 X 10 <sup>-6</sup>	
A6-L3	52.90	19.8	103.4	2.34 X 10 <sup>-9</sup>	6.64 X 10 <sup>-6</sup>	



**Project:** 

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Angelo's Materials's

Enterprise Class 3 Cell 7

LOCATIONS: •Atlanta •Daytona Beach Fort Myers Fort Pierce Gainesville Iacksonville ■Miami ■Ocala Orlando (Headquarters) Palm Coast •Panama City ■Pensacola Rockledge •Sarasota ■Tampa •Tifton

JO

MA

### **REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE** (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested: June 29, 2016 Date Sampled: 5/31/2016

Tested By: \_\_\_\_\_ Sampled By: \_\_\_\_\_

		_	

		Sample	Ran At:	Permeability:		
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)	
B1-L1	37.30	16	110.1	1.56 X 10 <sup>-9</sup>	4.42 X 10 <sup>-6</sup>	
<u>B2-L1</u>	39.40	17.2	110.5	1.62 X 10 <sup>-9</sup>	4.6 X 10 <sup>-6</sup>	
<u>B3-L1</u>	56.00	30.1	87.5	1.27 X 10 <sup>-8</sup>	3.60 X 10 <sup>-5</sup>	
B4-L1	37.90	18.8	106.7	7.20 X 10 <sup>-9</sup>	2.04 X 10 <sup>-5</sup>	
B5-L1	50.30	27.5		6.08 X 10 <sup>-9</sup>	1.72 X 10 <sup>-5</sup>	
B6-L1	37.00	18.7	107.3	2.34 X 10 <sup>-9</sup>	6.64 X 10 <sup>-6</sup>	
-						



**Project:** 

UNIVERSAL ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences Geophysical Services • Construction Materials Testing • Threshold Inspection Building Inspection • Plan Review • Building Code Administration

Angelo's Materials's

Enterprise Class 3 Cell 7

LOCATIONS: Atlanta Daytona Beach Fort Myers Fort Pierce Gainesville Jacksonville ■Miami ■Ocala Orlando (Headquarters) Palm Coast Panama City Pensacola Rockledge Sarasota •Tampa Tifton

#### REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

 Date Tested:
 July 5, 2016
 Tested By:
 JO

 Date Sampled:
 6/6/2016
 Sampled By:
 MA

			Ran At:	Рег	meability:
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)
B1-L2	52.40	21	104.3	2.33 X 10 <sup>-9</sup>	6.64 X 10 <sup>-6</sup>
B2-L2	49.60	24	108.2	3.12 X10 <sup>-9</sup>	8.84 X 10 <sup>-6</sup>
B3-L2	<u>54.9</u> 0	19.4	101.3	3.46 X 10 <sup>-9</sup>	9.81 X 10 <sup>-6</sup>
B4-L2	42.30	22	110.4	1.04 X 10 <sup>-8</sup>	2.95 X 10 <sup>-6</sup>
B5-L2	44.50	23.5	102.9	4.32 X 10 <sup>-9</sup>	1.22 X 10 <sup>-5</sup>
B6-L2	48.10	20.3	108.8	4. <u>53 X</u> 10 <sup>-9</sup>	1.28X 10 <sup>-5</sup>



**Project:** 

INIVERSA ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences Geophysical Services • Construction Materials Testing • Threshold Inspection Building Inspection - Plan Review - Building Code Administration

•Atlanta Daytona Beach Fort Myers Fort Pierce Gainesville Jacksonville •Miami ■Ocala Orlando (Headquarters) ■Palm Coast Panama City Pensacola Rockledge Sarasota =Tampa Tifton

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LOCATIONS:

## Enterprise Class 3 Cell 7

**Angelo's Materials's** 

#### **REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE** (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested: August 7, 2016 Date Sampled: 6/30/2016

Tested By: Sampled By:

		Sample	Ran At:	Per	meability:
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)
B1-L3	47.50	23	98.4	5.54 X 10 <sup>-9</sup>	1.54 X 10 <sup>-5</sup>
B2-L3	50.20	20.4	95.7	3.61 X 10 <sup>-9</sup>	1.02 X 10 <sup>-5</sup>
B3-L3	49.80	22.8		3.44 X 10 <sup>-9</sup>	9.75 X 10 <sup>-6</sup>
B4-L3	51.30	18.4	100.2	3.11 X 10 <sup>-9</sup>	8.82 X 10 <sup>-6</sup>
B5-L3	48.50	19.7	99.5	1.64 X 10 <sup>-9</sup>	4.65 X 10 <sup>-6</sup>
B6-L3	49.20	22.3	98.3	1.33 X 10 <sup>-9</sup>	3.77 X 10 <sup>-6</sup>

LOCATIONS:

Fort Myers Fort Pierce

Gainesville

Jacksonville

Panama City Pensacola Rockledge

•Sarasota

Tampa Tifton

JO

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 Orlando (Headquarters) ■Palm Coast

•Miami Ocaia

=Atlanta Davtona Beach



NIVERS

IGINEERING SCIENCES

**Client:** 

Angelo's Materials's

**Project:** 

Enterprise Class 3 Cell 7

#### **REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE** (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Â

Date Tested: <u>19 September 2016</u> Tested By: Date Sampled: 8/25/2016

Sampled By:

		Sample	Ran At:	Perme	eability:
Sample Location	Percent Passing No. 200 Sieve	Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)
North Berm	45.30	24	99.6	1.59 X 10 <sup>-9</sup>	4.51 X 10 <sup>-6</sup>
					<u> </u>

UES Project No: 0810.1500214.0000 Workorder No: 56675-1 Report Date: 1/28/2016

Geophysical Services • Materials Testing • Threshold Inspection Building Code Administration, Compliance Inspection & Plan Review

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ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

### **In-Place Density Test Report**

Client: Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 7 ,, Pasco County, FL

Area Tested: ceil 7 Material: clay Reference Datum: 0 = Bottom of Native UES Technician: Mario Arroyo Date Tested: 01/21/2016

Type of Test:

Field:ASTM D-2937 Drive Cylinder MethodLaboratory:ASTM D1557 Modified Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	A1 LI	2 ft	94.0	26	89.9	17.9	96	Pass
2	A2 LI	2 ft	94.0	26	93.5	<b>1</b> 7.1	99	Pass
3	A3 LI	2 ft	94.0	26	89.4	19.0	95	Pass
4	A4 LI	2 ft	94.0	26	89.5	18.0	95	Pass
5	A5 LI	2 ft	94.0	26	89.9	16.0	96	Pass
6	A6 LI	2 ft	94.0	26	91.7	16.9	98	Pass

UNIVERSAL ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences Geophysical Services • Materials Testing • Threshold Inspection

Geophysical Services • Materials Testing • Threshold Inspection Building Code Administration, Compliance Inspection & Plan Review Poad Tampo Et. 32648 - Dr 942 340 8508 - 5: 942 340 97 UES Project No: 0810.1500214.0000 Workorder No: 57825-1 Report Date: 3/15/2016

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

### **In-Place Density Test Report**

Client: Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 6 , , Pasco County, FL

Area Tested: A LIFT 2 Material: Fill Reference Datum: 0 = Top of Native UES Technician: Mario Arroyo Date Tested: 03/11/2016

Type of Test:

Field:ASTM D-2937 Drive Cylinder MethodLaboratory:Standard Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	A-1 L2	1-2 ft	94.0	26	94.2	15.5	100	Pass
2	A 2 L2	1-2 ft	94.0	26	96.1	16.3	102	Pass
3	A-3 L2	1-2 ft	94.0	26	94.8	18.8	101	Pass
4	A-4 L2	1-2 ft	94.0	26	92.9	17.3	99	Pass
5	A 5 L2	1-2 ft	94.0	26	96.5	19.2	103	Pass
6	A 6 L2	1-2 ft	94.0	26	91.5	16.2	98	Pass

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Geophysical Services • Materials Testing • Threshold Inspection Building Code Administration, Compliance Inspection & Plan Review Road Tampa EL 32649 B: 943 740 9506 E: 942 740 97 UES Project No: 0810.1500214.0000 Workorder No: 59498-1 Report Date: 5/12/2016

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

### **In-Place Density Test Report**

Client: Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 7 ,, Pasco County, FL

> Area Tested: Cell 7 Material: CLAY

UES Technician: Mario Arroyo Date Tested: 05/10/2016

Type of Test:

Field:ASTM D-2937 Drive Cylinder MethodLaboratory:Standard Proctor

**Reference Datum:** 0 = Bottom of Native

The tests below meet the minimum 95% relative soil compaction requirement of Laboratory Proctor maximum dry density.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	A1 L3	1 ft	94.0	26	97.4	16.5	103	Pass
2	A2 L3	1 ft	94.0	26	95.2	17.6	101	Pass
3	A3 L3	1 ft	94.0	26	95.9	16.3	101	Pass
4	A4 L3	1 ft	94.0	26	96.8	18.9	102	Pass
5	A5 L3	1 ft	94.0	26	93.5	16.6	99	Pass
6	A6 L3	1 ft	94.0	26	93.6	18.3	99	Pass

To establish a mutual protection to Universal's clients, the Public and ourselves, all reports are submitted as confidential property of our clients and authorization for publication of statements, conclusions or extracts from or regarding Universal's reports is reserved pending our written approval.

UES Project No: 0810.1500214.0000 Workorder No: 59699-1 Report Date: 6/05/2016

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

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#### **In-Place Density Test Report**

Client: Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 6 , , Pasco County, FL

Area Tested: B Lift 1 Material: Fill Reference Datum: 0 = Top of Native UES Technician: Mario Arroyo Date Tested: 05/31/2016

Type of Test:

Field:ASTM D-2937 Drive Cylinder MethodLaboratory:Standard Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	B 1 L1	0-1 ft	93.8	24.5	91.7	18.7	98	Pass
2	B2 L1	0-1 ft	93.8	24.5	92:6	19.3	99	Pass
3	B3 L1	0-1 ft	93.8	24.5	90.2	17.6	96	Pass
4	B4 L1	0-1 ft	93.8	24.5	93.6	20.2	100	Pass
5	B5 L1	0-1 ft	93.8	24.5	91.8	17.8	98	Pass
6	B6 L1	0-1 ft	93.8	24.5	93.2	18.6	99	Pass

UES Project No: 0810.1500214.0000 Workorder No: 60829-1 Report Date: 6/05/2016

Building Code Administration, Compliance Inspection & Plan Review 9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

INIVERS

ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences Geophysical Services • Materials Testing • Threshold Inspection

Client: Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 6 , , Pasco County, FL

Area Tested: B Lift 2 Material: Fill Reference Datum: 0 = Top of Native

In-Place Density Test Report

UES Technician: Mario Arroyo Date Tested: 05/31/2016

Type of Test:

Field:ASTM D-2937 Drive Cylinder MethodLaboratory:ASTM D698 Standard Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	B1 L2	0-1 ft	97.2	19.2	94.6	17.8	97	Pass
2	B2 L2	0-1 ft	97.2	19.2	98.1	17.7	101	Pass
3	B3 L2	0-1 ft	97.2	19.2	94.3	18.5	97	Pass
4	B4 L2	0-1 ft	97.2	19.2	99.2	20.1	102	Pass
5	B5 L2	0-1 ft	97.2	19.2	92.6	17.3	95	Pass

UES Project No: 0810.1500214.0000 Workorder No: 60855-1 Report Date: 7/07/2016

ASTM D-2937 Drive Cylinder Method

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

UNIVERSA

ENGINEERING SCIENCES Consultants In: Geotechnical Engineering • Environmental Sciences Geophysical Services • Materials Testing • Threshold Inspection Building Code Administration, Compliance Inspection & Plan Review

### **In-Place Density Test Report**

**Client:** Angelo's Materials 41111 Enterprise Road Dade City, FL 33525

Project: Enterprise Class III Landfill Cell 6 , , Pasco County, FL

Area Tested: B1 L3

Material: Fill

Reference Datum: 0 = Top of Native

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	B1 L3	0-1 ft	97.2	19.2	96.3	17.8	99	Pass
2	B2 L3	0-1 ft	97.2	19.2	96.4	18.6	99	Pass
3	B3 L3	0-1 ft	97.2	19.2	94.8	16.9	98	Pass
4	B4 L3	0-1 ft	97.2	19.2	95.1	18.3	98	Pass
5	B5 L3	0-1 ft	97.2	19.2	93.9	19.4	97	Pass
6	B6 L3	0-1 ft	97.2	19.2	92.5	18.1	95	Pass

UES Technician: Mario Arroyo

Date Tested: 07/05/2016

Laboratory: ASTM D698 Standard Proctor

Type of Test:

Field:

To establish a mutual protection to Universal's clients, the Public and ourselves, all reports are submitted as confidential property of our clients and authorization for publication of statements, conclusions or extracts from or regarding Universal's reports is reserved pending our written approval.

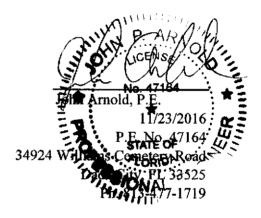
#### Attachment E

### Financial Assurance Funding Mechanism and Cost Estimate

A copy of the current and approved Financial Assurance Cost Estimate for Cells 1, 2, 3, 4, 5, 6 and 15 has been inflated on a pro-rata basis to include Cell 7.

## Angelo's Recycled Materials Enterprise Recycling and Disposal Facility Cell 7 Addition Financial Assurance Update Estimate

A. 2016 Approved Financial Assurance Cells 1-6 and 15	
Cells 1-6 and $15 =$	60.9 acre
2016 Approved Closure and Long-Term Care Estimate = \$	5,659,863.77
Cells 1-6 and 15 Financial Assurance Cost per Acre = \$	92,937.01 /acre
B. Pro-Rata Cell 7 Financial Assurance Cost Estimate	
Cell 7 (1,690' x 280') =	10.86 acre
Cell 7 Closure and Long-Term Care Estimate = \$	1,009,295.90
C. Updated 2016 Financial Assurance Estimate Including Cell 7	
2016 Approved Closure and Long-Term Care Estimate = \$	5,659,863.77
Cell 7 Closure and Long-Term Care Estimate = \$	1,009,295.90
Updated Total = \$	6,669,159.67





# Florida Department of Environmental Protection

Bob Martinez Center 2600 Blair Stone Road MS 4548 Tallahassee, Florida 32399-2400 Rick Scott Governor

Carlos Lopez-Cantera Lt. Governor

Jonathan P. Steverson Secretary

March 4, 2016

Mr. John Iafrate Owner Angelo's Aggregate Materials, Ltd. 1755 20th Avenue SE Largo, Florida 33771

Re: WACS 87895 – Enterprise Class III Landfill (and waste tire facility)

Dear Mr. Iafrate:

I reviewed the documentation submitted to demonstrate financial assurance for the above referenced facility and find it is in order. Comerica Bank amendment number 18, dated February 18, 2016, increases the aggregate amount of letter of credit number 586961-04 to \$5,659,865.77. This covers the Department approved closure cost estimates totaling \$5,659,863.77, dated January 19, 2016. In addition, your Comerica Bank & Trust, National Association standby trust fund agreement, account number 3085000936, remains acceptable. Therefore, Enterprise Class III Landfill is in compliance with the financial assurance requirements of 40 CFR Part 264, Subpart H, as adopted by reference in Rule 62-701.630, Florida Administrative Code, at this time.

Please contact me at (850) 245-8743 if you have any questions.

Sincerely,

Tor IM Bejnar <sup>17</sup> Environmental Specialist Solid Waste Financial Assurance

cc: Solid Waste Financial Coordinator, DEP/Tallahassee Steve Morgan, DEP/Southwest District

**Print Form** 

**Reset Form** 

I. GENERAL INFORMATION Facility Name: Angelo's R Permit Application or Conser Facility Address: 41111 Ed			sst Estimating Form bes y 6, 2010 2-701.630(3), F.A.C					
Permittee or Owner/Operator Mailing Address: 855 28th		s Aggregate M		······································		<u></u>		
Mailing Address:       855 28th ST S, St. Petersburg, FL 33712         Latitude:       28 °       19 '       53 "       Longitude:       82 °       08 '       06 "         Coordinate Method:       State Plane West       Datum: NGVD 29       Datum: NGVD 29         Collected by:       John Arnold       Company/Affiliation: Project Manager         Solid Waste Disposal Units Included in Estimate:								
Phase / Cell Cells 1-7 & 15	Acres 60.9	Date Unit Began Accepting Waste 2004	Active Life of Unit From Date of Initial Receipt of Waste 2023 (incl. Cell 7)	If active: Remaining life of unit 10 (incl.Cell7)	If closed: Date last waste received	If closed: Official date of closing		
Total disposal unit acreage ir	cluded in this	s estimate:	Closure: 60.9	Lor	ig-Term Care:	30		
Facility type: C (Check all that apply) II. TYPE OF FINANCIAL AS Letter of Credit* Performance Bod Guarantee Bond	Class I Other: <u>W</u> SURANCE D	bi C <u>TPF 303741-0</u> DOCUMENT (0 □ Insuran □ Financia	Class III  D02-WT/02 Check type) Ce Certificate	C&D Debris	-			
Nonthwest District North 160 Government Center 7825 Baymaa	i <b>ms that require t</b> West District dows Way, Ste. B200		by Trust Fund Agreemen Southwest District	South Distric		heast District gress Ave., Ste. 200		
Pensacola, FL 32502-5794 Jacksonvil	e, FL 32256-7590 -807-3300	0rtando, ¥L 32803-3 407-894-7555			01-3881 West Pain	press Ave., Ste. 200 Beach, FL 33401 I-681-6600		

#### III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate ajustment below.

#### ☑ (a) Inflation Factor Adjustment

#### □ (b) Recalculated or New Cost Estimates

John.Phillip.Arnold@gmail.com

E-Mail Address

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflatory by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website <a href="http://www.dep.state.fl.us/waste/categories/swfr">www.dep.state.fl.us/waste/categories/swfr</a> or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on th	e Department approved cl	losing cost estimate da	ted:	1/19/15
Latest Department Approved Closing Cost Estimate:	Current Year Infla Factor, e.g. 1.0			Inflation Adjusted Closing Cost Estimate:
\$3,348,813.70	× <u>1.014</u>		=	\$3,395,697.09
This adjustment is based on th	e Department approved lo	ng-term care cost estir	nate dated:	
Latest Department Approved Annual Long-Term Care Cost Estimate:	Current Year Infla Factor, e.g. 1.0			Inflation Adjusted Annual Long-Term Care Cost Estimate:
\$74,430.20	× <u>1.014</u>		=	\$75,472.22
Number of Years of	f Long Term Care Remaini	ing:	×	30
Inflation Adjusted	Long-Term Care Cost Et	stimate:	=	\$2,264,166.68
Signature by:	述 Owner/Operator	Engineer	(check what a	applies)
	$\cap$	41111	Enterprise Road	
Sign	ature			Address
John Arnold, Project Manager	KIN	Dade (	City, FL 33525	
Name	& Title			tate, Zip Code
	-			

1/19/16

Date

813-477-1719

**Telephone Number** 

### Attachment F

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Limerock Details and Elevation Observations

#### **Limerock Details and Log**

(. \* 6) . \* 5 Details and elevations of limerock observed during the construction of Cell 7 are based on the daily field observations performed by John Arnold, P.E. This includes the limerock that was observed west of Cell 6, as reported in the Cell 6 completion report submitted to the FDEP. The locations of limerock encountered during the mining and construction of Cell 7 are shown on Figure 1. The lateral and vertical extents of the limerock are based on relative observations and field measurements made from construction grade stakes installed using monuments set by the land surveyor, Simmons and Beall, Inc. One weekly basis approximately 10 to 20 grade control stakes were installed in the workare to facilitate construction and observation activities. Elevations refer to NGVD '29 datum.

Limerock in Cell 7 A-2 was encountered at latitude  $28^{\circ}$  19' 56"N, longitude  $82^{\circ}08'06.8"W$ . As excavation of the overburden progressed westward, the extent of the limerock was revealed to be approximately 100' long by 50' wide. The limerock was firm to hard with a clay mantel. No soft zones or voids within the limerock were observed. The limerock pinnacle/outcrop maximum elevation was 112' NGVD (+/-) and minimum elevation of approximately 81' NGVD (+/-). Limerock exposed at this location was over-excavated by 3' to construct the 3' thick clay barrier layer.

Limerock in Cell 7 A-3 was encountered at latitude  $28^0$  19' 55"N, longitude  $82^008'09.43$ "W. As excavation of the overburden progressed westward, the extent of the limerock was revealed to be approximately 75' long by 30' wide. The limerock was firm to hard with a clay mantel. No soft zones or voids within the limerock were observed. The limerock pinnacle/outcrop maximum elevation was 110' NGVD (+/-) and minimum elevation of approximately 81' NGVD (+/-). Limerock exposed at this location was over-excavated by 3' to construct the 3' thick clay barrier layer.

Limerock in Cell 7 A-4 was encountered at latitude  $28^{\circ}$  19' 51"N, longitude  $82^{\circ}08'09.19$ "W. As excavation of the overburden progressed westward, the extent of the limerock was revealed to be approximately 110' long by 30' wide. The limerock was firm to hard with a clay mantel. No soft zones or voids within the limerock were observed. The limerock pinnacle/outcrop maximum elevation was 115' NGVD (+/-) and minimum elevation of approximately 81' NGVD (+/-). Limerock exposed at this location was over-excavated by 3' to construct the 3' thick clay barrier layer.

Limerock was encountered west of Cell 7 B-5, in the mine area at latitude of  $28^{\circ}$  19' 49"N, longitude  $82^{\circ}08'09.29$ "W. This limerock approximately 15' x 15', was mined out between approximate elevations 94' to 105' NGVD, and was capped with approximately 3' of clay. This location is not within the landfill footprint, but was capped with clay to block the potential for surface water intrusion into the limerock.

Limerock was encountered west of Cell 7 B-6, in the mine area at latitude of  $28^0$  19' 46"N, longitude  $82^008'09.30$ "W. This limerock approximately 20' x 18', was mined out between approximate elevations 96' to 110' NGVD, and was capped with approximately 3' of clay. This location is not within the landfill footprint, but was capped with clay to block the potential for surface water intrusion into the limerock.



1" = 200' <u>LEGEND</u> <u>Uimerock Found</u> During Cell 6 Construction. Refer to Cell 6 CQA Report and Related RAIS.

N

During Minings West of Cell7

Notes 1. All Limerock areas have been overexcavated by 3° (min and backfidd with Clay (3° MIN).

Cell 7 Limerock Observation Enterprise Class III Land Fill