

Shepherd Engineering Design Co., Inc.

510 East Memorial Road, Suite C-1
(405) 996-5301 T (405) 488-0029 F

LETTER OF TRANSMITTAL

TO: Mr. Maria Matoska
Arkansas Department of Environmental Quality
Solid Waste Management Division
5301 Northshore Drive
North Little Rock, AR 72118

DATE: January 16, 2017
JOB NO.: 16038
JOB NAME: EVLF Phase 2 Final Cover – Liner Inspection and Testing Report
Re:

WE ARE SENDING YOU: Attached Under Separate Cover Via: Federal Express

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| <input type="checkbox"/> Copy of Letter | <input type="checkbox"/> Change Order | <input type="checkbox"/> Samples |
| <input type="checkbox"/> Specifications | <input type="checkbox"/> Plans | <input checked="" type="checkbox"/> See Below |
| <input type="checkbox"/> Contract Documents | | |

Item	Copies	Date	Description
1	1	1/16/17	1 Disk - Eco Vista Landfill: Liner Inspection and Testing Report – Phase 2 Final Cover of the Lateral Expansion Area

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REMARKS:

Cc: _____

SIGNED BY: _____
PRINTED: Bryan W. Baileys, P.E.

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AFIN: 72-0044
PMT#: 0290-SLR3 REC'D SCAN

SCANNED

JAN 17 2017

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January 16, 2017

Arkansas Department of Environmental Quality
Solid Waste Management Division
5301 Northshore Drive
North Little Rock, AR 72118-5317

Attn: Ms. Maria Matoska
Permit Engineer - Solid Waste Management Division

RE: Liner Inspection and Testing Report
Phase 2 Final Cover Lateral Expansion Area
Eco Vista Class I Landfill
Eco-Vista, LLC
AFIN: 72-00144 Permit No: 0290-S1-R3

Dear Ms. Matoska:

On behalf of our client, Eco Vista, LLC – Eco Vista Class I Landfill, please find attached copy of the Liner Inspection and Testing Report for the Phase 2 Final Cover Area of the Lateral Expansion Area. This report is required as per Regulation 22.428(i).

Since construction was recently completed, Eco Vista, LLC – Eco Vista Class I Landfill is not requesting a final closure inspection at this time. The vegetation needs to be established prior to the final closure inspection. It is anticipated that it will take at least 12 months to establish the vegetation. Eco Vista, LLC – Eco Vista Class I Landfill will notify you when the Phase 2 Final Cover area is ready for a final cover inspection

If you should have any comments, please do not hesitate to contact me at (405) 249-8609.

Sincerely,
Shepherd Engineering Design Co., Inc.

A handwritten signature in cursive script that reads "Bryan W. Bailey".

Bryan W. Bailey, P.E.
Project Engineer

Cc: Mr. David Conrad – Waste Management of Arkansas (1 Copy of Report)
Mr. Tim Murray – Eco Vista Class I Landfill (1 Copy of Report).



LINER INSTALLATION AND TESTING REPORT

Eco Vista, LLC
Eco Vista Class I Landfill
Phase 2 Final Cover
ADEQ Permit No.: 0290-S1-R3
AFIN: 72-00144
Tontitown, Arkansas

Prepared for:

Mr. David Conrad
Market Area Engineer
Waste Management of Arkansas
Eco Vista Class I Landfill
Tontitown, Arkansas

Prepared By:

Shepherd Engineering Design Co., Inc.
510 East Memorial Road, Suite C-1
Oklahoma City, OK 73114

SEDCo Project No.: 16038

January 2017

ARKANSAS CA NO.: 1156
ARKANSAS PE NO.: 16899

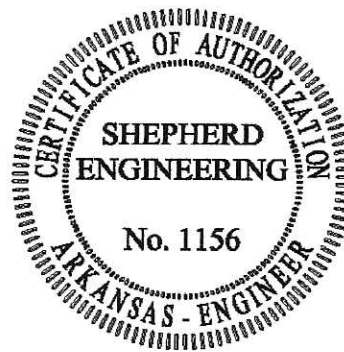


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FINAL COVER INSTALLATION AND TESTING REPORT

PHASE 2 FINAL COVER AREA

**ECO VISTA, LLC
ECO VISTA CLASS I LANDFILL
TONTITOWN, ARKANSAS**

**SEDCo Project No. 16038
January 2017**

1.0 INTRODUCTION

1.1 Overview

This final report summarizes the Construction Quality Assurance (CQA) activities performed by Shepherd Engineering Design Co., Inc., (SEDCo) during construction of the Phase 2 Final Cover system at the Eco Vista Class I Landfill (EVLFI) in Tontitown, Arkansas. The CQA activities performed by SEDCo included observation of: (i) earthworks associated with installation of intermediate cover, protective cover layer, topsoil layer; (ii) geosynthetics installation of the Final Cover system components; and (iii) installation of drainage swales and letdowns. The CQA activities were performed to confirm that the construction materials and procedures observed were in compliance with the project drawings, specifications, and CQA Plan.

This report was prepared for Mr. David Conrad of Eco Vista, LLC by Mr. Bryan Bailey, P.E. and was reviewed by Mr. Jeff Shepherd, P.E. both of SEDCo. The CQA services described in this report were provided in accordance with the terms of the consulting service agreement (proposal), between SEDCo and Eco Vista, LLC.

1.2 Report Organization

This final report is organized as described below:

- A description of the project is provided in Section 2;
- A description of the CQA program, including a summary description of specific tasks performed under the program and a listing of project personnel, are presented in Section 3;

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
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- A description of the CQA program observation and testing activities performed during the placement of the intermediate cover in Section 4;
- A description of the CQA Program observation and testing activities performed during the geosynthetics installation is provided in Section 5;
- A description of the CQA Program observation activities performed during the placement of the protective cover layer and the topsoil layer is provided in Section 6; and
- A summary of the observations resulting from the CQA observation and testing activities performed by SEDCo and a signature and seal of a Professional Engineer registered in the State of Arkansas are presented in Section 7.

Documentation and record drawings presenting the results of the CQA monitoring and testing activities performed by SEDCo are contained in the appendices to this report.

2.0 PROJECT DESCRIPTION

The Eco Vista Class I Landfill (EVLf) is a municipal solid waste (MSW) disposal facility located in Tontitown, Arkansas. The landfill is owned and operated by Waste Management of Arkansas. The final cover for the Lateral Expansion Area (LEA) is approved for construction under the Arkansas Department of Environmental Quality (ADEQ) Permit No.: 0290-S1-R3. This project is comprised of 8.1 acres and is the second phase of the final cover for the Lateral Expansion Area (See Figure 1, in Appendix A-1).

For simplicity, this overall project is referred to collectively as “Phase 2 Final Cover Installation”. The combined plan area of final cover system construction for this project is approximately 8.1 acres.

The final cover design incorporates a composite final cover liner system and other engineering controls that meet the existing State of Arkansas requirements/regulations and site permit. The final cover liner system for this project consists of the following components (from top to bottom):

- 0.5-ft thick topsoil layer of on-site soil;
- 1.0-ft thick protective cover layer of on-site borrow soil;
- Geosynthetic drainage layer consisting of a 6 oz/yd² double-sided Geocomposite;
- 40-mil thick textured Linear Low Density Polyethylene (LLDPE) Geomembrane component of a composite final cover liner system hereafter referred to as LLDPE Geomembrane liner;
- A Geosynthetic Clay Liner (GCL); and
- Prepared intermediate cover layer consisting of 1.0-ft thick layer of on-site soil that had already been placed during landfill operations.

The permit for the final cover system in the Lateral Expansion Area was prepared by GeoSyntec Consultants, Inc. and Terracon Consultants. The construction drawings for this project were completed by SEDCo. Construction of the earthwork components was performed by CEG Construction, Inc., acting as the general contractor. Installation of the Geosynthetic components of the final cover liner system was performed by Environmental Specialties International, Inc. (ESI). The surveyor retained by WMAR for the project was Mason Surveying & Consulting (MSC). As required by the specifications, MSC surveyed the

Final Cover Installation and Testing Report
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required layers of the final cover system, drainage swales, drainage letdowns, and prepared the certified record drawings. Construction Quality Assurance (CQA) observation, testing, and documentation were provided by SEDCo. A list of personnel involved in construction of the final cover liner system is included in Section 3 of this report.

Construction activities observed by SEDCo's CQA personnel for the project included the following:

- Verifying the thickness of the intermediate cover layer that had already been placed;
- Observing the placement of the intermediate cover in areas that did not have sufficient thickness;
- Installation of the GCL;
- Installation of the LLDPE Geomembrane liner;
- Installation of the 6 oz/yd² double-sided Geocomposite;
- Placement of 1.0-ft thick protective cover layer;
- Placement of 0.5-ft thick topsoil layer; and
- Installation of drainage swales and letdowns.

Earthwork construction associated with the placement of the intermediate cover began on August 3, 2016 and was completed on October 26, 2016. GCL and 40-mil textured LLDPE Geomembrane installation commenced on October 27, 2016 and was completed on November 4, 2016. Geocomposite installation started on November 4, 2016 and was completed November 7, 2016. Protective cover layer construction commenced on November 5, 2016 and was completed on November 19, 2016. Topsoil layer construction commenced on November 6, 2016 and was completed on November 27, 2016. Drainage swale and letdown construction commenced on November 16, 2016 and was completed on December 12, 2016. Overall construction of the Phase 2 Final Cover System was substantially completed on December 28, 2016.

3.0 CONSTRUCTION QUALITY ASSURANCE PROGRAM

3.1 Scope of Services

3.1.1 Overview

The scope of CQA monitoring, testing, and documentation services performed by SEDCo during the Phase 2 Final Cover System construction included:

- Review of project documents;
- Field CQA operations; and
- Preparation of a final report and compilation of record drawings.

3.1.2 Review of Documents

As previously noted, this final report summarizes the CQA activities performed by SEDCo during Phase 2 Final Cover System construction. The CQA activities conducted by SEDCo were intended to satisfy the requirements of the following documents:

- *“Technical Specifications”*, Eco Vista Class I Landfill, Final Cover Construction, SEDCo, Inc., May 2009;
- *“Construction Drawings”*, Eco Vista Class I Landfill Phase 2 Final Cover Construction, SEDCo, Inc., July 18, 2016; and
- *“Construction Quality Assurance (CQA) Plan for Class I Final Cover”*, Revision No. 1, dated July 2009.

Prior to the commencement of on-site CQA activities, the above documents were reviewed by SEDCo personnel for familiarity.

3.1.3 Field CQA Operations

The following activities were performed as part of SEDCo’s on-site CQA services:

Earthwork

- Observation of intermediate cover installation;
- Observation of protective cover layer installation;
- Observation of topsoil layer installation;
- Observation of drainage swale and letdown installation;
- Observation of anchor trench backfill and toe drain installation; and
- Monitoring by means of observing the contractor's traffic cones that the elevations and the thickness of each soil layer was consistent with those shown on the Drawings.

Geosynthetics

- Coordinating in-plant sampling and testing of geosynthetics conformance samples by the off-site geosynthetics testing laboratory;
- Tracking the inventory of geosynthetic materials (i.e., geosynthetic clay liner, LLDPE Geomembrane, and Geocomposite rolls) delivered to site;
- Collecting and reviewing geosynthetic manufacturers' certification documents to verify compliance with the requirements of the CQA Plan;
- Reviewing and evaluating laboratory conformance test results to verify compliance with the requirements of the CQA Plan;
- Observing deployment and installation of geosynthetic materials and marking damaged locations for replacement or repair;
- Observing LLDPE Geomembrane trial seaming operations and field testing;
- Observing LLDPE Geomembrane production seaming operations;
- Selectively monitoring nondestructive testing of the LLDPE Geomembrane seams;

- Selecting LLDPE Geomembrane destructive seam sample locations, monitoring sample collection and field testing using a calibrated Tensiometer, distributing destructive samples to an off-site geosynthetics laboratory, and reviewing laboratory test results to ensure compliance with the requirements of the CQA Plan;
- Selectively monitoring the joining of adjacent GCL panels during installation;
- Selectively monitoring the joining of adjacent Geocomposite panels; and
- Observing repairs to portions of the geosynthetics that were observed to have defects or that failed destructive or nondestructive testing;

During construction activities involving monitoring and/or testing, the observations made and test results obtained by SEDCo CQA personnel were compared to the Drawings, Specifications, and CQA Plan. WMAR and/or the appropriate contractor were notified of deficiencies in construction practices and/or materials so the contractor could take the appropriate corrective actions. The corrective actions were monitored and/or tested by CQA personnel to ensure compliance with the Drawings, Specifications, and CQA Plan.

3.1.4 Final Report and Record Drawings

Record drawings and this final CQA report were prepared as the final task of the CQA program. This final report summarizes the CQA observation, testing, and documentation activities performed by SEDCo.

During construction, CQA documentation of on-site activities was maintained by CQA personnel on daily field logs. In addition, Quality Control (QC) certificates for the geosynthetic materials and surveyor's drawings were provided to SEDCo for review; these documents are included in the appendices to this final report. CQA personnel also documented the results of on-site and off-site geotechnical laboratory testing conducted as part of the CQA program. Descriptions of the construction activities and the CQA documentation are presented in the report text. The CQA documentation is presented in the appendices.

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144

A summary of the documentation included in the appendices to the final report is provided below:

APPENDIX A – RECORD DRAWINGS

- A-1: Surveyor's As-Built
- A-2: As-Built Panel Layout

APPENDIX B – GEOTECHNICAL LABORATORY TEST RESULTS

- B-1: Borrow Area Material Testing

APPENDIX C – MANUFACTURER'S QUALITY CONTROL DOCUMENTATION

- C-1: 40-mil LLDPE Geomembrane
 - C-1A: Manufacturer's Certification
 - C-1B: Summary of Manufacturer's Inventory
 - C-1C: Deliver Checklist
- C-2: 6 oz/yd² Double-Sided Geocomposite
 - C-2A: Manufacturer's Certification
 - C-2B: Summary of Manufacturer's Inventory
 - C-2C: Delivery Checklist
- C-3: Geosynthetic Clay Liner
 - C-3A: Manufacturer's Certification
 - C-3B: Summary of Manufacturer's Inventory
 - C-3C: Delivery Checklist
- C-4: Geotextile (6 oz/yd²)
 - C-4A: Manufacturer's Certification
 - C-4B: Summary of Manufacturer's Inventory
 - C-4C: Delivery Checklist

APPENDIX D – GEOSYNTHETIC CONFORMANCE TEST RESULTS

- D-1: 40-mil LLDPE Geomembrane
- D-2: Geosynthetic Clay Liner
- D-3: 6 oz/yd² Double-Sided Geocomposite
- D-4: Geotextile (6 oz/yd²)

APPENDIX E – SUBGRADE CERTIFICATE OF ACCEPTANCE

APPENDIX F – GEOSYNTHETIC CLAY LINER PANEL PLACEMENT LOGS

APPENDIX G – LLDPE GEOMEMBRANE PANEL PLACEMENT LOGS

APPENDIX H – LLDPE GEOMEMBRANE TRIAL SEAM LOGS

APPENDIX I – 40-MIL LLDPE GEOMEMBRANE PANEL SEAMING SUMMARY

APPENDIX J – 40-MIL LLDPE GEOMEMBRANE NON-DESTRUCTIVE TEST LOGS

APPENDIX K – 40-MIL LLDPE GEOMEMBRANE DESTRUCTIVE SEAM SAMPLE TEST

APPENDIX L – 40-MIL LLDPE GEOMEMBRANE REPAIR SUMMARY LOGS

APPENDIX M – DOUBLE-SIDED GEOCOMPOSITE DEPLOYMENT LOG

APPENDIX N – DAILY REPORTS – CQA TECHNICIAN

APPENDIX O – DAILY REPORTS – CQA ENGINEER

APPENDIX P – CONSTRUCTION PHOTOGRAPHS

3.2 Personnel

3.2.1 Project Personnel

Senior personnel or representatives for the firms involved in the project are as follows:

Waste Management of Arkansas, Inc. (Owner)

- David Conrad (Market Area Engineer)
- Tim Murray (Landfill Manager)

SEDCo (CQA Consultant)

- Bryan W. Bailey, P.E. (CQA Engineer)
- Jeff Shepherd, P.E. (Senior Engineer)
- Paul Vaillancourt (CQA Technician)
- Graham McCulloch (CQA Technician)
- Donte Willey Sr. (CQA Technician)

Mason Surveying & Consulting (CQA Surveyor)

- Johnny Mason, P.E., P.S. (Surveyor)

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TRI Environmental (Geotechnical and Geosynthetics Laboratory)

- Shawn Hutcherson (Geotechnical Laboratory Manager)
- Mansukh Patel (Geosynthetics Laboratory Manager)

Environmental Specialties International, Inc. (Geosynthetics Installer)

- Robert Gann (Project Manager)
- Muhammad Malimar (General Superintendent)

CEG Construction, Inc. (Earthwork Contractor)

- Clovis Grissom (President)

3.2.2 SEDCo's On-Site Personnel Schedules

SEDCo project personnel were present on site according to the following schedules:

- Graham McCulloch: October 24, 2016 through November 14, 2016
- Donte Wiley: November 18, 2016 through December 13, 2016
- Bryan Bailey, P.E.: July 6, 2016; July 21, 2016; August 3, 2016; August 25, 2016; September 7, 2016; September 20, 2016; September 22, 2016; September 26, 2016; September 30, 2016; October 7, 2016; October 12, 2016; October 18, 2016; October 25, 2016; November 10, 2016; November 14-17, 2016; November 22, 2016; December 7, 2016

4.0 CONSTRUCTION QUALITY ASSURANCE – INTERMEDIATE COVER

4.1 General

SEDCo observed the installation of the intermediate cover layer of the Phase 2 Final Cover area. The intermediate cover material was excavated from the on-site borrow area. CEG placed and compacted the intermediate cover layer to the required 1-ft. thickness, which was verified by survey (see Appendix A-1, Drawing No. 1). The material used for the intermediate area had particle size of less than 4-inches and was placed using a CAT D6 Dozer. A smooth drum roller was used to compact the soil and to smooth the surface for geosynthetics.

CQA personnel observed the placement of the intermediate cover. The surveyor obtained as-built points after placement of the intermediate cover. The as-built drawing is shown in Appendix A-1 as Drawing No. 1.

5.0 CONSTRUCTION QUALITY ASSURANCE – GEOSYNTHETICS

5.1 General

SEDCo monitored the installation of the geosynthetic components of the Phase 2 Final Cover system as described in Section 2. At times, several final cover system installation operations were conducted simultaneously. When this occurred, the on-site CQA personnel monitored the operations considered most critical to the performance of the final cover system. Potentially non-conforming or questionable practices observed by SEDCo were brought to the attention of the concerned parties for review and correction.

5.2 CQA of Geosynthetic Clay Liner

5.2.1 Conformance Testing and Documentation

A Geosynthetic Clay Liner (GCL) was used in construction of the liner system. The GCL was supplied by GSE Lining Technology, Inc. (GSE). The manufacturer provided quality control certificates and TRI tested conformance samples. Prior to delivering, CQA personnel obtained five (5) conformance samples from the 190 rolls produced for the project. Based on the delivered quantity of 439,425 ft², this corresponds to an actual sampling frequency of one per 87,885 ft². The sampling frequency exceeds the minimum acceptable sample frequency of one per 100,000 ft² as required by the CQA Plan. The conformance test results and the manufacturer's quality control (QC) certificates were reviewed by SEDCo's CQA personnel and were found to be in compliance with the CQA Plan. The manufacturer's QC documentation is presented in Appendix C-3. CQA conformance-testing results are summarized in Table 1 and presented in Appendix D-2.

Final Cover Installation and Testing Report
 Phase 2 Final Cover Area
 Eco Vista Class I Landfill
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Table 1
Summary of Conformance Testing
Geosynthetic Clay Liner

Test	Test Method	CQA Plan Requirements	1Roll Number				
			502275384	502275339	502275295	502275208	502275249
Bentonite Mass/Unit Area	ASTM D5993	≥ 0.75 psf (min.)	0.85	0.76	0.80	0.91	0.79
Grab Tensile Strength	ASTM D6768	≥ 30 ppi (min.)	53.7	57.5	50.8	54.9	51.7
Hydraulic Conductivity	ASTM D5887	≤ 5x10 ⁻⁹ cm/sec (max)	3.3 x10 ⁻⁹ cm/sec	2.9 x10 ⁻⁹ cm/sec	3.0 x10 ⁻⁹ cm/sec	3.0 x10 ⁻⁹ cm/sec	2.9 x10 ⁻¹¹ cm/sec
Peel Adhesion	ASTM D6496	≥ 2.5 ppi (min.)	8.6	6.5	7.5	5.8	8.2

5.2.2 Field Monitoring Activities

Delivery and On-Site Storage

Upon delivery, GCL rolls were unloaded in an area located northeast of the construction area and covered with a tarpaulin. The GCL rolls had a plastic wrapping to protect against water, dust, and dirt, which was removed prior to deployment. The rolls were transported by a front-end loader. The rolls were deployed or were temporarily stored adjacent to the construction area prior to deployment. CQA personnel periodically monitored the GCL delivery, unloading, and storage procedures. The personnel observed that the material was handled in an appropriate manner.

Deployment

Prior to deployment of the GCL, the Installer signed a Certificate of Acceptance of subgrade surface, presented as Appendix E. CQA personnel monitored the deployment of the GCL rolls. During deployment, the CQA personnel checked for the following:

- Manufacturing defects;
- Evidence of premature hydration of the bentonite;
- Damage that may have occurred during shipment, storage, and handling; and
- Damage resulting from installation activities.

If any materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations, either during or after the repair were complete.

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

- The GCL was ballasted with sandbags or was otherwise securely anchored in the anchor trench, and was also unrolled and placed in a manner which kept the roll of GCL in sufficient tension to avoid excessive wrinkling;
- Measures were taken to avoid entrapment of dust, stones, or other objects in the GCL panels; and
- LLDPE Geomembrane installation immediately followed GCL installation.

After deployment of the GCL, CQA personnel observed that the following procedures were used by the installer to join adjacent rolls of GCL:

- Adjacent GCL panels were overlapped a minimum of 6-in. along the length of the panels and a minimum of 24-inches along the width of the panels; and
- A bead of granular bentonite was placed in the overlapped area for seaming purposes.

Any observed holes or tears in the GCL were repaired by placing a patch of the same material over the hole or tear and at a distance of at least 1-ft. beyond the edges of the hole or tear. In areas where premature hydration of the GCL was detected the GCL was removed and replaced with new material. Panel Placement logs are included in Appendix F.

5.3 CQA of LLDPE Geomembrane

5.3.1 Conformance Testing and Documentation

The textured 40-mil LLDPE textured Geomembrane liner was supplied by AGRU America. Prior to delivery, LLDPE Geomembrane conformance samples were taken randomly from the textured LLDPE Geomembrane rolls used to construct the final cover system. A total of five (5) conformance sample were obtained from the 28 rolls of textured LLDPE Geomembrane delivered to the site. Based on the delivered quantity of 441,000 ft², this corresponds to an actual sampling frequency of one per 88,200 ft². This total number of conformance samples exceeds the minimum acceptable sample frequency of one per 100,000 ft² required by the CQA Plan.

All conformance samples were forwarded to TRI geosynthetics laboratory for testing. The conformance test results and manufacturer's QC certificates were reviewed by CQA personnel and were found to be in compliance with the CQA Plan. The manufacturer's QC documentation for the LLDPE Geomembrane is presented in Appendix C-1. The CQA conformance testing results for the LLDPE Geomembrane are summarized in Table 2 and presented in Appendix D-1.

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Table 2
Summary of Conformance Testing – 40-mil LLDPE Geomembrane

Test	Test Method	CQA Requirements	Roll Numbers				
			104181039	104181046	104181052	104181057	104181062
Thickness	ASTM D5994	≥ 38 mils	44	45	43	45	45
Tear Resistance	ASTM D1004	MD ≥ 22 lbs TD ≥ 22 lbs	MD = 34.1 TD = 31.7	MD = 34.0 TD = 32.1	MD = 33.3 TD = 31.8	MD = 33.3 TD = 31.3	MD = 34.6 TD = 32.9
Puncture Resistance	ASTM D4833	≥ 44 lbs	93	96	85	91	92
Density	ASTM D792	≥ 0.92 g/cm ³	0.935	0.935	0.935	0.935	0.935
Carbon Black Content	ASTM D1603	2.0% - 3.0%	2.31	2.22	2.18	2.21	2.34
Carbon Black Dispersion	ASTM D5596	>= 9 in Cat 1 or 2	10	10	10	10	10
Strength at Break	ASTM D6693	MD ≥ 60 ppi TD ≥ 60 ppi	MD = 162 TD = 134	MD = 164 TD = 147	MD = 155 TD = 145	MD = 163 TD = 132	MD = 166 TD = 132
Elongation at Break	ASTM D6693	MD ≥ 250% TD ≥ 250%	MD = 572 TD = 525	MD = 599 TD = 580	MD = 548 TD = 550	MD = 590 TD = 530	MD = 576 TD = 508

Notes: MD corresponds to the machine direction and TD to the transverse direction

5.3.2 Field Monitoring Activities

Delivery and On-Site Storage

Upon delivery to the site, LLDPE Geomembrane rolls were stored in an area located to the northeast of the construction area. The rolls of LLDPE Geomembrane came with nylon straps, which were used to lift the rolls. The rolls were transported by a front-end loader. Occasionally, the rolls were temporarily stored adjacent to the construction area prior to deployment. CQA personnel periodically monitored the delivery, unloading, and storage procedures. The CQA personnel compared the roll numbers to the bill of lading (BOL) and also to the LLDPE Geomembrane rolls that were sampled at the manufacturer's plant. The CQA personnel observed that procedures were used that minimized the potential for damage to the LLDPE Geomembrane.

Deployment

The LLDPE Geomembrane rolls were lifted using a spreader bar attached to a front-end loader. A rubber track skid steer was also used in the deployment of the panels. The Installer typically deployed the LLDPE Geomembrane panels from the top of the slope downward towards the bottom of the slope. The Installer used laborers to manually position the panels.

CQA personnel monitored the deployment of each LLDPE Geomembrane panel and checked for the following:

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

If the materials were observed to be damaged or deficient, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations either during or after the repair was complete. In addition, CQA personnel confirmed that the all-terrain vehicle was operated in a manner that minimized potential damage to the geosynthetic materials.

Details of LLDPE Geomembrane panel placement were recorded by CQA personnel on panel placement monitoring logs, presented in Appendix G.

Trial Seams

Each day prior to production seaming the Installer prepared LLDPE Geomembrane trial seams for each piece of seaming equipment with each technician using a specific piece of seaming equipment and for the LLDPE Geomembrane being welded. The trial seaming operations were observed by CQA personnel. The following procedures were used to evaluate the trial seams:

- Trial seam samples having a minimum length of 3-ft. for extrusion welds and 15-ft. for fusion welds and having a width of approximately 12-in. wide were welded under similar conditions as for production seaming;
- Test strips were cut across the trial seam at random locations using a manual dye press. Each test strip was approximately 1-in. wide by 8-in. long;
- A minimum of three (3) test strips were tested in peel and three (3) were tested in shear using a field Tensiometer;
- If any of the strips failed, the welding procedure was to be adjusted, a new trial seam was to be performed, and the test procedure was to be repeated;
- Two consecutive passing tests in both peel and shear must be achieved prior to acceptance of the trial seam; and
- Once a trial seam passed both tests, the technician was authorized to proceed with production seaming by following the procedures and controls used to prepare the accepted trial seams.
- The passing criteria for the tests were as follows:

Fusion

- *Peel test* – a minimum bonded seam strength of 50 lb/in. and observation of a Film Tearing Bond (FTB); and
- *Shear test* – a minimum bonded seam strength of 60 lb/in. and observation of a FTB;

Extrusion

- *Peel test* – a minimum bonded seam strength of 48 lb/in. and observation of a Film Tearing Bond (FTB); and
- *Shear test* – a minimum bonded seam strength of 60 lb/in. and observation of a FTB;

Occasionally the Installer's foreman authorized the technician to proceed with the field seaming operations prior to testing of the strips. If the test failed, the seamed area was capped in its entirety and the welding equipment was not used again until a passing trial seam was obtained.

A total of thirty (30) trial seams were observed by CQA personnel during construction. Seventeen (17) trial seams were made using [double-track fusion (i.e., hot wedge) welders and thirteen (13) were made using extrusion welders.

Details of the trial seams, including the trial seam test results, are presented in Appendix H.

Production Seams

LLDPE Geomembrane production seaming operations were monitored by CQA personnel. The majority of the LLDPE Geomembrane production seams were made using double-track fusion (i.e., hot wedge) welders. LLDPE Geomembrane seam repairs were made using hand-held extrusion welders. Rub sheets were periodically used during production seaming to provide a clean surface to weld over. During or after fabrication, the LLDPE Geomembrane seams were visually examined for workmanship and continuity. LLDPE Geomembrane seaming logs are presented in Appendix I.

5.3.3 Nondestructive Seam Testing

Scope

Nondestructive testing of LLDPE Geomembrane seams was periodically monitored by CQA personnel. LLDPE Geomembrane seams were nondestructively tested by the Installer for continuity using the air pressure or the vacuum-box test procedures. Double-track fusion seams were tested using air pressure test methods. The vacuum-box test method was used for seams made with extrusion welders. Failed air pressure test seams were capped and then retested using vacuum-box test methods after minimizing the failed seam length. In these problem areas, the exposed LLDPE Geomembrane overlap was trimmed back prior to vacuum testing. Leaks identified using the vacuum-box test method were repaired and

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retested as described subsequently in this report. CQA personnel recorded the location, date, test unit number, name of tester, and outcome of all testing. CQA personnel also observed all repairs and re-testing of the repairs, marked on the Geomembrane that the repair was made, and documented all results.

Air Pressure Testing

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

- Visually observe the integrity of the annulus of the section of seam being tested;
- If the annulus had been fused closed, the seam was repaired as described in subsequently in this report;
- Isolate a test section by sealing the ends of the annulus using heat and pressure;
- Insert the needle of a pressure test apparatus into the annulus at one end of the seam;
- Inflate the annulus to a gauge pressure of approximately 30 psi with an air pump;
- Maintain the gauge pressure for at least five minutes;
- If the pressure loss exceeds 3 psi, or if the pressure does not stabilize, repair the faulty area in accordance with the Specifications;
- Record the results adjacent to the location of the test; and
- Upon completion of the test, confirm air flow through the entire annulus by releasing the air from the seam at the opposite end from where the needle was inserted.

Non-destructive test results are presented with the production seam logs in Appendix J.

Vacuum-Box Testing

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

- Connect vacuum-box assembly to the vacuum pump;
- Wet a strip of seam approximately 12-in. wide by 48-in. long with a soapy solution;

- Place the vacuum-box assembly over the wetted area;
- Close the bleed valve/open the vacuum valve, if necessary;
- Ensure that a leak tight seal is created;
- For a period of not less than 10 seconds, examine the Geomembrane through the viewing window for the presence of soap bubbles;
- If no bubble appears after 10 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum 3-inch overlap, and repeat the process; and
- All areas where soap bubbles appear shall be marked and repaired in accordance with the CQA Plan.

On the fusion-welded seams (i.e., tie-in seams and butt seams) that were not air pressure tested the installer trimmed the overlap and vacuum box tested the seam. When nondestructive testing indicated repairs were necessary, repairs were made in accordance with procedures described subsequently in this report and the vacuum test was then repeated. Vacuum test logs are presented with the non-destructive testing log and repair summary logs in Appendix J and L, respectively.

5.3.4 Destructive Seam Sample Testing

Scope

In accordance with the CQA Plan, CQA personnel identified and collected LLDPE Geomembrane destructive seam samples for testing. The samples were forwarded to TRI geosynthetics laboratory in Austin, Texas.

Initially, thirty-eight (38) LLDPE Geomembrane destructive seam sample locations were identified during construction. Approximately 18,440 linear feet of seams were constructed with both fusion and extrusion welds. This corresponds to an approximate sample frequency of one per 485.3 linear feet of seam for both fusion and extrusion welds. The fusion seam total was 17,298 linear feet of seams with thirty-five (35) destructives obtained making the frequency 494.2 linear feet per sample. The extrusion seam total was 1142 linear feet with three (3) destructives obtained making the frequency 380.7 linear feet per sample. The frequency meets the minimum acceptable sample frequency of one per 500 linear feet required by the CQA Plan. Prior to the removal of the full seam sample, two

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LLDPE Geomembrane test strips were taken by the Installer from either end of the destructive sample. Each strip was tested in the field in peel. If the peel samples exhibited a FTB failure mode, the adjacent destructive seam sample was shipped to the laboratory for testing.

For a destructive seam sample to be considered as passing, the following seam strength criteria had to be met on at least four out of five test specimens performed:

Fusion

- *Peel test* – a minimum bonded seam strength of 50 lb/in. and observation of a Film Tearing Bond (FTB), and
- *Shear test* – a minimum bonded seam strength of 60 lb/in. and observation of a FTB;

Extrusion

- *Peel test* – a minimum bonded seam strength of 48 lb/in. and observation of Film Tearing Bond (FTB), and
- *Shear test* – a minimum bonded seam strength of 60 lb/in. and observation of a FTB.

The average value of the five test specimens had to meet the specified strength criterion.

Sampling Procedures

At each destructive seam sample location a test sample, which measured approximately 12-in. across the seam and 42-in. along the seam, was obtained. The sample was divided and distributed as follows:

- 12-in. wide by 12-in. long for owner's archives;
- 12-in. wide by 12-in. long for the Installer; and
- 18-in. wide by 12-in. long for CQA laboratory testing.

Test Results

Off-site laboratory testing of LLDPE Geomembrane destructive seam samples was performed in accordance with the CQA Plan. At the CQA geosynthetics testing laboratory (i.e., TRI), 1-in. wide test specimens were removed from the destructive seam sample using

a die press. On a gauged Tensiometer, five test specimens were tested in peel for adhesion. For fusion seams, tests were performed on both the inside track and on the outside track. Additionally, five specimens were tested for shear strength. The seam-strength and the acceptance/rejection criteria described in Section 5.3.4 were used.

For this project, there were no failing destructive samples from the laboratory testing. All 38 samples passed. The destructive seam test results and a summary are presented in Appendix K.

5.3.5 LLDPE Geomembrane Repairs

The procedures presented in this subsection were used by the installer during the following repair operations:

- Patching – used to repair large holes, tears, un-dispersed raw materials, and contamination by foreign matter;
- Buffing and re-welding – used to repair small sections of extruded seams;
- Spot welding or seaming – used to repair small tears, pinholes, or other minor localized flaws;
- Capping, used to repair large lengths of failed seams;
- Removing bad seam and replacing with a strip of new material welded into place (used with large lengths of fusion seams); and
- Welding of the flap, used to make a new extrusion weld adjacent to an unsatisfactory fusion weld (this procedure may be used only if the flap created by the overlap of the top and bottom panels beyond the fusion weld has not been cut back to the outer edge of the fusion weld).

In the cases where patches or caps were used to repair the damaged LLDPE Geomembrane (i.e., small holes, tears, or on seams which failed nondestructive or destructive test), an approximately 12-in. wide capping strip was used. Furthermore, all panel tie-in seams (i.e., T-seams) were extrusion welded/repared. During the repair or panel tie-in operation, the following procedures were followed:

- Technicians and seaming equipment used during repair operations had trial seams approved prior to use;

- LLDPE Geomembrane surfaces to be repaired were clean and dry at the time they were welded;
- Patches or caps extended at least 6-in. beyond the edge of the defect and all corners were rounded with a radius of at least 3-inches ; and
- Repairs were vacuum tested where accessible and visually observed for continuity.

Seam and panel repair summary logs and locations are presented in Appendix L. A complete panel layout drawing indicating the location of seam and panel repairs is shown in Appendix A-2.

5.3.6 Final Cover System Welded to Liner System

As required by the Construction Drawings, the final cover liner system (40-mil LLDPE Geomembrane) was extrusion welded to the primary 60-mil HDPE Geomembrane liner system on the east side of the Lateral Expansion Area of Eco Vista Class I Landfill. The following procedure was completed during the process:

- The earthworks Contractor, CEG, utilized a track hoe to excavate soil and expose the existing primary 60-mil HDPE Geomembrane liner at the top of the anchor trench on east side of the existing Class I Landfill;
- ESI cut the existing primary drainage geocomposite (leachate collection layer) to expose the primary 60-mil HDPE Geomembrane;
- ESI then deployed the GCL and 40-mil LLDPE Geomembrane down to this location on the top of the anchor trench;
- ESI then welded the 40-mil LLDPE Geomembrane to the 60-mil HDPE Geomembrane using extrusion welding techniques; and
- After the welding was completed, the weld was vacuum tested.

A welding log and a nondestructive test log is included in Appendix M for the tie-in seam.

5.4 CQA of 6 oz/yd² Double-Sided Geocomposite

5.4.1 Conformance Testing and Documentation

A 6 oz/yd² double-sided (DS) Geocomposite was supplied by AGRU America. Prior to delivery conformance samples were taken randomly from the 6 oz/yd² DS Geocomposite rolls used to construct the final cover. A total of six (6) conformance samples were obtained from the one hundred twenty-three (123) rolls of 6 oz/yd² DS Geocomposite delivered to the site. Based on the delivered quantity of 410,205 ft² this corresponds to an actual sampling frequency of one per 68,367.5 ft². This total number of conformance samples exceeds the minimum acceptable frequency of one per 100,000 ft² required by the CQA Plan.

All conformance samples were forwarded to TRI geosynthetics laboratory. The conformance test results and the manufacturer's QC certificates were reviewed by CQA personnel and were found to be in compliance with the CQA Plan. The manufacturer's QC documentation for the 6 oz/yd² DS Geocomposite are summarized in Table 3 and presented in Appendix C-2. Conformance results are presented in Appendix D-3.

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Table 3
Summary of Conformance Testing
Geocomposite

Test	Test Method	CQA Plan Requirement	Conformance Sample					
			Roll Number					
GEONET PROPERTIES			G16E011765	G16E011841	G16E011860	G16E011872	G16E011904	G16E011939
Thickness	ASTM D5199	200 mil (min. avg.)	237	233	231	232	237	235
Density	ASTM D792	≥0.935 g/cm ³	0.952	0.953	0.953	0.952	0.953	0.953
Carbon Black	ASTM D1603	2.0 - 3.0 %	2.30	2.27	2.22	2.36	2.14	2.24
GEOCOMPOSITE PROPERTIES								
Transmissivity	ASTM D4718	2.0 x 10 ⁻⁴ m ² /sec	9.03 x 10 ⁻⁴	1.17 x 10 ⁻³	1.28 x 10 ⁻³	1.23 x 10 ⁻³	1.15 x 10 ⁻³	1.23 x 10 ⁻³
Peel Adhesion (min)	ASTM D7005	0.5 ppi (min)	T = 3.3 B = 1.5	T = 2.8 B = 3.2	T = 2.5 B = 2.6	T = 2.9 B = 2.7	T = 2.1 B = 1.1	T = 4.0 B = 2.8
Peel Adhesion (average)	ASTM D7005	1.0 ppi (avg)	T = 4.3 B = 4.0	T = 3.1 B = 3.8	T = 3.4 B = 3.2	T = 4.1 B = 4.3	T = 3.2 B = 3.2	T = 4.3 B = 4.5

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Table 3 (Continued)
Summary of Conformance Testing
Geocomposite

Test	Test Method	CQA Plan Requirement	Conformance Sample									
			Roll Number									
GEOTEXTILE PROPERTIES (Geocomposite)			111120-7706	111120-7712	111120-7718	111120-7724	111120-7730	111120-7736	111120-7742	111120-7748	111120-7754	111120-7760
Mass per Unit Area	ASTM D5261	6 oz/yd ² (min. avg.)	6.89	6.58	6.82	6.8	6.69	7.65	6.95	6.61	7.17	7.31
Puncture Strength	ASTM D4833	90 lb. (min. avg.)	122	124	114	108	109	127	122	127	125	108
Permittivity	ASTM D4491	1.50 sec ⁻¹ (min. avg.)	1.53	1.57	1.68	1.72	1.51	1.54	1.51	1.67	1.84	1.53
Apparent Opening Size	ASTM D4751	≥70 US Sieve	100	100	100	100	100	100	100	100	100	100
Grab Strength	ASTM D4632	160 lb. (min. avg.)	MD= 205	MD= 200	MD= 208	MD= 191	MD= 208	MD= 237	MD= 210	MD= 220	MD= 218	MD= 197
			TD= 259	TD= 258	TD= 259	TD= 248	TD= 244	TD= 301	TD= 249	TD= 271	TD= 280	TD= 265
Grab Elongation	ASTM D4632	50 % (min. avg.)	MD = 86	MD = 85	MD = 87	MD = 90	MD = 80	MD = 90	MD = 78	MD = 89	MD = 92	MD = 90
			TD = 86	TD = 88	TD = 85	TD = 87	TD = 87	TD = 89	TD = 85	TD = 85	TD = 89	TD = 89

Notes: MD corresponds to the machine direction and TD to the transverse direction

5.4.2 Field Monitoring Activities

Delivery and On-Site Storage

Upon delivery to the site, 6 oz/yd² DS Geocomposite rolls were stored in an area located northeast of the construction area. The 6 oz/yd² DS Geocomposite rolls had a plastic wrapping, to protect against dust and dirt, which was removed prior to deployment. The Geotextile rolls were typically transported by a front-end loader. The rolls were deployed or temporarily stored adjacent to the construction area prior to deployment. CQA personnel periodically monitored the delivery, unloading, and storage procedures. The CQA personnel observed the material was handled in an appropriate manner.

Deployment

CQA personnel monitored the deployment of the 6 oz/yd² DS Geocomposite for the following:

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

If any materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA personnel observed repair locations either during or after the repair was complete.

CQA personnel periodically monitored the deployment of the 6 oz/yd² DS Geocomposite and its condition after installation to confirm that the installer took measures to:

- Securely anchor the 6 oz/yd² DS Geocomposite in the anchor trench or ballast it with sand bags;
- Unroll the 6 oz/yd² DS Geocomposite down the slope in a manner that kept the panel in sufficient tension to avoid excessive wrinkling;
- Avoid entrapment of dust, stones, or other objects in the panels which would damage or clog the 6 oz/yd² DS Geocomposite; and
- Avoid damaging the underlying 40-mil LLDPE HDPE Geomembrane during deployment of the rolls.

After deployment of the 6 oz/yd² DS Geocomposite, CQA personnel observed that the following procedures were used by the installer to join adjacent rolls of 6 oz/yd² DS Geocomposite:

- 6 oz/yd² DS Geocomposite panels were overlapped laterally a minimum of 2-ft. with the uphill panel on top with two rows of cable ties applied;
- The HDPE Geonet component was tied using cable ties at a spacing of 1 per 5-feet; and
- The upper Geotextile component was heat bounded using a hot-air leister gun.

Any observed holes in the 6 oz/yd² DS Geocomposite were repaired by placing a patch of nonwoven Geotextile over the hole and extending at least 1-ft overlap beyond each edge of the hole. These patches were continuously thermally bonded to the undamaged portion of the 6 oz/yd² DS Geocomposite.

5.5 CQA of 6 oz/yd² Geotextile

5.5.1 Conformance Testing and Documentation

The 6 oz/yd² geotextile that was used in final cover system termination at the perimeter as the filter fabric and was supplied by AGRU America. Prior to delivery, a geotextile conformance sample was taken randomly from the geotextile rolls shipped to the site. A total of one (1) conformance sample was obtained from the two (2) rolls of geotextile delivered to the site. Based on the delivered quantity of 9,000 ft², this corresponds to an actual sampling frequency of one per 9,000 ft². The total number of conformance samples exceeds the minimum acceptable frequency of one per 100,000 ft² required by the CQA Plan.

All conformance samples were forwarded to TRI geosynthetics laboratory for testing. The conformance test results and manufacturer's QC certificates were reviewed by CQA personnel and were found to be in compliance with the CQA Plan. The manufacturer's QC documentation for the geotextile is presented in Appendix C-4. CQA conformance testing results for the geotextile are presented in Table 4 and Appendix D-4.

Table 4
Summary of Conformance Testing
6 oz/yd² Geotextile

Test	Test Method	CQA Plan Requirement	Roll Number
			1111211058
Mass per Unit Area	ASTM D5261	6 oz/yd ² (min. avg.)	6.43
Puncture Strength	ASTM D4833	60 lb. (min. avg.)	123.0
Permittivity	ASTM D4491	1.63 sec ⁻¹ (min. avg.)	1.85
Apparent Opening Size	ASTM D4751	70 US Sieve	100
Grab Strength	ASTM D4632	150 lb (min. avg.)	MD = 198 TD = 210
Grab Elongation	ASTM D4632	50 % (min. avg.)	MD = 64 TD = 90

Notes: MD corresponds to the machine direction and TD to the transverse direction

5.5.2 Field Monitoring Activities

Delivery and On-site Storage

Upon delivery to the site, the 6 oz/yd² geotextile rolls were stored in an area located northeast of the construction area. The 6 oz/yd² geotextile rolls had an opaque plastic wrapping, to protect against dust, dirt, and sunlight, that was removed prior to deployment. CQA personnel periodically monitored the delivery, unloading, and storage procedures. CQA personnel observed that the material was handled in an appropriate manner.

Deployment

CQA personnel monitored the deployment of the 6 oz/yd² geotextile for the following:

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

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If any materials were observed to be damaged, the Installer was notified and the damaged materials were either discarded or repaired. CQA observed repair locations either during or after the repair was complete.

CQA personnel periodically monitored the deployment of the 6 oz/yd² geotextile and its condition after installation to confirm that the Installer took measures to:

- Weight the geotextile with sand bags in the presence of wind;
- Cut the geotextile using an approved geotextile cutter only;
- Prevent damage to underlying layers during placement of the geotextile;
- Not entrap excessive dust, moisture, that could generate clogging of the geotextile; and
- Ensure that no other potentially harmful objects are present.

CQA personnel observed that installation of the 6 oz/yd² geotextile filter fabric was installed per the construction drawings and the CQA Plan.

6.0 CONSTRUCTION QUALITY ASSURANCE–PROTECTIVE COVER LAYER

6.1 General

SEDCo observed the installation of the 12-inch thick Protective Cover Layer as per the CQA Plan. The Protective Cover Layer component of the final cover system was constructed using material obtained from the on-site borrow sources. The material was placed in approximately 16-inch thick loose lift, and then tracked and smoothed using a low ground pressure bulldozer to achieve the 12-inch thick (minimum) thickness.

CQA personnel observed this earthwork construction activity and tested the soil material to confirm the material properties conformed to the CQA Plan. Soil tests were performed as required by the CQA Plan. The testing was carried out at the off-site geotechnical laboratory.

6.2 Conformance Activities

Prior to construction, SEDCo obtained sample from the on-site borrow area to verify conformance with the CQA Plan.

In accordance with the CQA Plan, a series of geotechnical tests were performed on the soil samples to confirm the following requirements, as set forth in the Technical Specifications, were met:

- Protective Cover Layer – material for use in construction of the Protective Cover Layer had a maximum particle size of 4-inches and was relatively free of debris, waste, organics, vegetation, or other deleterious material. One bulk soil sample was collected for the on-site borrow source, which was the same area as Cell 10/11 North construction protective cover. The samples were subjected to the tests required by the CQA Plan and listed in Table 5. The results from laboratory testing are summarized in Table 5 and Appendix B-1. The total amount of soil placed for Protective Cover Layer was 13,068 CY in-place.

Table 5
Summary of Geotechnical Test Results
Protective Cover Material Testing

Test	CQA Plan Test Frequency	Test Method	CQA Plan Requirements	Test Results			
				PC-PCS-1	PC-CS-1	PC-CS-2	PC-CS-3
Grain Size Analysis	1 per 20,000 CY	ASTM D422	100% Passing 4-in. Sieve	100%	100%	100%	100%
Visual Classification	1 per 20,000 CY	ASTM	GW, GP GM, GC, SW, SP, SM, SC, ML, CL, CH, OR SC	MH	MH	GM	MH
Hydraulic Conductivity	1 per 20,000 CY	ASTM D5084	$\geq 1.0 \times 10^{-5}$ cm/sec	2.3×10^{-2} cm/sec	2.8×10^{-1} cm/sec	3.0×10^{-2} cm/sec	4.0×10^{-2} cm/sec

6.3 Field Monitoring Activities

6.3.1 Protective Cover Material

CQA personnel monitored the placement of the Protective Cover Layer. The 12-inch thick layer was constructed using soil material from the on-site borrow source. The typical construction sequence of the Protective Cover Layer was as follows:

- CAT D400 Dump trucks hauled the Protective Cover Layer soil directly from the borrow area to the work area via a temporary haul road, which was approximately 4-foot thick;
- The Protective Cover Layer was spread in approximately 16-in. (loose) lofts using a Caterpillar D6 wide-track (low ground pressure) bulldozer;
- The material was tracked in and graded to achieve the 12-inch thick (min) layer; and
- Throughout the process the Contractor’s laborers were utilized during the fill-spreading operation to control and prevent wrinkle formation or other damage to the underlying geosynthetics.

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During placement of the Protective Cover Layer, CQA personnel routinely monitored the Contractor's activities to ensure that the risk of damage and wrinkling to the underlying LLDPE Geomembrane was minimized. CQA personnel also confirmed that the Contractor operated the low ground pressure bulldozers in areas where at least a 12-inch thick layer of Protective Cover was maintained over the geosynthetics, and that a 4-foot thick layer of Protective Cover was maintained over the geosynthetics in heavily trafficked areas such as where the dump trucks entered the construction area. The thickness was verified by survey.

7.0 SUMMARY AND CONCLUSIONS

Construction of the Phase 2 Final Cover System in the Lateral Expansion Area at the Eco Vista Class I Landfill was carried out during the period between August 3, 2016 and December 28, 2016. During this time, SEDCo provided at least one full-time CQA Technician to monitor the construction, along with site visits by the CQA Certifying Engineer. As part of their CQA activities, CQA personnel monitored the construction and installation of the following components of the liner system:

- Intermediate Cover Layer including earthwork excavation and placement;
- Geosynthetic Clay Liner installation, including monitoring and testing activities during installation;
- LLDPE Geomembrane, including monitoring and testing activities during installation;
- 6 oz/yd² Drainage Geocomposite, including monitoring and testing activities during installation;
- Protective Cover Layer, including monitoring and testing activities during installation; and
- Topsoil Layer, including monitoring activities.

During construction of the above components, CQA personnel verified that manufacturer's/supplier's documentation was provided and met the requirement of the CQA Plan, and performed CQA testing on the construction materials at the frequencies required in the CQA Plan. CQA personnel also inspected and visually monitored construction activities and verified that the method and procedures were in accordance with the CQA Plan. The Registered Land Surveyor verified that the intermediate cover, protective cover and topsoil layer achieved the thickness as described in this report and finished to the design grades and dimensions set forth on the Drawings. The tests and observations confirmed that materials meeting the project requirements were used. CQA personnel also verified that conditions or materials identified as not conforming the CQA Plan were replaced, repaired, retested, and/or evaluated as described in this report.

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144

This certification is for all of the Phase 2 Final Cover Area (see surveyors As-built Appendix A-1).

"I certify to the best of my professional judgment that the Phase 2 Final Cover System of the Lateral Expansion Area of the Waste Management – Eco Vista Class I Landfill (Permit No. 0290-S1-R3) was constructed in accordance with the project specifications, plans and applicable Arkansas Department of Environmental Quality regulations. This certification is contingent on the fact that all information supplied to the signatory authority, at the time of this certification is unquestionable accurate and was provided in good faith."

Bryan W Bailey

(Signature)

Bryan W. Bailey, P.E.

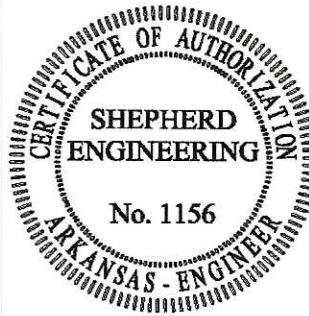
(Name)

16899

(AR PE Number)

1156

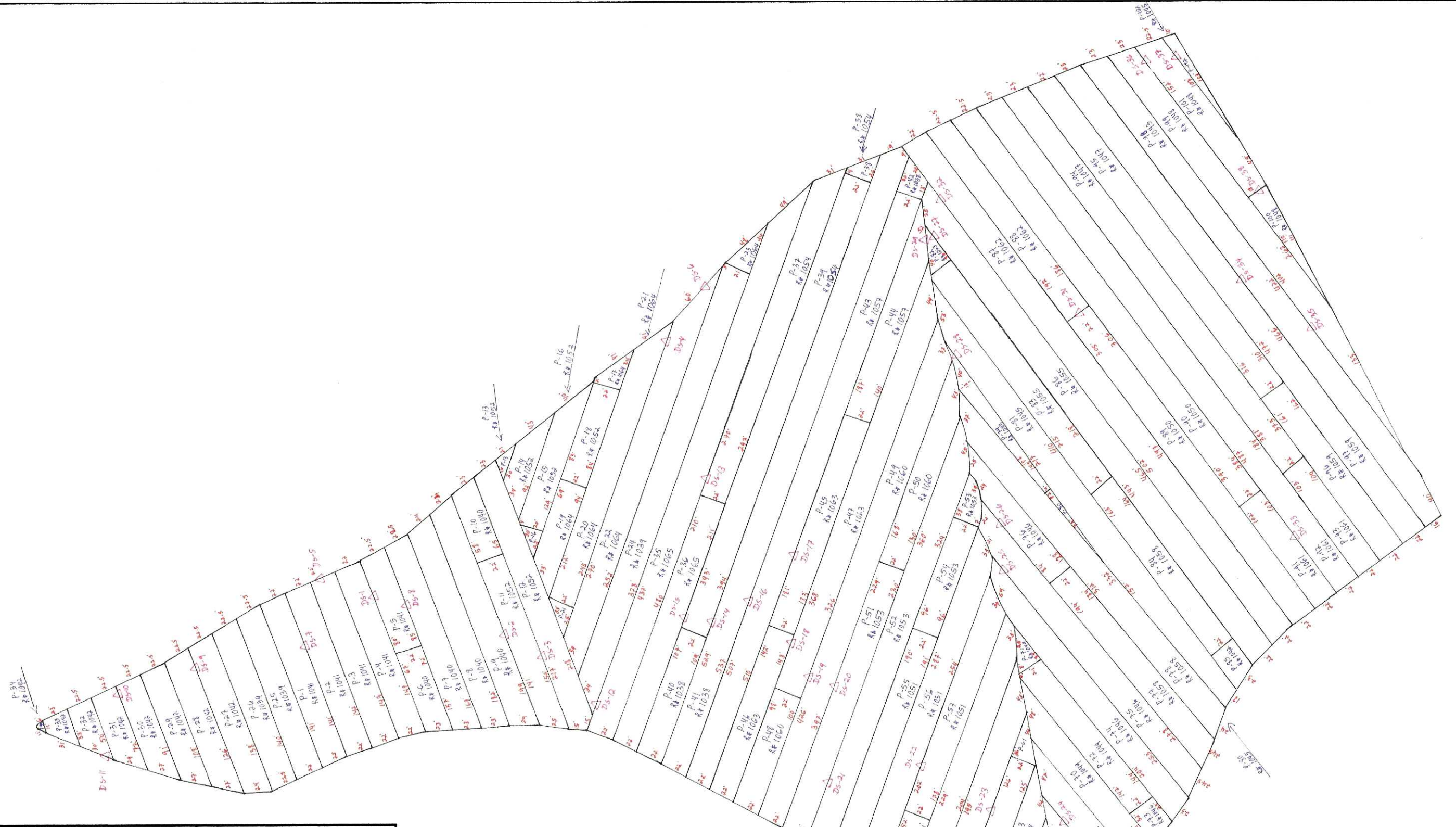
(AR CA Number)



**APPENDIX A
RECORD DRAWINGS**

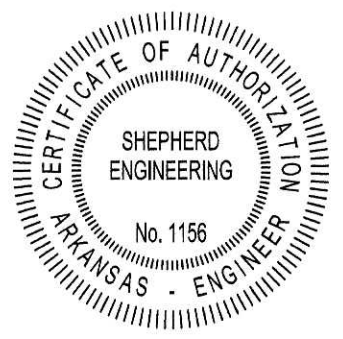
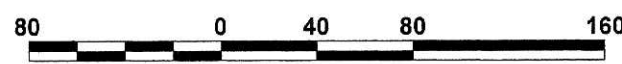
**APPENDIX A-1
RECORD DRAWINGS
SURVEYOR'S AS-BUILTS**

**APPENDIX A-2
RECORD DRAWINGS
AS-BUILT PANEL LAYOUT**



NOTES:

- 1. THE ASBUILT PANEL LAYOUT WAS COMPLETED BY INSTALLER (ESI). SEDCO SCANNED THE DRAWING AND IMPORTED INTO AUTOCAD



CLIENT APPROVED:
 CLIENT APPROVED AS NOTED:

NO.	DATE	DESCRIPTION

510 East Memorial Road Suite C-1 Oklahoma City, OK 73114	
DRN	BWB
DES	BWB
CHK	JAS
APP	JAS
Phone: (405) 966-5300 Fax: (405) 488-0029	



Waste Management of Arkansas, Inc.
 Eco Vista Landfill
 2210 Waste Management Dr.
 Springdale, AR 72762



PHASE 2 FINAL COVER CONSTRUCTION
PRIMARY 40-MIL LLDPE GEOMEMBRANE
ASBUILT PANEL LAYOUT

DATE: JANUARY 2017
 PROJECT NO.: 16038

DRAWING #1

APPENDIX B
GEOTECHNICAL LABORATORY TEST RESULTS

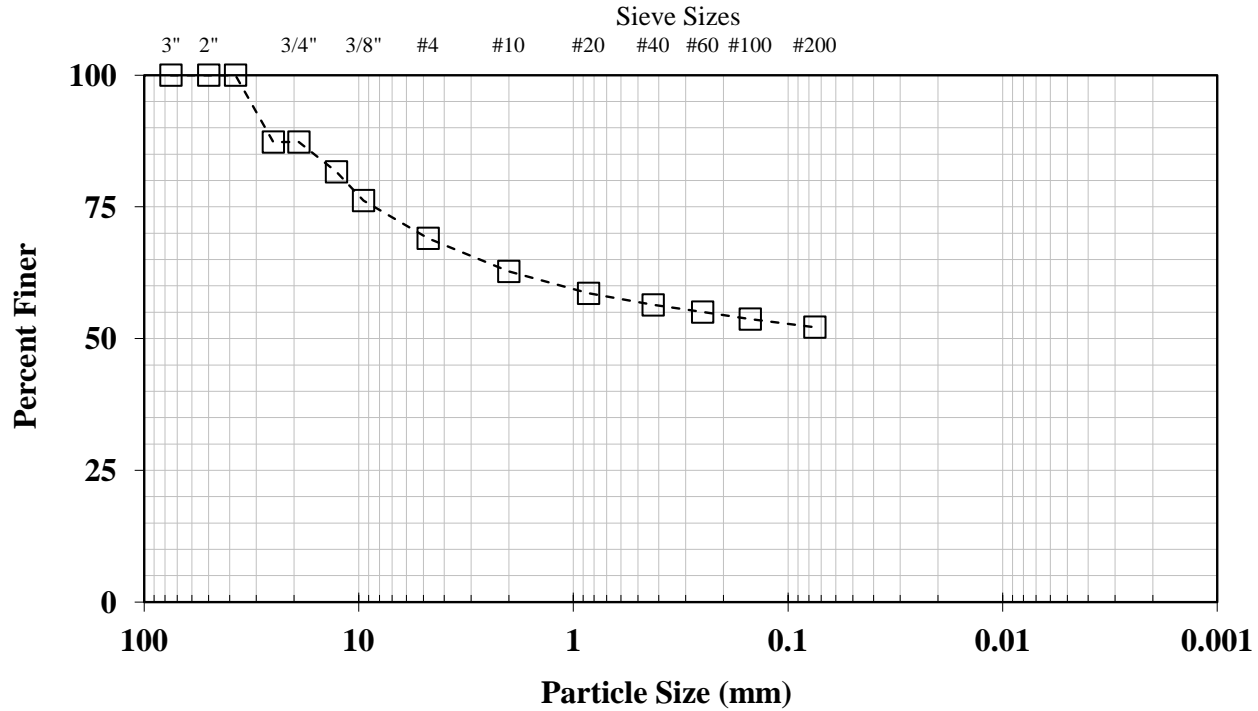
**APPENDIX B-1
GEOTECHNICAL LABORATORY TEST RESULTS
BORROW AREA MATERIAL TESTING**



Particle Size Analysis for Soils

Client: SEDCo
 Project: Cell 10/11 North
 Sample: Protective Cover-PCS-1

TRI Log#: 25653.2
 Test Method: ASTM D422



Sieve Analysis	
Sieve Size	Percent Passing
3 in. (76.2 mm)	100.0
2 in. (50.8 mm)	100.0
1.5 in. (38.1 mm)	100.0
1 in. (25.4 mm)	87.3
3/4 in. (19.0 mm)	87.3
1/2 in. (12.7 mm)	81.6
3/8 in. (9.51 mm)	76.2
No. 4 (4.76 mm)	69.0
No. 10 (2.00 mm)	62.7
No. 20 (0.841 mm)	58.6
No. 40 (0.420 mm)	56.4
No. 60 (0.250 mm)	55.0
No. 100 (0.149 mm)	53.7
No. 200 (0.074 mm)	52.2
Hydrometer Analysis	
Particle Size	Percent Passing
0.005 mm	--
0.002 mm	--

USCS Classification (ASTM D2487)	Gravely elastic silt (MH)	
As-Received Moisture Content (%)	(ASTM D2216)	--
Atterberg Limits (ASTM D4318, Method A : Multipoint)	Liquid Limit	64
	Plastic Limit	38
	Plastic Index	26
Notes: Specimen was air dried.. (NL = No Liquid Limit, NP = No Plastic Limit)		
Specific Gravity	(ASTM D854)	--
Organic Content (%)	(ASTM D2974)	--
Carbonate Content (%)	(ASTM D4373)	--

D ₁₀ (mm)	D ₃₀ (mm)	D ₅₀ (mm)	D ₆₀ (mm)	Cu	Cc
--	--	--	1.14	--	--

Shawn Hutcherson, P.E. 12/6/2016

Quality Review/Date

Tested by: KH & PC

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.

Rigid Wall Constant Head Permeability

Client: SEDCo

TRI Log#: 25653

Project: Cell 10/11 North

Test Method: ASTM D 2434

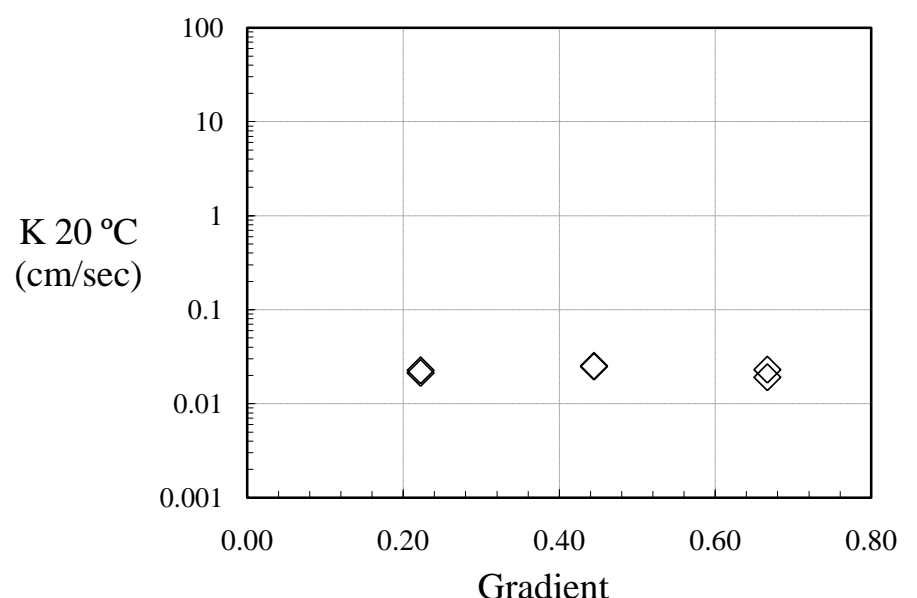
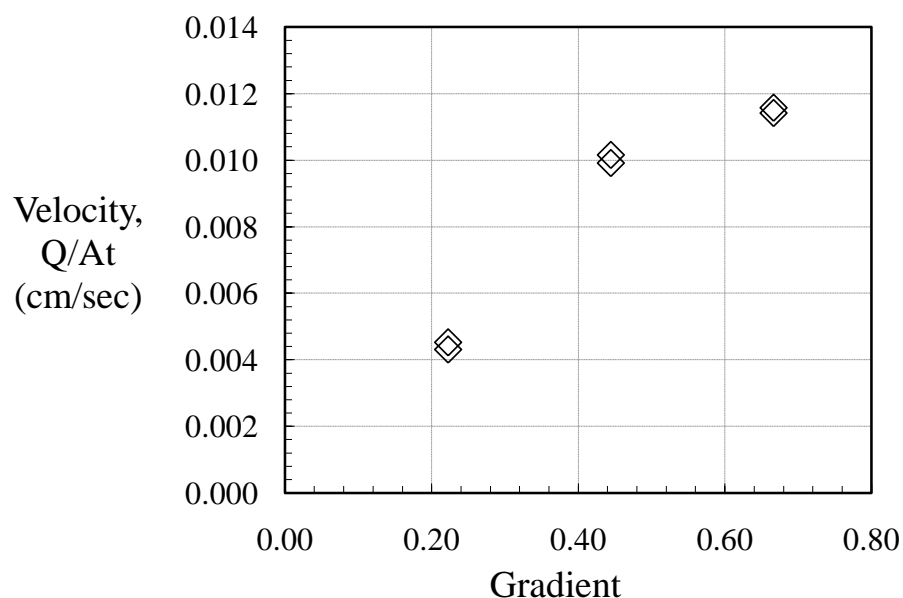
Sample: Protective Cover-PCS-1

Test Date: 12/09/16

Manometer Reading (cm)		Gradient	Flow Volume, Q (ml)	Flow Time, t (s)	Temperature (°C)	Flow Rate (cm ³ /s)	Velocity, Q/At (cm/s)	System Permeability (cm/s)	System Permeability @ 20 °C, K _{20°C} (cm/s)	Average System Permeability @ 20 °C (cm/s)
Gradient No. 1										
2.5	0	0.22	718	914	16.1	0.8	4.3E-03	1.9E-02	2.1E-02	2.2E-02
2.5	1	0.22	754	914	15.5	0.8	4.5E-03	2.0E-02	2.3E-02	
Gradient No. 2										
5.1	0	0.44	1670	901	15.8	1.9	1.0E-02	2.3E-02	2.5E-02	2.5E-02
5.1	1	0.44	1957	1082	15.5	1.8	9.9E-03	2.2E-02	2.5E-02	
Gradient No. 3										
7.6	0	0.67	1903	901	16.0	2.1	1.2E-02	1.7E-02	1.9E-02	2.1E-02
7.6	1	0.67	1885	905	6.0	2.1	1.1E-02	1.7E-02	2.3E-02	

Specimen Cross-sectional Area, A (cm²): 182.4

Final Avg. k at 20 deg C (cm/sec) : **2.3E-02**



Note: Sample Protective Cover-PCS-1 consists of material with 52.2% fine grained particles (passing the #200 sieve) and a maximum particle size of 1.5 inches. Insufficient material was available to test sample in a permeameter with an appropriate ratio of maximum particle size to permeameter diameter. A modified version of D2434 was performed in a 6-inch permeameter to accommodate submitted material quantity. The sample was tested as received. The test specimen was tamped in place.

Shawn Hutcherson, P.E. 12/12/2016

Quality Review/Date

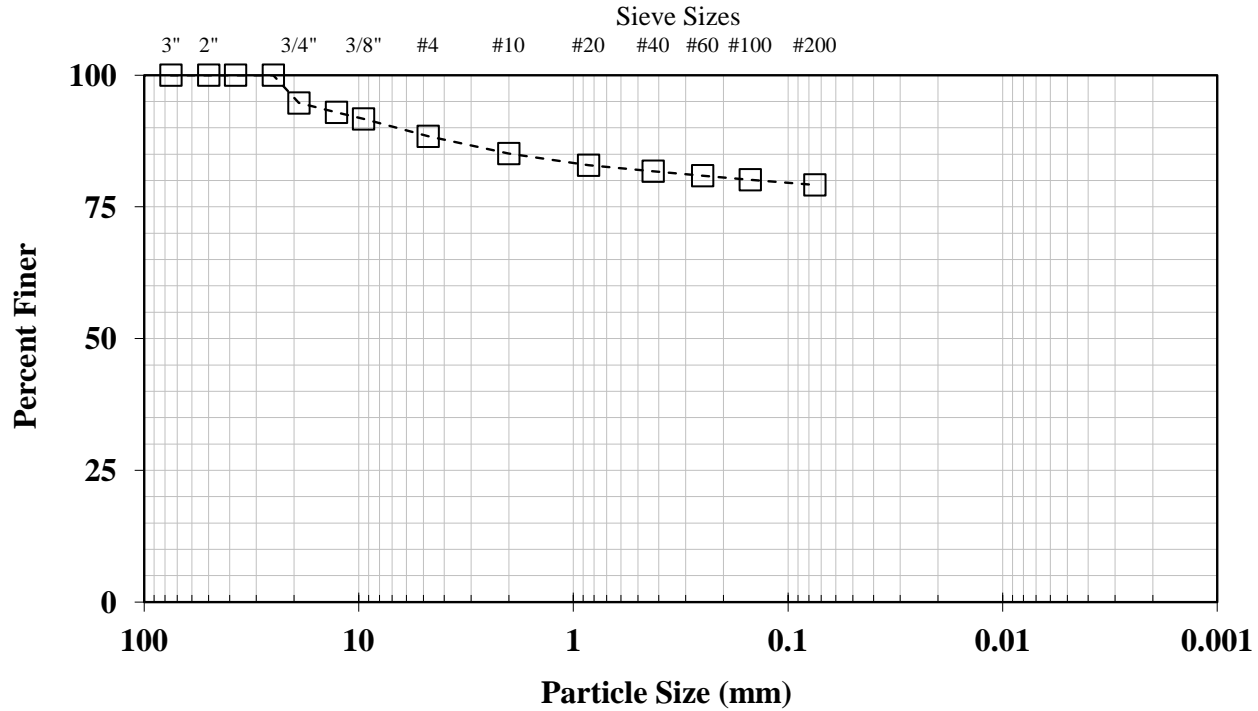
Tested by: LC



Particle Size Analysis for Soils

Client: SEDCo
 Project: Cell 10/11 North
 Sample: Protective Cover-CS-1

TRI Log#: 25653.1
 Test Method: ASTM D422



Sieve Analysis	
Sieve Size	Percent Passing
3 in. (76.2 mm)	100.0
2 in. (50.8 mm)	100.0
1.5 in. (38.1 mm)	100.0
1 in. (25.4 mm)	100.0
3/4 in. (19.0 mm)	94.7
1/2 in. (12.7 mm)	92.9
3/8 in. (9.51 mm)	91.7
No. 4 (4.76 mm)	88.4
No. 10 (2.00 mm)	85.1
No. 20 (0.841 mm)	82.9
No. 40 (0.420 mm)	81.8
No. 60 (0.250 mm)	80.9
No. 100 (0.149 mm)	80.1
No. 200 (0.074 mm)	79.2
Hydrometer Analysis	
Particle Size	Percent Passing
0.005 mm	--
0.002 mm	--

USCS Classification (ASTM D2487)	Elastic silt with gravel (MH)	
As-Received Moisture Content (%)	(ASTM D2216)	--
Atterberg Limits (ASTM D4318, Method A : Multipoint)	Liquid Limit	70
	Plastic Limit	37
	Plastic Index	33
Notes: Specimen was air dried.. (NL = No Liquid Limit, NP = No Plastic Limit)		
Specific Gravity	(ASTM D854)	--
Organic Content (%)	(ASTM D2974)	--
Carbonate Content (%)	(ASTM D4373)	--

D ₁₀ (mm)	D ₃₀ (mm)	D ₅₀ (mm)	D ₆₀ (mm)	Cu	Cc
--	--	--	--	--	--

Shawn Hutcherson, P.E. 12/6/2016

Quality Review/Date

Tested by: KH & PC

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.

Rigid Wall Constant Head Permeability

Client: SEDCo

TRI Log#: 25653

Project: Cell 10/11 North

Test Method: ASTM D 2434 Modified

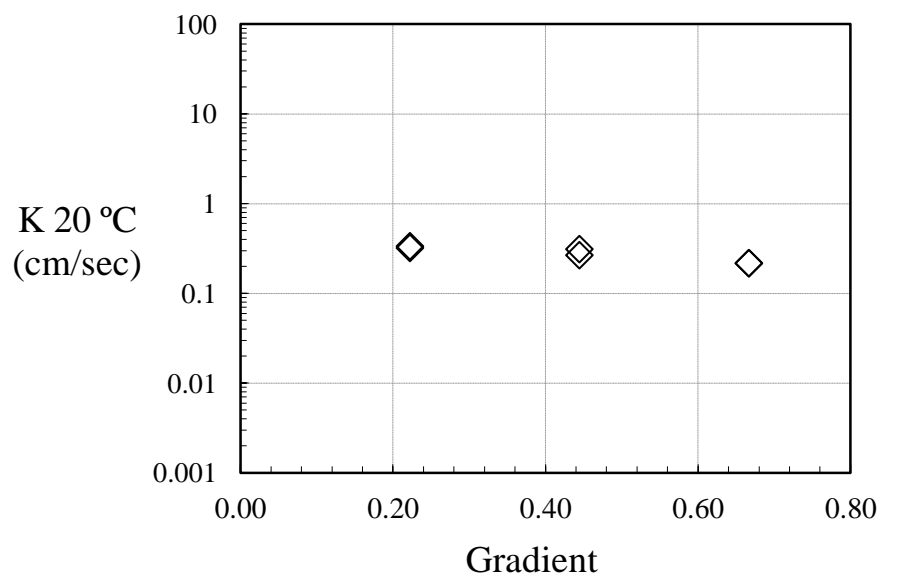
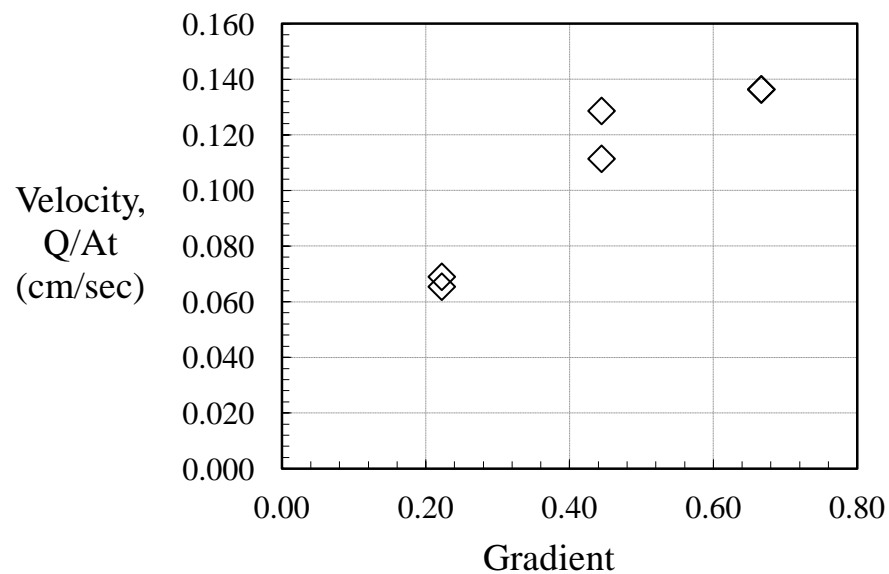
Sample: Protective Cover-CS-1

Test Date: 12/08/16

Manometer Reading (cm)		Gradient	Flow Volume, Q (ml)	Flow Time, t (s)	Temperature (°C)	Flow Rate (cm ³ /s)	Velocity, Q/At (cm/s)	System Permeability (cm/s)	System Permeability @ 20 °C, K _{20°C} (cm/s)	Average System Permeability @ 20 °C (cm/s)
Gradient No. 1										
2.5	0	0.22	7326	614	16.5	11.9	6.5E-02	2.9E-01	3.2E-01	3.3E-01
2.5	1	0.22	7272	578	16.9	12.6	6.9E-02	3.1E-01	3.4E-01	
Gradient No. 2										
5.1	0	0.44	7039	300	17.1	23.5	1.3E-01	2.9E-01	3.1E-01	2.9E-01
5.1	1	0.44	7559	372	17.6	20.3	1.1E-01	2.5E-01	2.7E-01	
Gradient No. 3										
7.6	0	0.67	6715	270	17.7	24.9	1.4E-01	2.0E-01	2.2E-01	2.2E-01
7.6	1	0.67	6715	270	17.7	24.9	1.4E-01	2.0E-01	2.2E-01	

Specimen Cross-sectional Area, A (cm²): 182.4

Final Avg. k at 20 deg C (cm/sec) : **2.8E-01**



Note: Sample Protective Cover-CS-1 consists of material with 79.2% fine grained particles (passing the #200 sieve) and a maximum particle size of 1 inch. Insufficient material was available to test sample in a permeameter with an appropriate ratio of maximum particle size to permeameter diameter. A modified version of D2434 was performed in a 6-inch permeameter to accommodate submitted material quantity. The sample was tested as received. The test specimen was tamped in place.

Shawn Hutcherson, P.E. 12/8/2016

Quality Review/Date

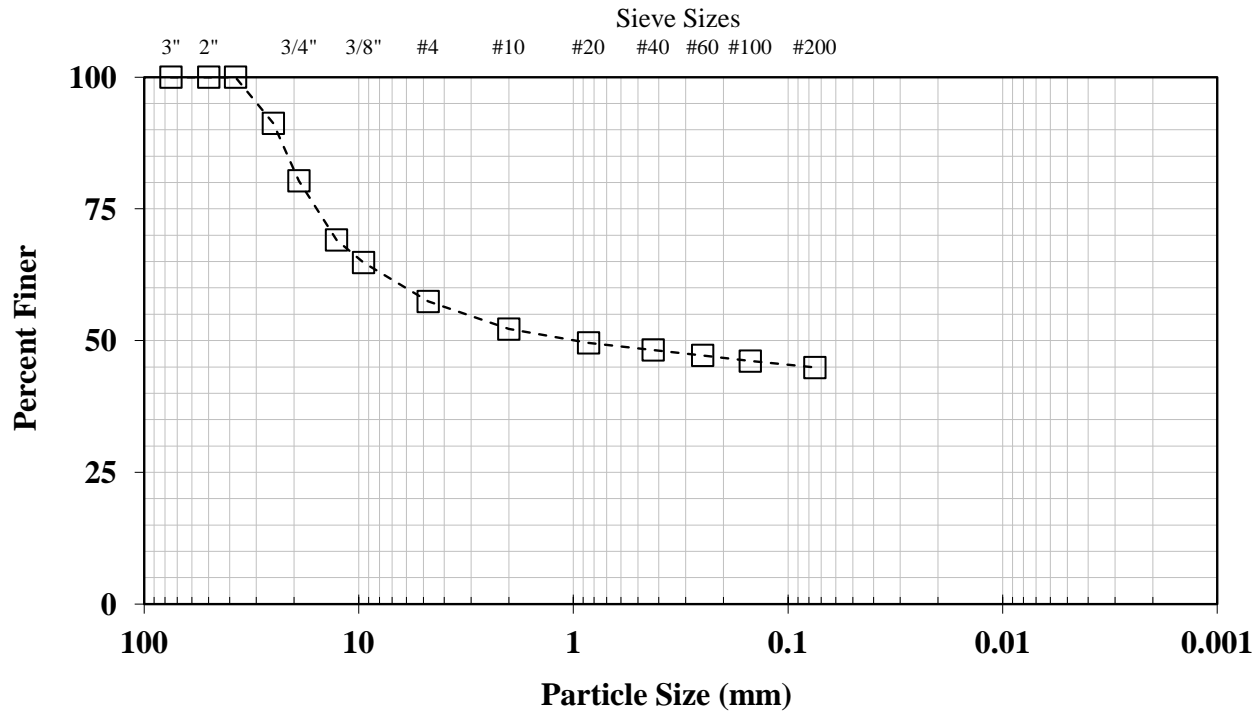
Tested by: LC



Particle Size Analysis for Soils

Client: SEDCo
 Project: Cell 10/11 North
 Sample: Protective Cover-CS-2

TRI Log#: 25653.3
 Test Method: ASTM D422



Sieve Analysis	
Sieve Size	Percent Passing
3 in. (76.2 mm)	100.0
2 in. (50.8 mm)	100.0
1.5 in. (38.1 mm)	100.0
1 in. (25.4 mm)	91.2
3/4 in. (19.0 mm)	80.3
1/2 in. (12.7 mm)	69.1
3/8 in. (9.51 mm)	64.8
No. 4 (4.76 mm)	57.4
No. 10 (2.00 mm)	52.2
No. 20 (0.841 mm)	49.6
No. 40 (0.420 mm)	48.2
No. 60 (0.250 mm)	47.2
No. 100 (0.149 mm)	46.1
No. 200 (0.074 mm)	44.9
Hydrometer Analysis	
Particle Size	Percent Passing
0.005 mm	--
0.002 mm	--

USCS Classification (ASTM D2487)	Silty gravel (GM)	
As-Received Moisture Content (%)	(ASTM D2216)	--
Atterberg Limits (ASTM D4318, Method A : Multipoint)	Liquid Limit	59
	Plastic Limit	35
	Plastic Index	24
Notes: Specimen was air dried.. (NL = No Liquid Limit, NP = No Plastic Limit)		
Specific Gravity	(ASTM D854)	--
Organic Content (%)	(ASTM D2974)	--
Carbonate Content (%)	(ASTM D4373)	--

D ₁₀ (mm)	D ₃₀ (mm)	D ₅₀ (mm)	D ₆₀ (mm)	Cu	Cc
--	--	0.98	6.05	--	--

Shawn Hutcherson, P.E. 12/6/2016

Quality Review/Date

Tested by: KH & PC

Rigid Wall Constant Head Permeability

Client: SEDCo

TRI Log#: 25653

Project: Cell 10/11 North

Test Method: ASTM D 2434

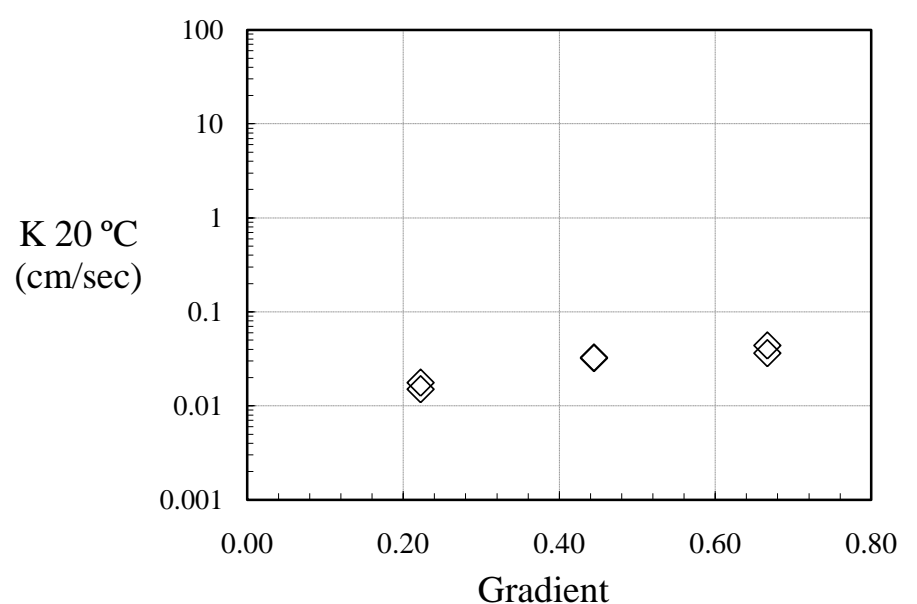
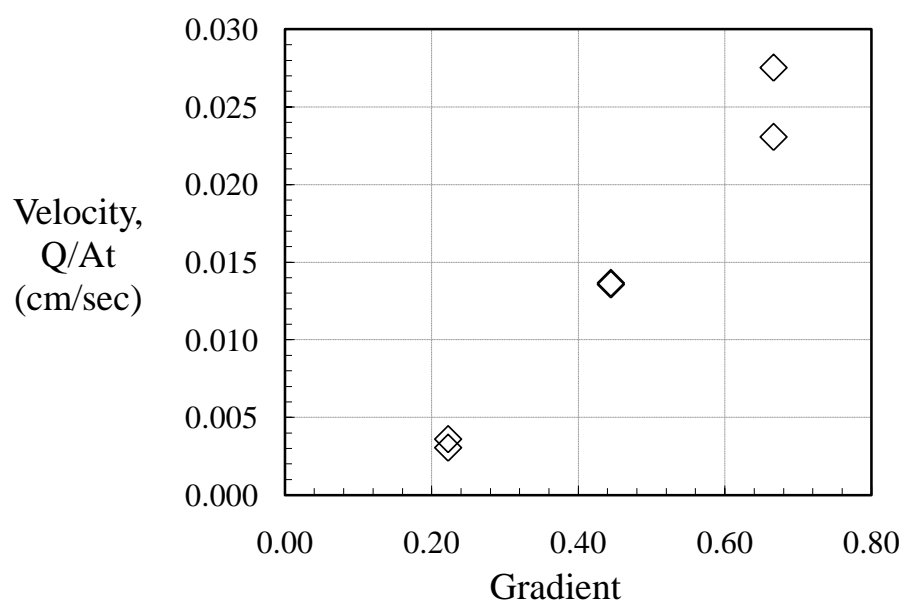
Sample: Protective Cover-CS-2

Test Date: 12/09/16

Manometer Reading (cm)		Gradient	Flow Volume, Q (ml)	Flow Time, t (s)	Temperature (°C)	Flow Rate (cm ³ /s)	Velocity, Q/At (cm/s)	System Permeability (cm/s)	System Permeability @ 20 °C, K _{20°C} (cm/s)	Average System Permeability @ 20 °C (cm/s)
1	2									
Gradient No. 1										
2.5	0	0.22	503	901	16.3	0.6	3.1E-03	1.4E-02	1.5E-02	1.6E-02
2.5	1	0.22	593	900	16.5	0.7	3.6E-03	1.6E-02	1.8E-02	
Gradient No. 2										
5.1	0	0.44	2244	900	17.5	2.5	1.4E-02	3.1E-02	3.3E-02	3.3E-02
5.1	1	0.44	2550	1030	17.9	2.5	1.4E-02	3.1E-02	3.2E-02	
Gradient No. 3										
7.6	0	0.67	4597	915	17.5	5.0	2.8E-02	4.1E-02	4.4E-02	4.0E-02
7.6	1	0.67	3789	900	18.0	4.2	2.3E-02	3.5E-02	3.6E-02	

Specimen Cross-sectional Area, A (cm²): 182.4

Final Avg. k at 20 deg C (cm/sec) : **3.0E-02**



Note: Sample Protective Cover-CS-2 consists of material with 44.9% fine grained particles (passing the #200 sieve) and a maximum particle size of 1.5 inches. Insufficient material was available to test sample in a permeameter with an appropriate ratio of maximum particle size to permeameter diameter. A modified version of D2434 was performed in a 6-inch permeameter to accommodate submitted material quantity. The sample was tested as received. The test specimen was tamped in place.

Shawn Hutcherson, P.E. 12/12/2016

Quality Review/Date

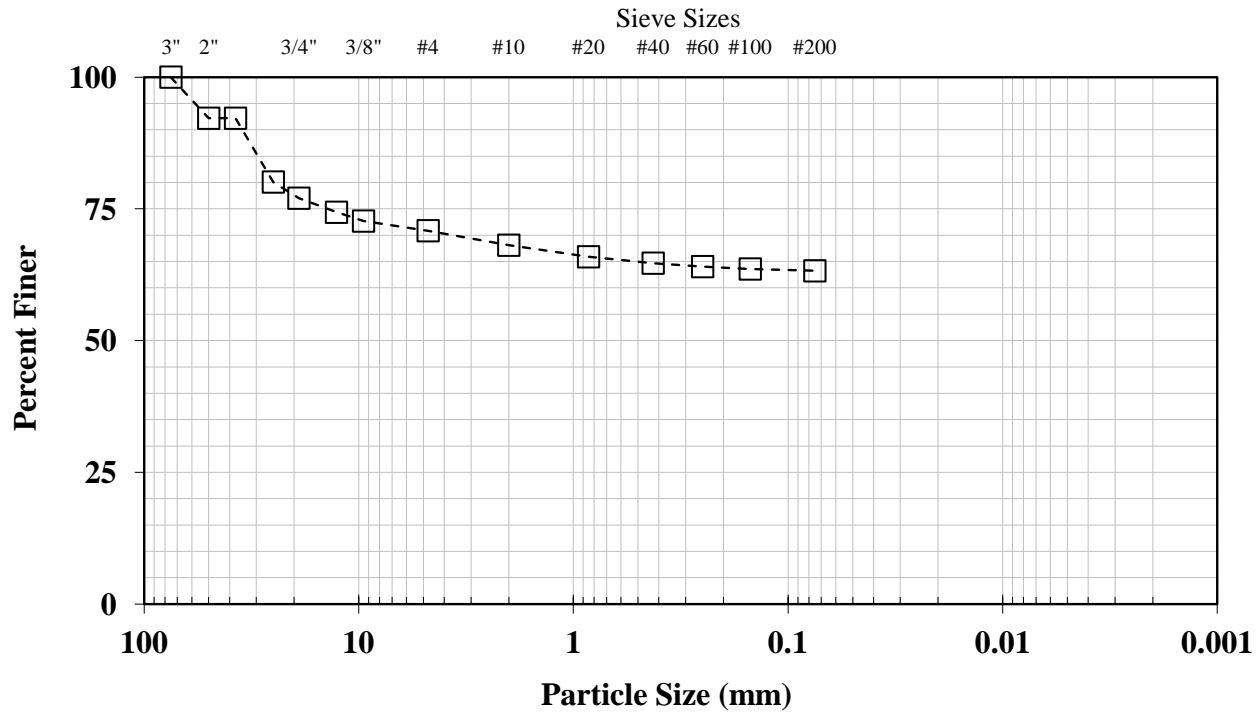
Tested by: LC



Particle Size Analysis for Soils

Client: SEDCo
 Project: Cell 10/11 North
 Sample: Protective Cover-CS-3

TRI Log#: 25653.4
 Test Method: ASTM D422



Sieve Analysis	
Sieve Size	Percent Passing
3 in. (76.2 mm)	100.0
2 in. (50.8 mm)	92.2
1.5 in. (38.1 mm)	92.2
1 in. (25.4 mm)	80.1
3/4 in. (19.0 mm)	77.0
1/2 in. (12.7 mm)	74.4
3/8 in. (9.51 mm)	72.7
No. 4 (4.76 mm)	70.8
No. 10 (2.00 mm)	68.1
No. 20 (0.841 mm)	65.9
No. 40 (0.420 mm)	64.7
No. 60 (0.250 mm)	64.0
No. 100 (0.149 mm)	63.6
No. 200 (0.074 mm)	63.2
Hydrometer Analysis	
Particle Size	Percent Passing
0.005 mm	--
0.002 mm	--

USCS Classification (ASTM D2487)	Gravely elastic silt with sand (MH)	
As-Received Moisture Content (%)	(ASTM D2216)	--
Atterberg Limits (ASTM D4318, Method A : Multipoint)	Liquid Limit	78
	Plastic Limit	46
	Plastic Index	32
Notes: Specimen was air dried.. (NL = No Liquid Limit, NP = No Plastic Limit)		
Specific Gravity	(ASTM D854)	--
Organic Content (%)	(ASTM D2974)	--
Carbonate Content (%)	(ASTM D4373)	--

D ₁₀ (mm)	D ₃₀ (mm)	D ₅₀ (mm)	D ₆₀ (mm)	Cu	Cc
--	--	--	--	--	--

Shawn Hutcherson, P.E. 12/6/2016

Quality Review/Date

Tested by: KH & PC

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Rigid Wall Constant Head Permeability

Client: SEDCo

TRI Log#: 25653

Project: Cell 10/11 North

Test Method: ASTM D 2434

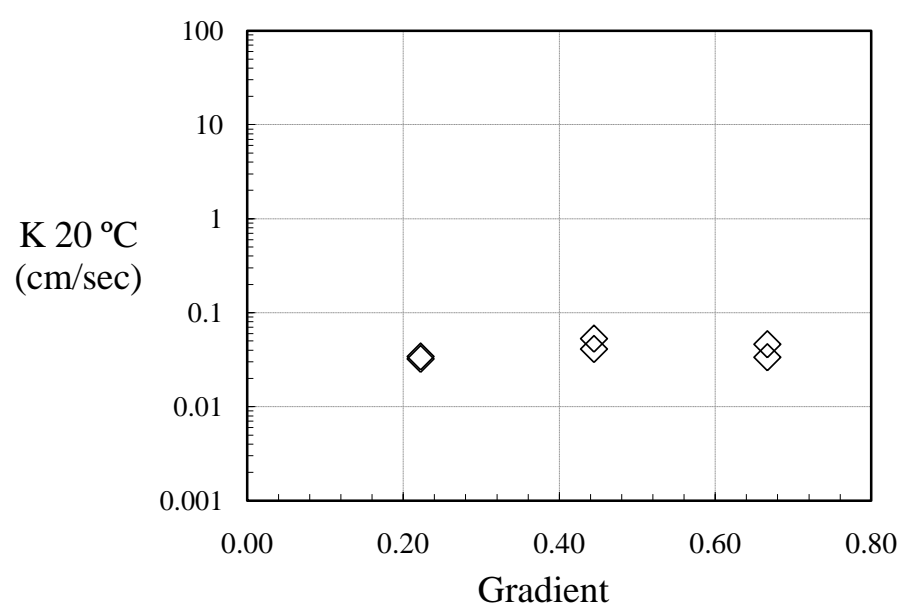
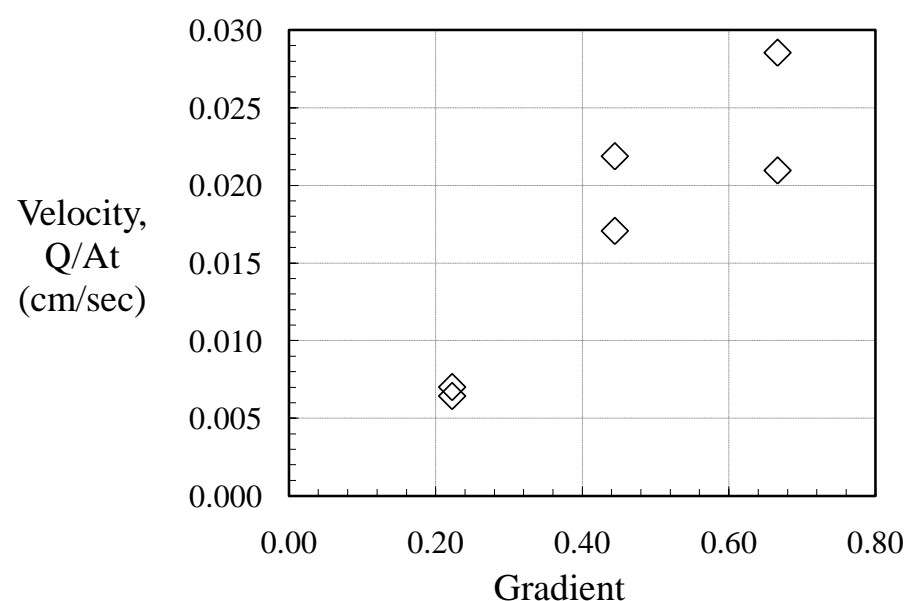
Sample: Protective Cover-CS-3

Test Date: 12/10/16

Manometer Reading (cm)		Gradient	Flow Volume, Q (ml)	Flow Time, t (s)	Temperature (°C)	Flow Rate (cm ³ /s)	Velocity, Q/At (cm/s)	System Permeability (cm/s)	System Permeability @ 20 °C, K _{20°C} (cm/s)	Average System Permeability @ 20 °C (cm/s)
Gradient No. 1										
2.5	0	0.22	1311	1119	15.3	1.2	6.4E-03	2.9E-02	3.2E-02	3.3E-02
2.5	1	0.22	1149	900	16.6	1.3	7.0E-03	3.1E-02	3.4E-02	
Gradient No. 2										
5.1	0	0.44	4130	1035	17.0	4.0	2.2E-02	4.9E-02	5.3E-02	4.7E-02
5.1	1	0.44	2801	900	17.2	3.1	1.7E-02	3.8E-02	4.1E-02	
Gradient No. 3										
7.6	0	0.67	4686	900	16.9	5.2	2.9E-02	4.3E-02	4.6E-02	4.0E-02
7.6	1	0.67	3555	930	17.3	3.8	2.1E-02	3.1E-02	3.4E-02	

Specimen Cross-sectional Area, A (cm²): 182.4

Final Avg. k at 20 deg C (cm/sec) : **4.0E-02**



Note: Sample Protective Cover-CS-3 consists of material with 63.2% fine grained particles (passing the #200 sieve) and a maximum particle size of 3 inches. Insufficient material was available to test sample in a permeameter with an appropriate ratio of maximum particle size to permeameter diameter. A modified version of D2434 was performed in a 6-inch permeameter to accommodate submitted material quantity. The sample was tested as received. The test specimen was tamped in place.

Shawn Hutcherson, P.E. 12/12/2016

Quality Review/Date

Tested by: LC

APPENDIX C
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION

APPENDIX C-1
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
40-MIL LLDPE GEOMEMBRANE

APPENDIX C-1A
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
40- MIL LLDPE GEOMEMBRANE
MANUFACTURER'S CERTIFICATION



ROLL TEST DATA REPORT



Sales Order No. SO-078809	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name LDT-040AE-BBB-B-WO	BOL Number
-------------------------------------	--	---	---	-------------------

Roll Number	Average Thickness ASTM D5994 (mils)	Minimum Thickness ASTM D5994 (mils)	Break Strength ASTM D6693 (psi) MD	Break Strength ASTM D6693 (psi) TD	Break Elongation ASTM D6693 (%) MD	Break Elongation ASTM D6693 (%) TD	Tear Resistance ASTM D1004 (lbs) MD	Tear Resistance ASTM D1004 (lbs) TD	Puncture Resistance ASTM D4833 (lbs)	Density ASTM D1505 (g/cc)	Carbon Black Content ASTM D4218 (%)	Carbon Black Dispersion ASTM D5599 (Views in Cat1-Cat2)	Asperity Height ASTM D7466 (mils) A Side	Asperity Height ASTM D7466 (mils) B Side
104181038	41	37	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181039	41	37	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181040	42	39	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181041	41	37	165	148	628	582	32	33	103	0.932	2.4	10	23	23
104181042	41	38	165	148	628	582	32	33	103	0.932	2.4	10	23	23
104181043	41	38	165	148	628	582	32	33	103	0.932	2.4	10	23	23
104181044	41	37	163	138	625	544	31	30	106	0.933	2.3	10	23	23
104181045	41	38	163	138	625	544	31	30	106	0.933	2.3	10	23	23
104181046	41	37	163	138	625	544	31	30	106	0.933	2.3	10	23	21
104181047	41	37	174	139	648	523	31	31	108	0.933	2.5	10	23	21
104181048	41	38	174	139	648	523	31	31	108	0.933	2.5	10	22	22
104181049	40	38	174	139	648	523	31	31	108	0.933	2.5	10	22	22
104181050	40	38	172	143	638	556	32	31	106	0.933	2.3	10	22	22
104181051	41	38	172	143	638	556	32	31	106	0.933	2.3	10	22	22
104181052	41	37	172	143	638	556	32	31	106	0.933	2.3	10	23	23
104181053	41	36	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181054	42	37	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181055	42	40	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181056	42	36	169	136	636	528	34	31	107	0.933	2.3	10	23	23
104181057	41	38	169	136	636	528	34	31	107	0.933	2.3	10	23	23
104181058	41	37	169	136	636	528	34	31	107	0.933	2.3	10	23	22
104181059	42	37	173	134	660	537	32	33	105	0.933	2.3	10	23	22
104181060	41	37	173	134	660	537	32	33	105	0.933	2.3	10	23	23
104181061	42	38	173	134	660	537	32	33	105	0.933	2.3	10	23	23
104181062	41	37	175	139	636	518	35	32	110	0.933	2.3	10	23	23
104181063	41	38	175	139	636	518	35	32	110	0.933	2.3	10	23	23
104181064	41	38	175	139	636	518	35	32	110	0.933	2.3	10	24	23
104181065	41	38	174	151	627	581	35	33	109	0.932	2.3	10	24	23

APPROVED JUL 28 2016

BWB

Laboratory Manager Mauricio Ossa



Formosa Plastics

FORMOSA PLASTICS CORPORATION, TEXAS

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT

TX 77978

PHONE:(888)FPCUSA3

Certificate of Analysis (CONFIDENTIAL)

CUSTOMER:GSE ENVIRONMENTAL, LLC
UP TRACK 14732 WESTFIELD
19103 GUNDLE ROAD
HOUSTON

TX 77070

PRODUCT :L91507H
RAILCAR

FPAX950533

S/O NO : SJR5B13
CUSTOMER PO : 03-506574
DATE SHIPPED: 6/02/16 ✓
LOT NO : 16BB231 ✓
WEIGHT (LB) : 188,900.00
CUSTID:FT03112 SPIDM4

TEST ITEM

REFERENCE METHOD

TEST VALUE

Melt Index, g/10min
Density, g/cm3

ASTM D1238
ASTM D1505

.75 ✓
.9168 ✓

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Linda Kao

QC SUPERVISOR: LINDA KAO



Formosa Plastics

FORMOSA PLASTICS CORPORATION, TEXAS

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT

TX 77978

PHONE:(888)FPCUSA3

Certificate of Analysis (CONFIDENTIAL)

CUSTOMER:GSE ENVIRONMENTAL, LLC
UP TRACK 14732 WESTFIELD
19103 GUNDLE ROAD
HOUSTON TX 77070

PRODUCT :L91507H
RAILCAR FPAX890394

S/O NO : SJR5B14
CUSTOMER PO : 03-506574
DATE SHIPPED: 6/02/16
LOT NO : 16BB160 ✓
WEIGHT (LB) : 186,900.00
CUSTID:FT03112 SPIDM4

TEST ITEM

REFERENCE METHOD

TEST VALUE

Melt Index, g/10min
Density, g/cm3

ASTM D1238
ASTM D1505

.78 ✓
.9164 ✓

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Linda Kao

QC SUPERVISOR: LINDA KAO



Report Date
7/19/2016

Quality Assurance Laboratory Test Results

Job Name: WMI Eco Vista Landfill Cell & Final Cover
Sales Order: 78809
Required Testing: ASTM D 3895 -- Standard Test Method for Oxidative Induction Time of Polyolefins by Differential Scanning Calorimetry
Frequency: 1/200,000 lbs
Specification: >100 minutes

<u>Product Code</u>	<u>Resin Lot Number</u>	<u>Results</u>	
LDT-040AE-BBB-B-W0	16BB231	PASS	✓
LDT-040AE-BBB-B-W0	16BB160	PASS	✓

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Approved By: Daniel Vasquez
Date Approved: July 19, 2016

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Quality Assurance Laboratory Test Results

Job Name: WMI Eco Vista Landfill Cell & Final Cover
Sales Order: 78809
Test: Multi-Axial Tension Test
ASTM D5617
Frequency: 1/Formulation
Specification: 30%

<u>Resin Type</u>	<u>Results</u>
Formosa L91507H	Pass 

APPROVED JUL 28 2016
DWB

Approved By: Daniel Vasquez

Date Approved: July 19, 2016



Report Date
7/19/2016

Quality Assurance Laboratory Test Results

Job Name: WMI Eco Vista Landfill Cell & Final Cover
Sales Order: 78809

Test: ASTM D 5323 - Determination of 2% Secant Modulus for Polyethylene Geomembranes

Resin Type: Formosa L91507H

Frequency: 1/Per Formualtion

Specification: < 2400 ppi

Resin Lot	Result (ppi)	
	MD	TD
14DB336	1873 ✓	1601 ✓

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Approved By: Daniel Vasquez
Date Approved: July 19, 2016

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Quality Assurance Laboratory Test Results

Job Name: WMI Eco Vista Landfill Cell & Final Cover
SO Number: 78809

The table below summarizes additive performance of GSE Houston products as perceived by OIT retention after Oven and UV Aging per GRI Test Method GM17:

Product Type	Formulation	Oven Aging @ 85° C (ASTM D 5721)				UV Resistance per GRI GM11			
		90 days per ASTM D 5885				1600 hours UV Aging per ASTM D 5885			
		Initial HP OIT (min)	Final HP OIT (min)	Retained (%)	GRI Criteria (%)	Initial HP OIT (min)	Final HP OIT (min)	Retained (%)	GRI Criteria (%)
LLDPE Geomembrane	Formosa L91507H	1176	743	63	60	1176	754	64	35

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Approved By: Daniel Vasquez
Date: July 19, 2016

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APPENDIX C-1B
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
40- MIL LLDPE GEOMEMBRANE
SUMMARY OF MANUFACTURER'S INVENTORY

Summary of 40-Mil Textured LLDPE Geomembrane Manufacturing Inventory



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover Installation
Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project Number: 16038
 Reviewed by: Bryan Bailey, P.E.

Roll Number	Date Manuf.	Sheet Area (SF)	Thickness Checked		Conf. Sample Taken (date)	Conf. Sample Sent (date)	QC Certs Recd. (date)	QC Certs Aprvd. (date)	Resin Lot No.	Resin Cert. Recd. (date)	Conform. Sample Results (date)	Conform. Lab (Pass/Fail)	OK for Ship (date)	Recd on Site (date)	Comments	
			SEDCo	Manuf.												
1	104181038	07/16/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
2	104181039	07/16/16	15,750	No	Yes	07/16/16	07/18/16	07/27/16	07/28/16	16BB231	07/27/16	07/27/16	Pass	07/28/16	08/02/16	
3	104181040	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
4	104181041	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
5	104181042	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
6	104181043	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
7	104181044	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
8	104181045	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
9	104181046	07/17/16	15,750	No	Yes	07/17/16	07/18/16	07/27/16	07/28/16	16BB231	07/27/16	07/27/16	Pass	07/28/16	08/02/16	
10	104181047	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
11	104181048	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
12	104181049	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
13	104181050	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
14	104181051	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
15	104181052	07/17/16	15,750	No	Yes	07/17/16	07/18/16	07/27/16	07/28/16	16BB231	07/27/16	07/27/16	Pass	07/28/16	08/02/16	
16	104181053	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
17	104181054	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
18	104181055	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
19	104181056	07/17/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
20	104181057	07/18/16	15,750	No	Yes	07/17/16	07/18/16	07/27/16	07/28/16	16BB231	07/27/16	07/27/16	Pass	07/28/16	08/02/16	
21	104181058	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
22	104181059	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB231	07/27/16			07/28/16	08/02/16	
23	104181060	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB160	07/27/16			07/28/16	08/02/16	
24	104181061	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB160	07/27/16			07/28/16	08/02/16	
25	104181062	07/18/16	15,750	No	Yes	07/17/16	07/18/16	07/27/16	07/28/16	16BB160	07/27/16	07/27/16	Pass	07/28/16	08/02/16	
26	104181063	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB160	07/27/16			07/28/16	08/02/16	
27	104181064	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB160	07/27/16			07/28/16	08/02/16	
28	104181065	07/18/16	15,750	No	Yes			07/27/16	07/28/16	16BB160	07/27/16			07/28/16	08/02/16	

GSE Roll Allocation

Order SO-078809
Customer Waste Management, Inc.
Project Name WMI Eco Vista Landfill Cell & Final Cover

Roll#	Resin Lot	Product Code	Mfg Date	Length
104181038	16BB231	LDT-040AE-BBB-B-W0	7/16/2016	700
✓104181039	16BB231	LDT-040AE-BBB-B-W0	7/16/2016	700
104181040	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181041	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181042	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181043	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181044	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181045	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
✓104181046	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181047	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181048	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181049	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181050	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181051	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
✓104181052	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181053	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181054	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181055	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
104181056	16BB231	LDT-040AE-BBB-B-W0	7/17/2016	700
✓104181057	16BB231	LDT-040AE-BBB-B-W0	7/18/2016	700
104181058	16BB231	LDT-040AE-BBB-B-W0	7/18/2016	700
104181059	16BB231	LDT-040AE-BBB-B-W0	7/18/2016	700
104181060	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700
104181061	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700
✓104181062	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700
104181063	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700
104181064	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700
104181065	16BB160	LDT-040AE-BBB-B-W0	7/18/2016	700

APPROVED JUL 28 2016

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APPENDIX C-1C
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
40- MIL LLDPE GEOMEMBRANE
DELIVERY CHECKLIST

40-Mil Textured LLDPE Geomembrane Delivery C



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	LLDPE Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width (ft)	length (ft)			
1	104181038	16BB231	22.5	700	None	08/02/16	BL-0097748
2	104181039	16BB231	22.5	700	None	08/02/16	BL-0097761
3	104181040	16BB231	22.5	700	None	08/02/16	BL-0097761
4	104181041	16BB231	22.5	700	None	08/02/16	BL-0097761
5	104181042	16BB231	22.5	700	None	08/02/16	BL-0097761
6	104181043	16BB231	22.5	700	None	08/02/16	BL-0097748
7	104181044	16BB231	22.5	700	None	08/02/16	BL-0097748
8	104181045	16BB231	22.5	700	None	08/02/16	BL-0097748
9	104181046	16BB231	22.5	700	None	08/02/16	BL-0097748
10	104181047	16BB231	22.5	700	None	08/02/16	BL-0097748
11	104181048	16BB231	22.5	700	None	08/02/16	BL-0097748
12	104181049	16BB231	22.5	700	None	08/02/16	BL-0097748
13	104181050	16BB231	22.5	700	None	08/02/16	BL-0097748
14	104181051	16BB231	22.5	700	None	08/02/16	BL-0097747
15	104181052	16BB231	22.5	700	None	08/02/16	BL-0097747
16	104181053	16BB231	22.5	700	None	08/02/16	BL-0097747
17	104181054	16BB231	22.5	700	None	08/02/16	BL-0097747
18	104181055	16BB231	22.5	700	None	08/02/16	BL-0097748

40-Mil Textured LLDPE Geomembrane Delivery C



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	LLDPE Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width (ft)	length (ft)			
19	104181056	16BB231	22.5	700	None	08/02/16	BL-0097748
20	104181057	16BB231	22.5	700	None	08/02/16	BL-0097747
21	104181058	16BB231	22.5	700	None	08/02/16	BL-0097747
22	104181059	16BB231	22.5	700	None	08/02/16	BL-0097747
23	104181060	16BB160	22.5	700	None	08/02/16	BL-0097747
24	104181061	16BB160	22.5	700	None	08/02/16	BL-0097748
25	104181062	16BB160	22.5	700	None	08/02/16	BL-0097747
26	104181063	16BB160	22.5	700	None	08/02/16	BL-0097747
27	104181064	16BB160	22.5	700	None	08/02/16	BL-0097747
28	104181065	16BB160	22.5	700	None	08/02/16	BL-0097747



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Houston, TX

Number BL-0097747

Received at Houston, TX from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Landfill Cell & Final Cover 2210 Waste Management Drive Springdale, AR 72762	Roll Certifications Included	Ship date: 07/31/2016 Branch plant: 1500 Sales order: SO-078809
--	---	--

Shipping instructions: Contact Clovis Grissom @870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! To be onsite 8/2/16!!!!

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	189,000.00	LDT-040AE-BBB-B-W0	SF	GSE UltraFlex 2S Textured 040 mil Avg 22.5' W		Freight charges are prepaid unless marked collect.
1				104181051 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,670.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. <div style="text-align: right; margin-right: 50px;"> Signature of Consignor </div> Local Verification Signed <div style="text-align: right; margin-right: 50px;"> <input checked="" type="checkbox"/> X </div> PRO Number RR059369 Seal numbers Truckers P.O. # PO1600
2				104181052 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,670.00	
3				104181053 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,674.00	
4				104181054 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,667.00	
5				104181057 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,671.00	
6				104181058 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,675.00	
7				104181059 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,669.00	
8				104181060 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,662.00	
9				104181062 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,670.00	
10				104181063 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,690.00	
11				104181064 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,684.00	
12				104181065 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,690.00	

DELIVERY DATE
 AUG 02 2016

Total quantity: 189,000.00	Total weight: 44,092.00	PO1600
-----------------------------------	--------------------------------	---------------

Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (281) 230-6781 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: Global Tranz Carrier signature: Date:
---	--

ROLL TEST DATA REPORT



Report Date: Jul/31/2016

Sales Order No. SO-078809	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name LDT-040AE-BBB-B-W0	BOL Number BL-0097747
-------------------------------------	--	---	---	---------------------------------

Roll Number	Average Thickness ASTM D5984 (mil)	Minimum Thickness ASTM D6984 (mil)	Break Strength ASTM D6983 (pph) MD	Break Strength ASTM D6983 (pph) TD	Break Elongation ASTM D6983 (%) MD	Break Elongation ASTM D6983 (%) TD	Tear Resistance ASTM D1004 (lbs) MD	Tear Resistance ASTM D1004 (lbs) TD	Puncture Resistance ASTM D4833 (lbs)	Density ASTM D1505 (g/cc)	Carbon Black Content ASTM D4218 (%)	Carbon Black Dispersion ASTM D6596 (Views in Cat1-Cat2)	Assembly Height ASTM D7466 (mil) A Side	Assembly Height ASTM D7466 (mil) B Side
104181051	41	38	172	143	638	556	32	31	106	0.933	2.3	10	22	22
104181052	41	37	172	143	638	556	32	31	106	0.933	2.3	10	23	23
104181053	41	36	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181054	42	37	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181057	41	38	169	136	636	528	34	31	107	0.933	2.3	10	23	23
104181058	41	37	169	136	636	528	34	31	107	0.933	2.3	10	23	22
104181059	42	37	173	134	660	537	32	33	105	0.933	2.3	10	23	22
104181060	41	37	173	134	660	537	32	33	105	0.933	2.3	10	23	23
104181062	41	37	175	139	636	518	35	32	110	0.933	2.3	10	23	23
104181063	41	38	175	139	636	518	35	32	110	0.933	2.3	10	23	23
104181064	41	38	175	139	636	518	35	32	110	0.933	2.3	10	24	23
104181065	41	38	174	151	627	581	35	33	109	0.932	2.3	10	24	23

Laboratory Manager Mauricio Ossa



GSE Environmental, LLC Houston, TX

Shipping Order – Packing List – Original – Not Negotiable

Number BL-0097748

Received at Houston, TX from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Landfill Cell & Final Cover 2210 Waste Management Drive Springdale, AR 72762	Roll Certifications Included	Ship date: 07/31/2016 Branch plant: 1500 Sales order: SO-078809
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Shipping instructions: Contact Clovis Grissom @870 598-4536 24 hrs prior to delivery for unloading appt. **PPE SITE REQUIREMENTS!! To be onsite 8/2/16!!!!**

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	189,000.00	LDT-040AE-BBB-B-W0	SF	GSE UltraFlex 2S Textured 040 mil Avg 22.5' W		Freight charges are prepaid unless marked collect
1				104181038 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,704.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor Local Verification Signed X _____ PRO Number RR059368 Seal numbers Truckers P.O. # PO1600
2				104181043 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,639.00	
3				104181044 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,640.00	
4				104181045 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,636.00	
5				104181046 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,642.00	
6				104181047 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,648.00	
7				104181048 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,650.00	
8				104181049 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,656.00	
9				104181050 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,664.00	
10				104181055 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,670.00	
11				104181056 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,677.00	
12				104181061 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,664.00	



Total quantity: 189,000.00	Total weight: 43,890.00	PO1600
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Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (281) 230-6781 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: Global Tranz Carrier signature: _____ Date: _____
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ROLL TEST DATA REPORT



Report Date: Jul/31/2016

Sales Order No. SO-078809	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name LDT-040AE-BBB-B-WD	BOL Number BL-0097748
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Roll Number	Average Thickness ASTM D6594 (mil)	Minimum Thickness ASTM D6594 (mil)	Break Strength ASTM D6692 (pph) MD	Break Strength ASTM D6692 (pph) TD	Break Elongation ASTM D6693 (%) MD	Break Elongation ASTM D6693 (%) TD	Tear Resistance ASTM D1004 (lbs) MD	Tear Resistance ASTM D1004 (lbs) TD	Puncture Resistance ASTM D4633 (lbs)	Density ASTM D1505 (g/cc)	Carbon Black Content ASTM D4218 (%)	Carbon Black Dispersion ASTM D5599 (Views in Cat1-Cat2)	Aspenly Height ASTM D7466 (mils) A Scale	Aspenly Height ASTM D7466 (mils) B Scale
104181038	41	37	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181043	41	38	165	148	628	582	32	33	103	0.932	2.4	10	23	23
104181044	41	37	163	138	625	544	31	30	106	0.933	2.3	10	23	23
104181045	41	38	163	138	625	544	31	30	106	0.933	2.3	10	23	23
104181046	41	37	163	138	625	544	31	30	106	0.933	2.3	10	23	21
104181047	41	37	174	139	648	523	31	31	108	0.933	2.5	10	23	21
104181048	41	38	174	139	648	523	31	31	108	0.933	2.5	10	22	22
104181049	40	38	174	139	648	523	31	31	108	0.933	2.5	10	22	22
104181050	40	38	172	143	638	556	32	31	106	0.933	2.3	10	22	22
104181055	42	40	175	145	649	572	34	34	112	0.932	2.3	10	23	23
104181056	42	36	169	136	636	528	34	31	107	0.933	2.3	10	23	23
104181061	42	38	173	134	660	537	32	33	105	0.933	2.3	10	23	23

Laboratory Manager Mauricio Ossa



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Houston, TX

Number **BL-0097761**

Received at **Houston, TX** from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Landfill Cell & Final Cover 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/31/2016 Branch plant: 1500 Sales order: SO-078809
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Roll Certifications included

Shipping instructions: Contact Clovis Grissom @870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! To be onsite 8/2/16!!!!

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
1	63,000.00	LDT-040AE-BBB-B-W0	SF	GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,672.00	Freight charges are prepaid unless marked collect. Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/> _____ PRO Number RR059370 Seal numbers Truckers P.O. # PO1600
2				104181039 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,631.00	
3				104181041 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,664.00	
4				104181042 GSE UltraFlex 2S Textured 040 mil Avg 22.5' W	3,650.00	
5	25.00	VFROD5MM	BX	5 mm VF Welding Rod	0.00	
				121007443 5 mm VF Welding Rod		

DELIVERY DATE
AUG 02 2016
only

Total quantity: 63,025.00	Total weight: 14,617.00
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Driver requirements:

- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
- 2) Driver must call (281) 230-6781 when unloaded.
- 3) Driver must call and advise any delay in transit.
- 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: Global Tranz
Carrier signature: [Signature]
Date: 07-31-16

ROLL TEST DATA REPORT



Report Date: Jul/31/2016

Sales Order No. SO-078809	Customer Name Waste Management, Inc	Project Location Springdale AR US	Product Name LDT-040AE-BBB-B-W0	BOL Number BL-0097761
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Roll Number	Average Thickness ASTM D6994 (mils)	Minimum Thickness ASTM D6994 (mils)	Break Strength ASTM D6983 (ppf) SD	Break Strength ASTM D6983 (ppf) TD	Break Elongation ASTM D662 (%) MD	Break Elongation ASTM D662 (%) TD	Tear Resistance ASTM D1004 (lb)	Tear Resistance ASTM D1004 (lb) TD	Puncture Resistance ASTM D4833 (lbs)	Density ASTM D1505 (g/cm ³)	Carbon Black Content ASTM D4218 (%)	Carbon Black Dispersion ASTM D5686 (Views in Cal 1-C42)	Aspeny Height ASTM D7466 (mils) A Side	Aspeny Height ASTM D7466 (mils) B Side
104181039	41	37	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181040	42	39	171	140	634	539	35	32	108	0.932	2.2	10	23	23
104181041	41	37	165	148	628	582	32	33	103	0.932	2.4	10	23	23
104181042	41	38	165	148	628	582	32	33	103	0.932	2.4	10	23	23

Laboratory Manager Mauricio Ossa

This test report shall not be reproduced, except in full, without written approval of the laboratory

APPENDIX C-2
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
6 OZ/YD² DOUBLE-SIDE GEOCOMPOSITE

APPENDIX C-2A
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
6 OZ/YD² DOUBLE-SIDED GEOCOMPOSITE
MANUFACTURER'S CERTIFICATIONS

Customer: Waste Management South
PO#: 1000032753 Eco Vista LF Final Cover Phase 2
Destination: Springdale, AR
doc #: 32532

Agru America
500 Garrison Road
Georgetown, SC 29440
ph: 843-546-0600

Maria Coffey
Quality Control Manager



Report Date
7/26/2016

Agru America certifies the following results for the above project

GEOCOMPOSITE
6-200-6

DOUBLE SIDED COMPOSITE

Reflects Conformance Sample

Geocomposite Transmissivity Conditions:
0.1 gradient
10,000 psf
15 minute seating time
Geonet Transmissivity Conditions:
0.1 gradient
10,000 psf
15 minute seating time

Main data table with columns: Roll#, Width, Length, Area, Side, Roll#, Comp, Net, Resin Lot #, Weight. Includes rows 51-101 and various specifications.

APPROVED AUG 17 2016
BWS

Customer: Waste Management South
 PO#: 1000032753 Eco Vista LF Final Cover Phase 2
 Destination: Springdale, AR
 doc #: 32532

Agru America
 500 Garrison Road
 Georgetown, SC 29440
 ph: 843-546-0600


 Maria Coffey
 Quality Control Manager



Report Date
 7/26/2016

Agru America certifies the following results for the above project

Geocomposite *Transmissivity Conditions:	Geonet *Transmissivity Conditions:
0.1 gradient 10,000 psf 15 minute seating time	0.1 gradient 10,000 psf 15 minute seating time

GEOCOMPOSITE
6-200-6

DOUBLE SIDED COMPOSITE

Reflects Conformance Sample

	Roll #	Width	Length	Area	SIDE	GEOTEXTILE		Comp.	Comp.	Comp.	Net	Net	Net	Net	Net	Resin Lot #	Weight
						6 oz Non Woven	6 oz Non Woven										
	Roll #			sqft.	A	Roll #	B	ASTM D7005 Ply A	ASTM D7005 Ply B	ASTM D4716 *Transmissivity	ASTM D5199 Thickness	ASTM D4218 Carbon	ASTM D792 Density	ASTM D5035 Tensile	ASTM D4716 *Transmissivity		
		ft.	ft.					lb/in	lb/in	m ² /sec	mil	%	g/cc	lb/in	m ² /sec		
102.	G16E011925	14.5	230	3335	A	1111207726	B 1111207721	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	948
103.	G16E011926	14.5	230	3335	A	1111207726	B 1111207721	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	946
104.	G16E011927	14.5	230	3335	A	1111207726	B 1111207721	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	946
105.	G16E011928	14.5	230	3335	A	1111207713	B 1111207725	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	946
106.	G16E011932	14.5	230	3335	A	1111207713	B 1111207725	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	980
107.	G16E011933	14.5	230	3335	A	1111207713	B 1111207725	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	948
108.	G16E011934	14.5	230	3335	A	1111207713	B 1111207725	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	944
109.	G16E011935	14.5	230	3335	A	1111207713	B 1111207725	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	942
110.	G16E011936	14.5	230	3335	A	1111207743	B 1111207720	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	940
111.	G16E011937	14.5	230	3335	A	1111207743	B 1111207720	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	946
112.	G16E011938	14.5	230	3335	A	1111207743	B 1111207720	3.21	2.93	2.08 x 10 ⁻⁴	228	2.5	0.964	60.7	4.96 x 10 ⁻³	16G1061	948
113.	G16E011939	14.5	230	3335	A	1111207743	B 1111207720	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	940
114.	G16E011940	14.5	230	3335	A	1111207743	B 1111207720	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	938
115.	G16E011941	14.5	230	3335	A	1111207739	B 1111207723	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	944
116.	G16E011942	14.5	230	3335	A	1111207739	B 1111207723	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	942
117.	G16E011943	14.5	230	3335	A	1111207739	B 1111207723	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	940
118.	G16E011944	14.5	230	3335	A	1111207739	B 1111207723	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	940
119.	G16E011945	14.5	230	3335	A	1111207750	B 1111207710	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	940
120.	G16E011946	14.5	230	3335	A	1111207750	B 1111207710	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	948
121.	G16E011947	14.5	230	3335	A	1111207750	B 1111207710	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	946
122.	G16E011948	14.5	230	3335	A	1111207750	B 1111207710	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	948
123.	G16E011949	14.5	230	3335	A	1111207750	B 1111207710	2.65	3.07	2.08 x 10 ⁻⁴	233	2.4	0.964	68.2	4.96 x 10 ⁻³	16G1061	942

APPROVED AUG 17 2016
 DWS

Advantage Polymers, Inc.
Dba API Resins
1019 Estate Drive
Moon Township PA 15108
Office; 412-576-1966
Fax; 724-457-5253

Certificate of Quality

Grant Palmer
GP@AGRUAMERICA.COM
AGRU/AMERICA, INC.
GEORGETOWN, SC 29440
Phone; 843-325-8753

PURCHASE ORDER NUMBER; PO#010561 2 OF 6 JULY
SHIP TO LOCATION: AGRU/AMERICA, GEORGETOWN, SC 29440
CONTAINER; **FPAX201159**

POLYMER; POLYETHYLENE
PRODUCT TYPE; HDPE
PRODUCT CODE; HD252BP PRIME HDPE COPOLYMER
LOT#; API 16G1038 ✓
QUANTITY (ACTUAL); 199,350 lbs.
SHIP DATE; 7-7-16
CARRIER; CSX TO GEORGETOWN
MELT INDEX ASTM D1238; 0.36 GM/10 MIN. ✓
DENSITY, ASTM D1505; 0.9550 GM/CM3 ✓

This is to certify that this material satisfies specifications set forth by AGRU/AMERICA and agreed to by API Resins.
COMMENTS; The data set forth herein have been carefully compiled by the Producer, however, there is no warranty of any kind, either expressed or implied, applicable to its use, and user assumes all risk and liability in connection therewith.

Thanks again,
Tom Klein
API Resins
kleintjk@aol.com
412-576-1966

www.apiresin.com

APPROVED AUG 17 2006

BWB



Formosa Plastics

FORMOSA PLASTICS CORPORATION, TEXAS

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT

TX 77978

PHONE: (888) FPCUSA3

Certificate of Analysis (CONFIDENTIAL)

CUSTOMER: AGRU/AMERICA, INC.
500 GARRISON ROAD

S/O NO : ER7A252

CUSTOMER PO : 010577

DATE SHIPPED: 7/08/16 ✓

LOT NO : 16G1061 ✓

GEORGETOWN

SC 29440

WEIGHT (LB) : 198,350.00

PRODUCT : HB5502B

CUSTID: FT03888

SPIDM1

RAILCAR

FPAX214458

TEST ITEM

REFERENCE METHOD

TEST VALUE

Melt Index, g/10min
Density, g/cm3

ASTM D1238
ASTM D1505

.36 ✓
.9545 ✓

APPROVED AUG 17 2016

BWB

Linda Kao

QC SUPERVISOR: LINDA KAO

AGRU AMERICA ANDREWS PLANT



PO # / PROJECT: DOC 32532 P0010405 W M SOUTH-ECO VISTA LANDFILL

PRODUCT / STYLE NAME: MARV 6OZ TEX 06M

181 Hwy521

APPROVED JUN 02 2016
BWB

DATE: 5/4/2016

Andrews, SC 29510

ASTM	D5261	D4632				D4533		D4491			D483	D624	D4751	D4355	Roll Length
Method	Average Weight	Average Grab Tensile(MD)	Average Grab Tensile(CD)	Average Elongation (MD)	Average Elongation (CD)	Average Trap Tear (MD)	Average TRAP Tear (CD)	Water Flow Rate	Permeab.	Permittiv.	Puncture	Average CBR Puncture	Apparent Opening Size	UV Resist % Retained @ 500 hrs	Roll Length
Units	oz / yd ²	Lbs	Lbs	%	%	Lbs	Lbs	gpm / ft ²	cm / sec	sec ⁻¹	lbs.	Units: Lbs	size	* % ret.	yds
Roll Number															
1111207706	6.37	202.00	260.00	92	88	80.00	113.00	135.00	.37	1.83	107.00	686	70	70	360
1111207707	6.37	202.00	260.00	92	88	80.00	113.00	135.00	.37	1.83	107.00	686	70	70	360
1111207708	6.37	202.00	260.00	92	88	80.00	113.00	135.00	.37	1.83	107.00	686	70	70	360
1111207709	6.78	194.00	265.00	89	88	80.00	121.00	128.00	.35	1.74	107.00	686	70	70	360
1111207710	6.78	194.00	265.00	89	88	80.00	121.00	128.00	.35	1.74	107.00	686	70	70	360
1111207711	6.78	194.00	265.00	89	88	80.00	121.00	128.00	.35	1.74	107.00	686	70	70	360
1111207712	6.78	194.00	265.00	89	88	80.00	121.00	128.00	.35	1.74	107.00	686	70	70	360
1111207713	6.74	179.00	262.00	90	89	76.00	119.00	134.00	.37	1.82	113.00	686	70	70	360
1111207714	6.74	179.00	262.00	90	89	76.00	119.00	134.00	.37	1.82	113.00	686	70	70	360
1111207715	6.74	179.00	262.00	90	89	76.00	119.00	134.00	.37	1.82	113.00	686	70	70	360
1111207716	6.74	179.00	262.00	90	89	76.00	119.00	134.00	.37	1.82	113.00	686	70	70	360
1111207717	6.67	206.00	268.00	92	89	81.00	114.00	128.00	.36	1.74	113.00	613	70	70	360
1111207718	6.67	206.00	268.00	92	89	81.00	114.00	128.00	.36	1.74	113.00	613	70	70	360
1111207719	6.67	206.00	268.00	92	89	81.00	114.00	128.00	.36	1.74	113.00	613	70	70	360
1111207720	6.67	206.00	268.00	92	89	81.00	114.00	128.00	.36	1.74	113.00	613	70	70	360
1111207721	6.28	199.00	262.00	93	88	76.00	120.00	128.00	.34	1.74	117.00	613	70	70	360
1111207722	6.28	199.00	262.00	93	88	76.00	120.00	128.00	.34	1.74	117.00	613	70	70	360
1111207723	6.28	199.00	262.00	93	88	76.00	120.00	128.00	.34	1.74	117.00	613	70	70	360
1111207724	6.28	199.00	262.00	93	88	76.00	120.00	128.00	.34	1.74	117.00	613	70	70	360
1111207725	6.62	199.00	278.00	92	89	83.00	117.00	138.00	.40	1.87	117.00	613	70	70	360
1111207726	6.62	199.00	278.00	92	89	83.00	117.00	138.00	.40	1.87	117.00	613	70	70	360
1111207727	6.62	199.00	278.00	92	89	83.00	117.00	138.00	.40	1.87	117.00	613	70	70	360
1111207728	6.62	199.00	278.00	92	89	83.00	117.00	138.00	.40	1.87	117.00	613	70	70	360
1111207729	6.82	206.00	277.00	92	89	85.00	110.00	128.00	.37	1.74	114.00	613	70	70	360
1111207730	6.82	206.00	277.00	92	89	85.00	110.00	128.00	.37	1.74	114.00	613	70	70	360
1111207731	6.82	206.00	277.00	92	89	85.00	110.00	128.00	.37	1.74	114.00	613	70	70	360
1111207732	6.82	206.00	277.00	92	89	85.00	110.00	128.00	.37	1.74	114.00	613	70	70	360
1111207733	6.74	202.00	263.00	89	86	85.00	116.00	128.00	.37	1.73	114.00	613	70	70	360
1111207734	6.74	202.00	263.00	89	86	85.00	116.00	128.00	.37	1.73	114.00	613	70	70	360
1111207735	6.74	202.00	263.00	89	86	85.00	116.00	128.00	.37	1.73	114.00	613	70	70	360
1111207736	6.74	202.00	263.00	89	86	85.00	116.00	128.00	.37	1.73	114.00	613	70	70	360
1111207737	6.52	204.00	258.00	89	91	81.00	112.00	137.00	.38	1.85	111.00	613	70	70	360
1111207738	6.52	204.00	258.00	89	91	81.00	112.00	137.00	.38	1.85	111.00	613	70	70	360
1111207739	6.52	204.00	258.00	89	91	81.00	112.00	137.00	.38	1.85	111.00	613	70	70	360
1111207740	6.52	204.00	258.00	89	91	81.00	112.00	137.00	.38	1.85	111.00	613	70	70	360
1111207741	6.56	199.00	266.00	88	89	81.00	111.00	134.00	.38	1.81	111.00	613	70	70	360
1111207742	6.56	199.00	266.00	88	89	81.00	111.00	134.00	.38	1.81	111.00	613	70	70	360
1111207743	6.56	199.00	266.00	88	89	81.00	111.00	134.00	.38	1.81	111.00	613	70	70	360
1111207744	6.56	199.00	266.00	88	89	81.00	111.00	134.00	.38	1.81	111.00	613	70	70	360
1111207745	6.60	201.00	264.00	87	88	85.00	117.00	139.00	.42	1.89	126.00	602	70	70	360

AGRU AMERICA ANDREWS PLANT



PO # / PROJECT: DOC 32532 P0010405 W M SOUTH-ECO VISTA LANDFILL

PRODUCT / STYLE NAME: MARV 60Z TEX 06M

181 Hwy 521

DATE: 5/4/2016

Andrews, SC 29510

ASTM	D5261	D4632				D4533		D4491			D483	D624	D4751	D4355	
Method	Average Weight	Average Grab Tensile(MD)	Average Grab Tensile(CD)	Average Elongation (MD)	Average Elongation (CD)	Average Trap Tear (MD)	Average TRAP Tear (CD)	Water Flow Rate	Permeab.	Permitiv.	Puncture	Average CBR Puncture	Apparent Opening Size	UV Resist % Retained @ 500 hrs	Roll Length
Units	oz / yd ²	Lbs	Lbs	%	%	Lbs	Lbs	gpm / ft ²	cm / sec	sec ⁻¹	lbs.	Units: Lbs	sieve	* % ret.	yds
1111207746	6.60	201.00	264.00	87	88	85.00	117.00	139.00	.42	1.89	126.00	602	70	70	360
1111207747	6.60	201.00	264.00	87	88	85.00	117.00	139.00	.42	1.89	126.00	602	70	70	360
1111207748	6.60	201.00	264.00	87	88	85.00	117.00	139.00	.42	1.89	126.00	602	70	70	360
1111207749	6.72	198.00	262.00	89	90	83.00	121.00	138.00	.37	1.87	126.00	602	70	70	360
1111207750	6.72	198.00	262.00	89	90	83.00	121.00	138.00	.37	1.87	126.00	602	70	70	360
1111207751	6.72	198.00	262.00	89	90	83.00	121.00	138.00	.37	1.87	126.00	602	70	70	360
1111207752	6.72	198.00	262.00	89	90	83.00	121.00	138.00	.37	1.87	126.00	602	70	70	360
1111207753	6.58	192.00	264.00	91	89	86.00	123.00	130.00	.37	1.77	127.00	602	70	70	360
1111207754	6.58	192.00	264.00	91	89	86.00	123.00	130.00	.37	1.77	127.00	602	70	70	360
1111207755	6.58	192.00	264.00	91	89	86.00	123.00	130.00	.37	1.77	127.00	602	70	70	360
1111207756	6.58	192.00	264.00	91	89	86.00	123.00	130.00	.37	1.77	127.00	602	70	70	360
1111207757	6.62	202.00	267.00	91	88	84.00	127.00	136.00	.39	1.85	127.00	602	70	70	360
1111207758	6.62	202.00	267.00	91	88	84.00	127.00	136.00	.39	1.85	127.00	602	70	70	360
1111207759	6.62	202.00	267.00	91	88	84.00	127.00	136.00	.39	1.85	127.00	602	70	70	360
1111207760	6.62	202.00	267.00	91	88	84.00	127.00	136.00	.39	1.85	127.00	602	70	70	360
1111207761	6.72	196.00	251.00	89	89	90.00	127.00	149.00	.43	2.02	114.00	602	70	70	360
1111207762	6.72	196.00	251.00	89	89	90.00	127.00	149.00	.43	2.02	114.00	602	70	70	360
1111207763	6.72	196.00	251.00	89	89	90.00	127.00	149.00	.43	2.02	114.00	602	70	70	360
MIN	6.28	179.00	251.00	87.00	86.00	76.00	110.00	128.00	.34	1.73	107.00	602.00	70.00	70.00	58 ROLLS

Norman A. Legette

Norman Legette, Plant Manager, Agru Andrews
Date: 5/4/2016

For Questions, Please Contact: Lab Manager, Agru Andrews
Mark Locklear
843-221-4121
Ext 1211

* UV test results are based on test performed at TRI Environmental Laboratory on similar weight products with the same raw material components per ASTM D-4355

APPROVED JUN 02 2016
BWB

APPENDIX C-2B
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
6 OZ/YD² DOUBLE-SIDED GEOCOMPOSITE
SUMMARY OF MANUFACTURER'S INVENTORY

Summary of Double-Sided Geocomposite Manufacturing Inventory



Client Name: Waste Management of Arkansas, Inc.
 Attn: Mr. David Conrad
 Project Name: Phase 2 Final Cover Construction
 Landfill: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas
 Man. Project No. 6-200-6

Project Number: 16038
 Reviewed By: Bryan Bailey, P.E.

Roll Number	Geocomposite Roll Number	Roll Dim. Area ft ²	Geocomposite						HDPE Geonet						Geotextile						
			QC Certs Date Recd.	QC Certs Date Appr.	Conf. Sample Results (date)	Conf. Sample Pass/Fail	OK To Ship To Site (Date)	Date Recd. On-site	Roll Number	Lot No.	QC Certs Date Recd.	QC Certs Date Appr.	Conf. Sample Results (Date)	Conf. Sample Pass/Fail	Side A Geot Roll No.	Side B Geot Roll No.	Conf. Sample Results (Date)	Conf. Sample Pass/Fail	QC Certs Date Recd.	QC Certs Date Appr.	Geot Approved for GC Man.
1	G16E011765	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/25/16	11765	16G1038	07/28/16	08/17/16	08/10/16	Pass	1111207732	1111207734			05/04/16	06/02/16	06/22/16
2	G16E011766	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11766	16G1038	07/28/16	08/17/16			1111207732	1111207734			05/04/16	06/02/16	06/22/16
3	G16E011767	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11767	16G1038	07/28/16	08/17/16			1111207732	1111207734			05/04/16	06/02/16	06/22/16
4	G16E011768	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11768	16G1038	07/28/16	08/17/16			1111207732	1111207734			05/04/16	06/02/16	06/22/16
5	G16E011769	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11769	16G1038	07/28/16	08/17/16			1111207732	1111207734			05/04/16	06/02/16	06/22/16
6	G16E011770	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11770	16G1038	07/28/16	08/17/16			1111207740	1111207731			05/04/16	06/02/16	06/22/16
7	G16E011771	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11771	16G1038	07/28/16	08/17/16			1111207740	1111207731			05/04/16	06/02/16	06/22/16
8	G16E011772	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11772	16G1038	07/28/16	08/17/16			1111207740	1111207731			05/04/16	06/02/16	06/22/16
9	G16E011773	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11773	16G1038	07/28/16	08/17/16			1111207740	1111207731			05/04/16	06/02/16	06/22/16
10	G16E011774	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11774	16G1038	07/28/16	08/17/16			1111207740	1111207731			05/04/16	06/02/16	06/22/16
11	G16E011775	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11775	16G1038	07/28/16	08/17/16			1111207738	1111207733			05/04/16	06/02/16	06/22/16
12	G16E011776	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11776	16G1038	07/28/16	08/17/16			1111207738	1111207733			05/04/16	06/02/16	06/22/16
13	G16E011777	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11777	16G1038	07/28/16	08/17/16			1111207738	1111207733			05/04/16	06/02/16	06/22/16
14	G16E011778	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11778	16G1038	07/28/16	08/17/16			1111207738	1111207733			05/04/16	06/02/16	06/22/16
15	G16E011779	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11779	16G1038	07/28/16	08/17/16			1111207738	1111207733			05/04/16	06/02/16	06/22/16
16	G16E011780	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11780	16G1038	07/28/16	08/17/16			1111207742	1111207735	06/14/16	Pass	05/04/16	06/02/16	06/22/16
17	G16E011781	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11781	16G1038	07/28/16	08/17/16			1111207742	1111207735			05/04/16	06/02/16	06/22/16
18	G16E011782	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11782	16G1038	07/28/16	08/17/16			1111207742	1111207735			05/04/16	06/02/16	06/22/16
19	G16E011783	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11783	16G1038	07/28/16	08/17/16			1111207742	1111207735			05/04/16	06/02/16	06/22/16
20	G16E011784	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11784	16G1038	07/28/16	08/17/16			1111207742	1111207735			05/04/16	06/02/16	06/22/16
21	G16E011827	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11827	16G1038	07/28/16	08/17/16			1111207713	1111207744			05/04/16	06/02/16	06/22/16
22	G16E011828	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11828	16G1038	07/28/16	08/17/16			1111207713	1111207744			05/04/16	06/02/16	06/22/16
23	G16E011835	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11835	16G1038	07/28/16	08/17/16			1111207759	1111207707			05/04/16	06/02/16	06/22/16
24	G16E011836	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11836	16G1038	07/28/16	08/17/16			1111207759	1111207707			05/04/16	06/02/16	06/22/16
25	G16E011837	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11837	16G1038	07/28/16	08/17/16			1111207759	1111207707			05/04/16	06/02/16	06/22/16
26	G16E011838	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11838	16G1038	07/28/16	08/17/16			1111207759	1111207707			05/04/16	06/02/16	06/22/16
27	G16E011839	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11839	16G1038	07/28/16	08/17/16			1111207759	1111207707			05/04/16	06/02/16	06/22/16
28	G16E011840	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11840	16G1038	07/28/16	08/17/16			1111207757	1111207712	06/14/16	Pass	05/04/16	06/02/16	06/22/16
29	G16E011841	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/23/16	11841	16G1038	07/28/16	08/17/16	08/10/16	Pass	1111207757	1111207712			05/04/16	06/02/16	06/22/16
30	G16E011842	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11842	16G1061	07/28/16	08/17/16			1111207757	1111207712			05/04/16	06/02/16	06/22/16
31	G16E011843	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11843	16G1061	07/28/16	08/17/16			1111207757	1111207712			05/04/16	06/02/16	06/22/16

Summary of Double-Sided Geocomposite Manufacturing Inventory



Client Name: Waste Management of Arkansas, Inc.

Attn: Mr. David Conrad

Project Name: Phase 2 Final Cover Construction

Landfill: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Man. Project No. 6-200-6

Project Number: 16038

Reviewed By: Bryan Bailey, P.E.

Roll Number	Geocomposite Roll Number	Roll Dim. Area ft ²	Geocomposite						HDPE Geonet						Geotextile						
			QC Certs	QC Certs	Conf. Sample	Conf.	OK To Ship	Date	QC Certs	QC Certs	Conf. Sample	Conf.	Side A	Side B	Conf. Sample	Conf.	QC Certs	QC Certs	Geot		
			Date Recd.	Date Appr.	Results (date)	Sample Pass/Fail	To Site (Date)	Recd. On-site	Date Recd.	Date Appr.	Results (Date)	Sample Pass/Fail	Geot Roll No.	Geot Roll No.	Results (Date)	Sample Pass/Fail	Date Recd.	Date Aprvd.	Approved for GC Man.		
32	G16E011844	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11844	16G1061	07/28/16	08/17/16			1111207757	1111207712			05/04/16	06/02/16	06/22/16
33	G16E011845	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11845	16G1061	07/28/16	08/17/16			1111207753	1111207737			05/04/16	06/02/16	06/22/16
34	G16E011846	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11846	16G1061	07/28/16	08/17/16			1111207753	1111207737			05/04/16	06/02/16	06/22/16
35	G16E011847	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11847	16G1061	07/28/16	08/17/16			1111207753	1111207737			05/04/16	06/02/16	06/22/16
36	G16E011848	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11848	16G1061	07/28/16	08/17/16			1111207753	1111207737			05/04/16	06/02/16	06/22/16
37	G16E011849	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11849	16G1061	07/28/16	08/17/16			1111207753	1111207737			05/04/16	06/02/16	06/22/16
38	G16E011850	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11850	16G1061	07/28/16	08/17/16			1111207751	1111207736	06/14/16	Pass	05/04/16	06/02/16	06/22/16
39	G16E011851	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11851	16G1061	07/28/16	08/17/16			1111207751	1111207736			05/04/16	06/02/16	06/22/16
40	G16E011852	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11852	16G1061	07/28/16	08/17/16			1111207751	1111207736			05/04/16	06/02/16	06/22/16
41	G16E011856	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11856	16G1061	07/28/16	08/17/16			1111207751	1111207736			05/04/16	06/02/16	06/22/16
42	G16E011857	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11857	16G1061	07/28/16	08/17/16			1111207751	1111207736			05/04/16	06/02/16	06/22/16
43	G16E011858	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11858	16G1061	07/28/16	08/17/16			1111207749	1111207746			05/04/16	06/02/16	06/22/16
44	G16E011859	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11859	16G1061	07/28/16	08/17/16			1111207749	1111207746			05/04/16	06/02/16	06/22/16
45	G16E011860	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/23/16	11860	16G1061	07/28/16	08/17/16	08/10/16	Pass	1111207749	1111207746			05/04/16	06/02/16	06/22/16
46	G16E011861	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11861	16G1061	07/28/16	08/17/16			1111207749	1111207746			05/04/16	06/02/16	06/22/16
47	G16E011862	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11862	16G1061	07/28/16	08/17/16			1111207749	1111207746			05/04/16	06/02/16	06/22/16
48	G16E011863	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11863	16G1061	07/28/16	08/17/16			1111207709	1111207747			05/04/16	06/02/16	06/22/16
49	G16E011864	3,335	07/28/16	08/17/16			08/17/16	08/23/16	11864	16G1061	07/28/16	08/17/16			1111207709	1111207747			05/04/16	06/02/16	06/22/16
50	G16E011865	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11865	16G1061	07/28/16	08/17/16			1111207709	1111207747			05/04/16	06/02/16	06/22/16
51	G16E011866	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11866	16G1061	07/28/16	08/17/16			1111207709	1111207747			05/04/16	06/02/16	06/22/16
52	G16E011867	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11867	16G1061	07/28/16	08/17/16			1111207709	1111207747			05/04/16	06/02/16	06/22/16
53	G16E011868	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11868	16G1061	07/28/16	08/17/16			1111207752	1111207717			05/04/16	06/02/16	06/22/16
54	G16E011869	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11869	16G1061	07/28/16	08/17/16			1111207752	1111207717			05/04/16	06/02/16	06/22/16
55	G16E011870	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11870	16G1061	07/28/16	08/17/16			1111207752	1111207717			05/04/16	06/02/16	06/22/16
56	G16E011871	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11871	16G1061	07/28/16	08/17/16			1111207752	1111207717			05/04/16	06/02/16	06/22/16
57	G16E011872	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/25/16	11872	16G1061	07/28/16	08/17/16	08/10/16	Pass	1111207752	1111207717			05/04/16	06/02/16	06/22/16
58	G16E011873	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11873	16G1061	07/28/16	08/17/16			1111207761	1111207715			05/04/16	06/02/16	06/22/16
59	G16E011874	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11874	16G1061	07/28/16	08/17/16			1111207761	1111207715			05/04/16	06/02/16	06/22/16
60	G16E011875	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11875	16G1061	07/28/16	08/17/16			1111207761	1111207715			05/04/16	06/02/16	06/22/16
61	G16E011876	3,611	07/28/16	08/17/16			08/17/16	08/25/16	11876	16G1061	07/28/16	08/17/16			1111207761	1111207715			05/04/16	06/02/16	06/22/16
62	G16E011877	3,060	07/28/16	08/17/16			08/17/16	08/25/16	11877	16G1061	07/28/16	08/17/16			1111207761	1111207715			05/04/16	06/02/16	06/22/16

Summary of Double-Sided Geocomposite Manufacturing Inventory



Client Name: Waste Management of Arkansas, Inc.

Attn: Mr. David Conrad

Project Name: Phase 2 Final Cover Construction

Landfill: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Man. Project No. 6-200-6

Project Number: 16038

Reviewed By: Bryan Bailey, P.E.

	Geocomposite Roll Number	Roll Dim. Area ft ²	Geocomposite						HDPE Geonet						Geotextile						
			QC Certs	QC Certs	Conf. Sample	Conf.	OK To Ship	Date	QC Certs	QC Certs	Conf. Sample	Conf.	Side A	Side B	Conf. Sample	Conf.	QC Certs	QC Certs	Geot		
			Date Recd.	Date Appr.	Results (date)	Sample Pass/Fail	To Site (Date)	Recd. On-site	Date Recd.	Date Appr.	Results (Date)	Sample Pass/Fail	Geot Roll No.	Geot Roll No.	Results (Date)	Sample Pass/Fail	Date Recd.	Date Aprvd.	Approved for GC Man.		
63	G16E011882	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11882	16G1061	07/28/16	08/17/16			1111207748	1111207711	06/14/16	Pass	05/04/16	06/02/16	06/22/16
64	G16E011883	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11883	16G1061	07/28/16	08/17/16			1111207748	1111207711			05/04/16	06/02/16	06/22/16
65	G16E011884	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11884	16G1061	07/28/16	08/17/16			1111207748	1111207711			05/04/16	06/02/16	06/22/16
66	G16E011885	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11885	16G1061	07/28/16	08/17/16			1111207748	1111207711			05/04/16	06/02/16	06/22/16
67	G16E011886	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11886	16G1061	07/28/16	08/17/16			1111207754	1111207706	06/14/16	Pass	05/04/16	06/02/16	06/22/16
68	G16E011887	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11887	16G1061	07/28/16	08/17/16			1111207754	1111207706			05/04/16	06/02/16	06/22/16
69	G16E011888	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11888	16G1061	07/28/16	08/17/16			1111207754	1111207706			05/04/16	06/02/16	06/22/16
70	G16E011889	2,697	07/28/16	08/17/16			08/17/16	08/25/16	11889	16G1061	07/28/16	08/17/16			1111207754	1111207706			05/04/16	06/02/16	06/22/16
71	G16E011890	3,973	07/28/16	08/17/16			08/17/16	08/25/16	11890	16G1061	07/28/16	08/17/16			1111207754	1111207706			05/04/16	06/02/16	06/22/16
72	G16E011891	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11891	16G1061	07/28/16	08/17/16			1111207763	1111207758			05/04/16	06/02/16	06/22/16
73	G16E011892	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11892	16G1061	07/28/16	08/17/16			1111207763	1111207758			05/04/16	06/02/16	06/22/16
74	G16E011893	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11893	16G1061	07/28/16	08/17/16			1111207763	1111207758			05/04/16	06/02/16	06/22/16
75	G16E011894	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11894	16G1061	07/28/16	08/17/16			1111207763	1111207758			05/04/16	06/02/16	06/22/16
76	G16E011895	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11895	16G1061	07/28/16	08/17/16			1111207763	1111207758			05/04/16	06/02/16	06/22/16
77	G16E011896	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11896	16G1061	07/28/16	08/17/16			1111207745	1111207760	06/14/16	Pass	05/04/16	06/02/16	06/22/16
78	G16E011897	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11897	16G1061	07/28/16	08/17/16			1111207745	1111207760			05/04/16	06/02/16	06/22/16
79	G16E011898	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11898	16G1061	07/28/16	08/17/16			1111207745	1111207760			05/04/16	06/02/16	06/22/16
80	G16E011899	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11899	16G1061	07/28/16	08/17/16			1111207745	1111207760			05/04/16	06/02/16	06/22/16
81	G16E011900	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11900	16G1061	07/28/16	08/17/16			1111207756	1111207762			05/04/16	06/02/16	06/22/16
82	G16E011901	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11901	16G1061	07/28/16	08/17/16			1111207756	1111207762			05/04/16	06/02/16	06/22/16
83	G16E011902	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11902	16G1061	07/28/16	08/17/16			1111207756	1111207762			05/04/16	06/02/16	06/22/16
84	G16E011903	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11903	16G1061	07/28/16	08/17/16			1111207756	1111207762			05/04/16	06/02/16	06/22/16
85	G16E011904	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/25/16	11904	16G1061	07/28/16	08/17/16	08/10/16	Pass	1111207716	1111207755			05/04/16	06/02/16	06/22/16
86	G16E011909	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11909	16G1061	07/28/16	08/17/16			1111207716	1111207755			05/04/16	06/02/16	06/22/16
87	G16E011910	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11910	16G1061	07/28/16	08/17/16			1111207716	1111207755			05/04/16	06/02/16	06/22/16
88	G16E011911	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11911	16G1061	07/28/16	08/17/16			1111207716	1111207755			05/04/16	06/02/16	06/22/16
89	G16E011912	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11912	16G1061	07/28/16	08/17/16			1111207728	1111207741			05/04/16	06/02/16	06/22/16
90	G16E011913	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11913	16G1061	07/28/16	08/17/16			1111207728	1111207741			05/04/16	06/02/16	06/22/16
91	G16E011914	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11914	16G1061	07/28/16	08/17/16			1111207728	1111207741			05/04/16	06/02/16	06/22/16
92	G16E011915	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11915	16G1061	07/28/16	08/17/16			1111207728	1111207741			05/04/16	06/02/16	06/22/16
93	G16E011916	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11916	16G1061	07/28/16	08/17/16			1111207724	1111207714	06/14/16	Pass	05/04/16	06/02/16	06/22/16

Summary of Double-Sided Geocomposite Manufacturing Inventory



Client Name: Waste Management of Arkansas, Inc.
Attn: Mr. David Conrad
Project Name: Phase 2 Final Cover Construction
Landfill: Eco Vista Class I Landfill
Location: Tontitown, Arkansas
Man. Project No. 6-200-6

Project Number: 16038
Reviewed By: Bryan Bailey, P.E.

	Geocomposite Roll Number	Roll Dim. Area ft ²	Geocomposite						HDPE Geonet						Geotextile						
			QC Certs	QC Certs	Conf. Sample	Conf.	OK To Ship	Date	QC Certs	QC Certs	Conf. Sample	Conf.	Side A	Side B	Conf. Sample	Conf.	QC Certs	QC Certs	Geot		
			Date Recd.	Date Appr.	Results (date)	Sample Pass/Fail	To Site (Date)	Recd. On-site	Date Recd.	Date Appr.	Results (Date)	Sample Pass/Fail	Geot Roll No.	Geot Roll No.	Results (Date)	Sample Pass/Fail	Date Recd.	Date Aprvd.	Approved for GC Man.		
94	G16E011917	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11917	16G1061	07/28/16	08/17/16			1111207724	1111207714			05/04/16	06/02/16	06/22/16
95	G16E011918	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11918	16G1061	07/28/16	08/17/16			1111207724	1111207714			05/04/16	06/02/16	06/22/16
96	G16E011919	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11919	16G1061	07/28/16	08/17/16			1111207724	1111207714			05/04/16	06/02/16	06/22/16
97	G16E011920	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11920	16G1061	07/28/16	08/17/16			1111207729	1111207708			05/04/16	06/02/16	06/22/16
98	G16E011921	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11921	16G1061	07/28/16	08/17/16			1111207729	1111207708			05/04/16	06/02/16	06/22/16
99	G16E011922	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11922	16G1061	07/28/16	08/17/16			1111207729	1111207708			05/04/16	06/02/16	06/22/16
100	G16E011923	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11923	16G1061	07/28/16	08/17/16			1111207729	1111207708			05/04/16	06/02/16	06/22/16
101	G16E011924	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11924	16G1061	07/28/16	08/17/16			1111207726	1111207721			05/04/16	06/02/16	06/22/16
102	G16E011925	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11925	16G1061	07/28/16	08/17/16			1111207726	1111207721			05/04/16	06/02/16	06/22/16
103	G16E011926	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11926	16G1061	07/28/16	08/17/16			1111207726	1111207721			05/04/16	06/02/16	06/22/16
104	G16E011927	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11927	16G1061	07/28/16	08/17/16			1111207726	1111207721			05/04/16	06/02/16	06/22/16
105	G16E011928	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11928	16G1061	07/28/16	08/17/16			1111207713	1111207725			05/04/16	06/02/16	06/22/16
106	G16E011932	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11932	16G1061	07/28/16	08/17/16			1111207713	1111207725			05/04/16	06/02/16	06/22/16
107	G16E011933	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11933	16G1061	07/28/16	08/17/16			1111207713	1111207725			05/04/16	06/02/16	06/22/16
108	G16E011934	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11934	16G1061	07/28/16	08/17/16			1111207713	1111207725			05/04/16	06/02/16	06/22/16
109	G16E011935	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11935	16G1061	07/28/16	08/17/16			1111207713	1111207725			05/04/16	06/02/16	06/22/16
110	G16E011936	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11936	16G1061	07/28/16	08/17/16			1111207743	1111207720			05/04/16	06/02/16	06/22/16
111	G16E011937	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11937	16G1061	07/28/16	08/17/16			1111207743	1111207720			05/04/16	06/02/16	06/22/16
112	G16E011938	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11938	16G1061	07/28/16	08/17/16			1111207743	1111207720			05/04/16	06/02/16	06/22/16
113	G16E011939	3,335	07/28/16	08/17/16	08/10/16	Pass	08/17/16	08/25/16	11939	16G1061	07/28/16	08/17/16	08/10/16	Pass	1111207743	1111207720			05/04/16	06/02/16	06/22/16
114	G16E011940	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11940	16G1061	07/28/16	08/17/16			1111207743	1111207720			05/04/16	06/02/16	06/22/16
115	G16E011941	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11941	16G1061	07/28/16	08/17/16			1111207739	1111207723			05/04/16	06/02/16	06/22/16
116	G16E011942	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11942	16G1061	07/28/16	08/17/16			1111207739	1111207723			05/04/16	06/02/16	06/22/16
117	G16E011943	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11943	16G1061	07/28/16	08/17/16			1111207739	1111207723			05/04/16	06/02/16	06/22/16
118	G16E011944	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11944	16G1061	07/28/16	08/17/16			1111207739	1111207723			05/04/16	06/02/16	06/22/16
119	G16E011945	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11945	16G1061	07/28/16	08/17/16			1111207750	1111207710			05/04/16	06/02/16	06/22/16
120	G16E011946	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11946	16G1061	07/28/16	08/17/16			1111207750	1111207710			05/04/16	06/02/16	06/22/16
121	G16E011947	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11947	16G1061	07/28/16	08/17/16			1111207750	1111207710			05/04/16	06/02/16	06/22/16
122	G16E011948	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11948	16G1061	07/28/16	08/17/16			1111207750	1111207710			05/04/16	06/02/16	06/22/16
123	G16E011949	3,335	07/28/16	08/17/16			08/17/16	08/25/16	11949	16G1061	07/28/16	08/17/16			1111207750	1111207710			05/04/16	06/02/16	06/22/16

APPENDIX C-2C
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
6 OZ/YD² DOUBLE-SIDED GEOCOMPOSITE
DELIVERY CHECKLIST



DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
1	G16E011765	N/A	3,335	None	08/25/16	51233
2	G16E011766	N/A	3,335	None	08/25/16	51233
3	G16E011767	N/A	3,335	None	08/25/16	51233
4	G16E011768	N/A	3,335	None	08/25/16	51233
5	G16E011769	N/A	3,335	None	08/25/16	51233
6	G16E011770	N/A	3,335	None	08/25/16	51233
7	G16E011771	N/A	3,335	None	08/25/16	51233
8	G16E011772	N/A	3,335	None	08/25/16	51233
9	G16E011773	N/A	3,335	None	08/25/16	51233
10	G16E011774	N/A	3,335	None	08/25/16	51233
11	G16E011775	N/A	3,335	None	08/25/16	51233
12	G16E011776	N/A	3,335	None	08/25/16	51233
13	G16E011777	N/A	3,335	None	08/25/16	51233
14	G16E011778	N/A	3,335	None	08/25/16	51233
15	G16E011779	N/A	3,335	None	08/25/16	51233
16	G16E011780	N/A	3,335	None	08/25/16	51233
17	G16E011781	N/A	3,335	None	08/25/16	51233



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
18	G16E011782	N/A	3,335	None	08/25/16	51233
19	G16E011783	N/A	3,335	None	08/25/16	51233
20	G16E011784	N/A	3,335	None	08/25/16	51233
21	G16E011827	N/A	3,335	None	08/25/16	51233
22	G16E011828	N/A	3,335	None	08/25/16	51233
23	G16E011835	N/A	3,335	None	08/23/16	51219
24	G16E011836	N/A	3,335	None	08/23/16	51219
25	G16E011837	N/A	3,335	None	08/23/16	51219
26	G16E011838	N/A	3,335	None	08/23/16	51219
27	G16E011839	N/A	3,335	None	08/23/16	51219
28	G16E011840	N/A	3,335	None	08/23/16	51219
29	G16E011841	N/A	3,335	None	08/23/16	51219
30	G16E011842	N/A	3,335	None	08/23/16	51219
31	G16E011843	N/A	3,335	None	08/23/16	51219
32	G16E011844	N/A	3,335	None	08/23/16	51219
33	G16E011845	N/A	3,335	None	08/23/16	51219
34	G16E011846	N/A	3,335	None	08/23/16	51219



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
35	G16E011847	N/A	3,335	None	08/23/16	51219
36	G16E011848	N/A	3,335	None	08/23/16	51219
37	G16E011849	N/A	3,335	None	08/23/16	51219
38	G16E011850	N/A	3,335	None	08/23/16	51219
39	G16E011851	N/A	3,335	None	08/23/16	51219
40	G16E011852	N/A	3,335	None	08/23/16	51219
41	G16E011856	N/A	3,335	None	08/23/16	51219
42	G16E011857	N/A	3,335	None	08/23/16	51219
43	G16E011858	N/A	3,335	None	08/23/16	51219
44	G16E011859	N/A	3,335	None	08/23/16	51219
45	G16E011860	N/A	3,335	None	08/23/16	51219
46	G16E011861	N/A	3,335	None	08/23/16	51219
47	G16E011862	N/A	3,335	None	08/23/16	51219
48	G16E011863	N/A	3,335	None	08/23/16	51219
49	G16E011864	N/A	3,335	None	08/23/16	51219
50	G16E011865	N/A	3,335	None	08/25/16	51228
51	G16E011866	N/A	3,335	None	08/25/16	51228



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
 Landfill: Eco Vista Class I Landfill
 Project Name: Phase 2 Final Cover Construction
 Location: Tontitown, Arkansas
 Project No.: 16038
 CQA Monitor: _____
 Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
52	G16E011867	N/A	3,335	None	08/25/16	51228
53	G16E011868	N/A	3,335	None	08/25/16	51228
54	G16E011869	N/A	3,335	None	08/25/16	51228
55	G16E011870	N/A	3,335	None	08/25/16	51228
56	G16E011871	N/A	3,335	None	08/25/16	51228
57	G16E011872	N/A	3,335	None	08/25/16	51228
58	G16E011873	N/A	3,335	None	08/25/16	51228
59	G16E011874	N/A	3,335	None	08/25/16	51228
60	G16E011875	N/A	3,335	None	08/25/16	51228
61	G16E011876	N/A	3,335	None	08/25/16	51234
62	G16E011877	N/A	3,335	None	08/25/16	51234
63	G16E011882	N/A	3,335	None	08/25/16	51228
64	G16E011883	N/A	3,335	None	08/25/16	51234
65	G16E011884	N/A	3,335	None	08/25/16	51228
66	G16E011885	N/A	3,335	None	08/25/16	51228
67	G16E011886	N/A	3,335	None	08/25/16	51228
68	G16E011887	N/A	3,335	None	08/25/16	51228



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
69	G16E011888	N/A	3,335	None	08/25/16	51228
70	G16E011889	N/A	3,335	None	08/25/16	51228
71	G16E011890	N/A	3,335	None	08/25/16	51228
72	G16E011891	N/A	3,335	None	08/25/16	51228
73	G16E011892	N/A	3,335	None	08/25/16	51234
74	G16E011893	N/A	3,335	None	08/25/16	51228
75	G16E011894	N/A	3,335	None	08/25/16	51234
76	G16E011895	N/A	3,335	None	08/25/16	51234
77	G16E011896	N/A	3,335	None	08/25/16	51228
78	G16E011897	N/A	3,335	None	08/25/16	51228
79	G16E011898	N/A	3,335	None	08/25/16	51234
80	G16E011899	N/A	3,335	None	08/25/16	51234
81	G16E011900	N/A	3,335	None	08/25/16	51227
82	G16E011901	N/A	3,335	None	08/25/16	51228
83	G16E011902	N/A	3,335	None	08/25/16	51228
84	G16E011903	N/A	3,335	None	08/25/16	51228
85	G16E011904	N/A	3,335	None	08/25/16	51228



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
86	G16E011909	N/A	3,335	None	08/25/16	51227
87	G16E011910	N/A	3,335	None	08/25/16	51227
88	G16E011911	N/A	3,335	None	08/25/16	51227
89	G16E011912	N/A	3,335	None	08/25/16	51227
90	G16E011913	N/A	3,335	None	08/25/16	51227
91	G16E011914	N/A	3,335	None	08/25/16	51227
92	G16E011915	N/A	3,335	None	08/25/16	51227
93	G16E011916	N/A	3,335	None	08/25/16	51227
94	G16E011917	N/A	3,335	None	08/25/16	51233
95	G16E011918	N/A	3,335	None	08/25/16	51233
96	G16E011919	N/A	3,335	None	08/25/16	51233
97	G16E011920	N/A	3,335	None	08/25/16	51233
98	G16E011921	N/A	3,335	None	08/25/16	51234
99	G16E011922	N/A	3,335	None	08/25/16	51234
100	G16E011923	N/A	3,335	None	08/25/16	51234
101	G16E011924	N/A	3,335	None	08/25/16	51234
102	G16E011925	N/A	3,335	None	08/25/16	51227



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
103	G16E011926	N/A	3,335	None	08/25/16	51234
104	G16E011927	N/A	3,335	None	08/25/16	51233
105	G16E011928	N/A	3,335	None	08/25/16	51234
106	G16E011932	N/A	3,335	None	08/25/16	51234
107	G16E011933	N/A	3,335	None	08/25/16	51227
108	G16E011934	N/A	3,335	None	08/25/16	51227
109	G16E011935	N/A	3,335	None	08/25/16	51227
110	G16E011936	N/A	3,335	None	08/25/16	51227
111	G16E011937	N/A	3,335	None	08/25/16	51227
112	G16E011938	N/A	3,335	None	08/25/16	51227
113	G16E011939	N/A	3,335	None	08/25/16	51227
114	G16E011940	N/A	3,335	None	08/25/16	51227
115	G16E011941	N/A	3,335	None	08/25/16	51227
116	G16E011942	N/A	3,335	None	08/25/16	51227
117	G16E011943	N/A	3,335	None	08/25/16	51227
118	G16E011944	N/A	3,335	None	08/25/16	51227
119	G16E011945	N/A	3,335	None	08/25/16	51227



DESIGN COMPANY INCORPORATED

DS Geocomposite Delivery Check List

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	DS Geocomposite Roll Number	Lot No.	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SF)			
120	G16E011946	N/A	3,335	None	08/25/16	51227
121	G16E011947	N/A	3,335	None	08/25/16	51227
122	G16E011948	N/A	3,335	None	08/25/16	51227
123	G16E011949	N/A	3,335	None	08/25/16	51227

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. **051219**


NAME OF CARRIER **BEST WAY FRT**

McKenzie

CARRIER'S NO. **135**

DATE **8/19/2016**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)	 AGRU/AMERICA, INC. 500 GARRISON ROAD GEORGETOWN, SOUTH CAROLINA 29440 (843) 546-0600	TO: CONSIGNEE STREET DESTINATION	ECO VISTA LF FINAL COVER PHASE 2 WASTE MANAGEMENT - SOUTH 2210 WM DRIVE SPRINGDALE, AR 72764 USA CLOVIS GRISSOM 870-598-4536 ZIP
EMERGENCY RESPONSE PHONE NO			

LIVERING CARRIER	ROUTE	VEHICLE NUMBER
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NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)																																																																																				
90,046		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE																																																																																								
		<table border="1"> <thead> <tr> <th>Item Key</th> <th>Lot Number</th> <th>Quantity</th> </tr> </thead> <tbody> <tr><td>COMP-06-200-06</td><td>G16E011835</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011836</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011837</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011838</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011839</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011840</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011841</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011842</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011843</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011844</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011845</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011846</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011847</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011848</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011849</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011850</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011851</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011852</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011856</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011857</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011858</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011859</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011860</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011861</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011862</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011863</td><td>3,335</td></tr> <tr><td>COMP-06-200-06</td><td>G16E011864</td><td>3,335</td></tr> </tbody> </table>	Item Key	Lot Number	Quantity	COMP-06-200-06	G16E011835	3,335	COMP-06-200-06	G16E011836	3,335	COMP-06-200-06	G16E011837	3,335	COMP-06-200-06	G16E011838	3,335	COMP-06-200-06	G16E011839	3,335	COMP-06-200-06	G16E011840	3,335	COMP-06-200-06	G16E011841	3,335	COMP-06-200-06	G16E011842	3,335	COMP-06-200-06	G16E011843	3,335	COMP-06-200-06	G16E011844	3,335	COMP-06-200-06	G16E011845	3,335	COMP-06-200-06	G16E011846	3,335	COMP-06-200-06	G16E011847	3,335	COMP-06-200-06	G16E011848	3,335	COMP-06-200-06	G16E011849	3,335	COMP-06-200-06	G16E011850	3,335	COMP-06-200-06	G16E011851	3,335	COMP-06-200-06	G16E011852	3,335	COMP-06-200-06	G16E011856	3,335	COMP-06-200-06	G16E011857	3,335	COMP-06-200-06	G16E011858	3,335	COMP-06-200-06	G16E011859	3,335	COMP-06-200-06	G16E011860	3,335	COMP-06-200-06	G16E011861	3,335	COMP-06-200-06	G16E011862	3,335	COMP-06-200-06	G16E011863	3,335	COMP-06-200-06	G16E011864	3,335				
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		Total Weight: 23,335 LB	27,000 lbs.																																																																																							
			27 Rolls																																																																																							
			2,000 Ties																																																																																							

MIT C.O.D. TO:  AGRU/AMERICA, INC. 500 GARRISON ROAD GEORGETOWN, SOUTH CAROLINA 29440 (843) 546-0600	C.O.D. Amt \$	C.O.D. FEE <input checked="" type="checkbox"/> Prepaid <input type="checkbox"/> Collect \$
---	----------------------	---

When the shipment moves between two ports by a carrier by air, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____.

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Shipper's imprint in lieu of stamp; not a part of bill of lading covered by the Interstate Commerce Commission.

\$ _____ per _____

TOTAL CHARGES \$ Freight charges are PREPAID unless marked collect.	<input type="checkbox"/> Check box if charges are Collect.
---	--

I hereby certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Shipper, Per *[Signature]* Agent, Per *[Signature]*

Permanent post office address of shipper **+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.**

When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response

HIS SHIPPING ORDER


must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

B/L NO. **051219**

NAME OF CARRIER BEST WAY FRT	CARRIER'S NO.	DATE 8/19/2016
--	---------------	--------------------------

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading. Property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO: CONSIGNEE
STREET
DESTINATION

ECO VISTA LF FINAL COVER PHASE 2
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
SPRINGDALE, AR 72764 USA
CLOVIS GRISSOM 870-598-4536

ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER
--------------------	-------	----------------

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
		Total Packages: 90,046 Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16 Location: GTOWN P.O. No.: 1000032753				

MIT C.O.D. TO:



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. FEE

Prepaid
 Collect \$

C.O.D. Amt \$

If the shipment moves between two ports by a carrier by air, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

Shipper's imprint in lieu of stamp; not a part of bill of lading required by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

\$ _____ per _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

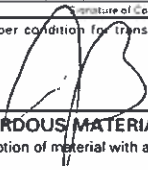
Signature of Consignor

TOTAL CHARGES \$

Freight charges are PREPAID unless marked collect. Check box if charges are Collect.

Shipper certifies that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Shipper, Per



Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.



QUALITY CONTROL

OA # 32532 Date 8/19/16

Driver's Name/Truck Company Customer Destination Pictures Taken

MARIO / SPECIALTY FREIGHT WASTE MANAGEMENT SOUTH City SPRINGDALE State AR YES ● NO

Time In 2:26 Time Out 2:06 Inspector: ROB / COREY Loader: ROB

Roll #										External Visual Check				Straps		Core		Weld Rod		CONTAINER/MISC
G	YEAR	M	WK of YR	DOW	ROLL #					OK		OK		OK		OK				
										Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No			
1	G	1	6	E	0	1	1	8	3	5	X	No	X	No	X	No	Yes	No	TRUCK#	
2	G	1	6	E	0	1	1	8	3	6	X	No	X	No	X	No	Yes	No	135	
3	G	1	6	E	0	1	1	8	3	7	X	No	X	No	X	No	Yes	No	TIES	
4	G	1	6	E	0	1	1	8	3	8	X	No	X	No	X	No	Yes	No		
5	G	1	6	E	0	1	1	8	3	9	X	No	X	No	X	No	Yes	No		
6	G	1	6	E	0	1	1	8	4	0	X	No	X	No	X	No	Yes	No		
7	G	1	6	E	0	1	1	8	4	1	X	No	X	No	X	No	Yes	No		
8	G	1	6	E	0	1	1	8	4	2	X	No	X	No	X	No	Yes	No	WELD ROD	
9	G	1	6	E	0	1	1	8	4	3	X	No	X	No	X	No	Yes	No		
10	G	1	6	E	0	1	1	8	4	4	X	No	X	No	X	No	Yes	No		
11	G	1	6	E	0	1	1	8	4	5	X	No	X	No	X	No	Yes	No		
12	G	1	6	E	0	1	1	8	4	6	X	No	X	No	X	No	Yes	No		
13	G	1	6	E	0	1	1	8	4	7	X	No	X	No	X	No	Yes	No	BENTONITE BAGS	
14	G	1	6	E	0	1	1	8	4	8	X	No	X	No	X	No	Yes	No		
15	G	1	6	E	0	1	1	8	4	9	X	No	X	No	X	No	Yes	No		
16	G	1	6	E	0	1	1	8	5	0	X	No	X	No	X	No	Yes	No		
17	G	1	6	E	0	1	1	8	5	1	X	No	X	No	X	No	Yes	No	ZIP TIES	
18	G	1	6	E	0	1	1	8	5	2	X	No	X	No	X	No	Yes	No	2 BAGS	
19	G	1	6	E	0	1	1	8	5	6	X	No	X	No	X	No	Yes	No		
20	G	1	6	E	0	1	1	8	5	7	X	No	X	No	X	No	Yes	No		
21	G	1	6	E	0	1	1	8	5	8	X	No	X	No	X	No	Yes	No		
22	G	1	6	E	0	1	1	8	5	9	X	No	X	No	X	No	Yes	No	PALLETS	
23	G	1	6	E	0	1	1	8	6	0	X	No	X	No	X	No	Yes	No		
24	G	1	6	E	0	1	1	8	6	1	X	No	X	No	X	No	Yes	No		
25	G	1	6	E	0	1	1	8	6	2	X	No	X	No	X	No	Yes	No		
26	G	1	6	E	0	1	1	8	6	3	X	No	X	No	X	No	Yes	No		
27	G	1	6	E	0	1	1	8	6	4	X	No	X	No	X	No	Yes	No		

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Voids, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

NAME OF CARRIER: **BEST WAY FRT** CARRIER'S NO.: **LTL 1704** DATE: **8/22/2016** B/L NO.: **051227**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any portion of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any portion of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions hereof, and hereby agrees to be the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN) **AGRU/AMERICA, INC.**
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600



TO: CONSIGNEE **ECO VISTA LF FINAL COVER PHASE 2**
WASTE MANAGEMENT - SOUTH
 2210 WM DRIVE
 STREET **SPRINGDALE, AR 72764 USA**
 DESTINATION **CLOVIS GRISSOM 870-598-4536**
 ZIP

LIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
90,046		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE				
		Item Key	Lot Number	Quantity		
		COMP-06-200-06	G16E011900	3,335		
		COMP-06-200-06	G16E011909	3,335		
		COMP-06-200-06	G16E011910	3,335		
		COMP-06-200-06	G16E011911	3,335		
		COMP-06-200-06	G16E011912	3,335		
		COMP-06-200-06	G16E011913	3,335		
		COMP-06-200-06	G16E011914	3,335		
		COMP-06-200-06	G16E011915	3,335		
		COMP-06-200-06	G16E011916	3,335		
		COMP-06-200-06	G16E011925	3,335		
		COMP-06-200-06	G16E011933	3,335		
		COMP-06-200-06	G16E011934	3,335		
		COMP-06-200-06	G16E011935	3,335		
		COMP-06-200-06	G16E011936	3,335		
		COMP-06-200-06	G16E011937	3,335		
		COMP-06-200-06	G16E011938	3,335		
		COMP-06-200-06	G16E011939	3,335		
		COMP-06-200-06	G16E011940	3,335		
		COMP-06-200-06	G16E011941	3,335		
		COMP-06-200-06	G16E011942	3,335		
		COMP-06-200-06	G16E011943	3,335		
		COMP-06-200-06	G16E011944	3,335		
		COMP-06-200-06	G16E011945	3,335		
		COMP-06-200-06	G16E011946	3,335		
		COMP-06-200-06	G16E011947	3,335		
		COMP-06-200-06	G16E011948	3,335		
		COMP-06-200-06	G16E011949	3,335		
		Total Weight: 23,335-LB	29,000 lbs.			
			29 Bills			
			2,000 Ties			

INIT C.O.D. TO: **AGRU/AMERICA, INC.**
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600

C.O.D. FEE
 Prepaid
 Collect \$
C.O.D. Amt \$

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
 TOTAL CHARGES \$
 Freight charges are PREPAID unless marked collect. Check box if charges are Collect

Signature of Consignor: _____

Shipper, Per **AB** Agent, Per **J. ...**

HIS SHIPPING ORDER must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

NAME OF CARRIER **BEST WAY FRT** **LTL** CARRIER'S NO. **1704** DATE **8/22/2016** B/L NO. **051227**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, and (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN) **AGRU/AMERICA, INC.**
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600

TO: CONSIGNEE **ECO VISTA LF FINAL COVER PHASE 2**
WASTE MANAGEMENT - SOUTH
 2210 WM DRIVE
 STREET **SPRINGDALE, AR 72764 USA**
 DESTINATION **CLOVIS GRISSOM 870-598-4536** ZIP

EMERGENCY RESPONSE PHONE NO.

DELIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
		Total Packages: 98,046 Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16 Location: GTOWN P.O. No.: 1000032753				

IFT C.O.D. TO: **AGRU/AMERICA, INC.**
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600

C.O.D. Amt \$

C.O.D. FEE
 Prepaid
 Collect \$

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
 The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
 The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

TOTAL CHARGES \$

Freight charges are PREPAID unless marked collect. Check box if charges are Collect

Signature of Shipper: _____ Signature of Consignee: _____

Shipper, Per _____ Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.

Page 2 of 2 + MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.



AGRU
AMERICA

Shipping Release

OA # 32532 Date 8 - 22 - 16

Driver's Name/Truck Company: GEORGE / LTL Customer: WASTE MANAGEMENT Destination: SPRINGDALE State: AR. Pictures Taken: YES ● NO

Time In : Time Out : Inspector: RM Loader: RM

Roll # External Visual OK Straps OK Core OK Weld Rod OK

Roll #										CONTAINER/MISC									
G	YEAR	M	WK of YR	DOW	ROLL #					Yes ● No	Yes ● No	Yes ● No	Yes ● No						
1	G	1	6	E	0	1	1	9	0	0	Yes	No	Yes	No	Yes	No	Yes	No	TRUCK#
2	G	1	6	E	0	1	1	9	0	9	Yes	No	Yes	No	Yes	No	Yes	No	1704
3	G	1	6	E	0	1	1	9	1	0	Yes	No	Yes	No	Yes	No	Yes	No	TIES
4	G	1	6	E	0	1	1	9	1	1	Yes	No	Yes	No	Yes	No	Yes	No	TIES
5	G	1	6	E	0	1	1	9	1	2	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
6	G	1	6	E	0	1	1	9	1	3	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
7	G	1	6	E	0	1	1	9	1	4	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
8	G	1	6	E	0	1	1	9	1	5	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
9	G	1	6	E	0	1	1	9	1	6	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
10	G	1	6	E	0	1	1	9	2	5	Yes	No	Yes	No	Yes	No	Yes	No	
11	G	1	6	E	0	1	1	9	3	3	Yes	No	Yes	No	Yes	No	Yes	No	
12	G	1	6	E	0	1	1	9	3	4	Yes	No	Yes	No	Yes	No	Yes	No	
13	G	1	6	E	0	1	1	9	3	5	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
14	G	1	6	E	0	1	1	9	3	6	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
15	G	1	6	E	0	1	1	9	3	7	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
16	G	1	6	E	0	1	1	9	3	8	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
17	G	1	6	E	0	1	1	9	3	9	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
18	G	1	6	E	0	1	1	9	4	0	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
19	G	1	6	E	0	1	1	9	4	1	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
20	G	1	6	E	0	1	1	9	4	2	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
21	G	1	6	E	0	1	1	9	4	3	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
22	G	1	6	E	0	1	1	9	4	4	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
23	G	1	6	E	0	1	1	9	4	5	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
24	G	1	6	E	0	1	1	9	4	6	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
25	G	1	6	E	0	1	1	9	4	7	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
26	G	1	6	E	0	1	1	9	4	8	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
27	G	1	6	E	0	1	1	9	4	9	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. **051228**

NAME OF CARRIER **BEST WAY FRT**

LTL

CARRIER'S NO. **1693**

DATE **8/22/2016**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any portion of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any portion of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)
AGRU/AMERICA, INC.
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600



EMERGENCY RESPONSE PHONE NO.

TO: CONSIGNEE
ECO VISTA LF FINAL COVER PHASE 2
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
 STREET **SPRINGDALE, AR 72764 USA**
 DESTINATION **CLOVIS GRISSOM 870-598-4536**
 ZIP

DELIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
90,046		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE				
		Item Key	Lot Number	Quantity		
		COMP-06-200-06	G16E011865	3,335		
		COMP-06-200-06	G16E011866	3,335		
		COMP-06-200-06	G16E011867	3,335		
		COMP-06-200-06	G16E011868	3,335		
		COMP-06-200-06	G16E011869	3,335		
		COMP-06-200-06	G16E011870	3,335		
		COMP-06-200-06	G16E011871	3,335		
		COMP-06-200-06	G16E011872	3,335		
		COMP-06-200-06	G16E011873	3,335		
		COMP-06-200-06	G16E011874	3,335		
		COMP-06-200-06	G16E011875	3,335		
		COMP-06-200-06	G16E011882	3,335		
		COMP-06-200-06	G16E011884	3,335		
		COMP-06-200-06	G16E011885	3,335		
		COMP-06-200-06	G16E011886	3,335		
		COMP-06-200-06	G16E011887	3,335		
		COMP-06-200-06	G16E011888	3,335		
		COMP-06-200-06	G16E011889	3,335		
		COMP-06-200-06	G16E011890	3,335		
		COMP-06-200-06	G16E011891	3,335		
		COMP-06-200-06	G16E011893	3,335		
		COMP-06-200-06	G16E011896	3,335		
		COMP-06-200-06	G16E011897	3,335		
		COMP-06-200-06	G16E011901	3,335		
		COMP-06-200-06	G16E011902	3,335		
		COMP-06-200-06	G16E011903	3,335		
		COMP-06-200-06	G16E011904	3,335		
		Total Weight: 23,335 LB 27,000 lbs. 27 Bolls 2,000 Ties				

MIT C.O.D. TO:
AGRU/AMERICA, INC.
 500 GARRISON ROAD
 GEORGETOWN, SOUTH CAROLINA 29440
 (843) 546-0600

C.O.D. Amt \$

C.O.D. FEE
 Prepaid
 Collect \$

the shipment moves between two ports by a carrier by the law requires that the bill of lading shall state either it is "carrier's or shipper's weight".
 shipper's imprint in lieu of stamp; not a part of bill of lading provided by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
 The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
 The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

 (Signature of Consignor)

TOTAL CHARGES \$
 Freight charges are PREPAID unless marked collect. Check box if charges are Collect

is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation

Shipper, Per


Agent, Per

HIS SHIPPING ORDER must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

B/L NO. **051228**

NAME OF CARRIER **BEST WAY FRT** CARRIER'S NO. DATE **8/22/2016**


RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to the other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)  **AGRU/AMERICA, INC.**
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

TO: CONSIGNEE **ECO VISTA LF FINAL COVER PHASE 2**
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
STREET **SPRINGDALE, AR 72764 USA**
CLOVIS GRISSOM 870-598-4536
DESTINATION ZIP

DELIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
		Total Packages: 90,048 Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16 Location: GTOWN P.O. No.: 1000032753				

SHIPPER'S IMPRINT: TO:  **AGRU/AMERICA, INC.**
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. FEE Prepaid Collect \$
C.O.D. Amt \$

When the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".
Shipper's imprint in lieu of stamp; not a part of bill of lading required by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

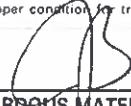
Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES \$
Freight charges are PREPAID unless marked collect. Check box if charges are Collected

Shipper certifies that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Shipper, Per



Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.



QUALITY

OA # 32532 Date 8 - 22 - 16

Driver's Name/Truck Company: JOE / LTL
 Customer: WASTE MANAGEMENT
 Destination: City: SPRINGDALE State: AR. Pictures Taken: YES ● NO

Time In : Time Out : Inspector: RM Loader: RM

Roll #										External Visual OK				Straps OK		Core OK		Weld Rod OK		CONTAINER/MISC
G	YEAR	M	WK of YR	DOW	ROLL #					Yes ● No		Yes ● No		Yes ● No		Yes ● No				
1	G	1	6	E	0	1	1	8	6	5	Yes	No	Yes	No	Yes	No	Yes	No	TRUCK#	
2	G	1	6	E	0	1	1	8	6	6	Yes	No	Yes	No	Yes	No	Yes	No	1693	
3	G	1	6	E	0	1	1	8	6	7	Yes	No	Yes	No	Yes	No	Yes	No	TIES	
4	G	1	6	E	0	1	1	8	6	8	Yes	No	Yes	No	Yes	No	Yes	No		
5	G	1	6	E	0	1	1	8	6	9	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS	
6	G	1	6	E	0	1	1	8	7	0	Yes	No	Yes	No	Yes	No	Yes	No		
7	G	1	6	E	0	1	1	8	7	1	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD	
8	G	1	6	E	0	1	1	8	7	2	Yes	No	Yes	No	Yes	No	Yes	No		
9	G	1	6	E	0	1	1	8	7	3	Yes	No	Yes	No	Yes	No	Yes	No		
10	G	1	6	E	0	1	1	8	7	4	Yes	No	Yes	No	Yes	No	Yes	No		
11	G	1	6	E	0	1	1	8	7	5	Yes	No	Yes	No	Yes	No	Yes	No		
12	G	1	6	E	0	1	1	8	8	2	Yes	No	Yes	No	Yes	No	Yes	No		
13	G	1	6	E	0	1	1	8	8	4	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS	
14	G	1	6	E	0	1	1	8	8	5	Yes	No	Yes	No	Yes	No	Yes	No		
15	G	1	6	E	0	1	1	8	8	6	Yes	No	Yes	No	Yes	No	Yes	No		
16	G	1	6	E	0	1	1	8	8	7	Yes	No	Yes	No	Yes	No	Yes	No		
17	G	1	6	E	0	1	1	8	8	8	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS	
18	G	1	6	E	0	1	1	8	8	9	Yes	No	Yes	No	Yes	No	Yes	No		
19	G	1	6	E	0	1	1	8	9	0	Yes	No	Yes	No	Yes	No	Yes	No		
20	G	1	6	E	0	1	1	8	9	1	Yes	No	Yes	No	Yes	No	Yes	No		
21	G	1	6	E	0	1	1	8	9	3	Yes	No	Yes	No	Yes	No	Yes	No		
22	G	1	6	E	0	1	1	8	9	6	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS	
23	G	1	6	E	0	1	1	8	9	7	Yes	No	Yes	No	Yes	No	Yes	No		
24	G	1	6	E	0	1	1	9	0	1	Yes	No	Yes	No	Yes	No	Yes	No		
25	G	1	6	E	0	1	1	9	0	2	Yes	No	Yes	No	Yes	No	Yes	No		
26	G	1	6	E	0	1	1	9	0	3	Yes	No	Yes	No	Yes	No	Yes	No		
27	G	1	6	E	0	1	1	9	0	4	Yes	No	Yes	No	Yes	No	Yes	No		

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. **051233**

NAME OF CARRIER **BEST WAY FRT**

LTL

CARRIER'S NO. **1846**

DATE **8/22/2016**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading. The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue of this bill of lading, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER (ORIGIN)  **AGRU/AMERICA, INC.**
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

TO: CONSIGNEE **ECO VISTA LF FINAL COVER PHASE 2**
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
STREET **SPRINGDALE, AR 72764 USA**
DESTINATION **CLOVIS GRISSOM 870-598-4536**
ZIP

LIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)																																																																																			
90,046		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE																																																																																							
		<table border="0"> <tr> <td>Item Key</td> <td>Lot Number</td> <td>Quantity</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011765</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011766</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011767</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011768</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011769</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011770</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011771</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011772</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011773</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011774</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011775</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011776</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011777</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011778</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011779</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011780</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011781</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011782</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011783</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011784</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011827</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011828</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011917</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011918</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011919</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011920</td> <td>3,335</td> </tr> <tr> <td>COMP-06-200-06</td> <td>G16E011927</td> <td>3,335</td> </tr> </table>	Item Key	Lot Number	Quantity	COMP-06-200-06	G16E011765	3,335	COMP-06-200-06	G16E011766	3,335	COMP-06-200-06	G16E011767	3,335	COMP-06-200-06	G16E011768	3,335	COMP-06-200-06	G16E011769	3,335	COMP-06-200-06	G16E011770	3,335	COMP-06-200-06	G16E011771	3,335	COMP-06-200-06	G16E011772	3,335	COMP-06-200-06	G16E011773	3,335	COMP-06-200-06	G16E011774	3,335	COMP-06-200-06	G16E011775	3,335	COMP-06-200-06	G16E011776	3,335	COMP-06-200-06	G16E011777	3,335	COMP-06-200-06	G16E011778	3,335	COMP-06-200-06	G16E011779	3,335	COMP-06-200-06	G16E011780	3,335	COMP-06-200-06	G16E011781	3,335	COMP-06-200-06	G16E011782	3,335	COMP-06-200-06	G16E011783	3,335	COMP-06-200-06	G16E011784	3,335	COMP-06-200-06	G16E011827	3,335	COMP-06-200-06	G16E011828	3,335	COMP-06-200-06	G16E011917	3,335	COMP-06-200-06	G16E011918	3,335	COMP-06-200-06	G16E011919	3,335	COMP-06-200-06	G16E011920	3,335	COMP-06-200-06	G16E011927	3,335			
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COMP-06-200-06	G16E011917	3,335																																																																																							
COMP-06-200-06	G16E011918	3,335																																																																																							
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COMP-06-200-06	G16E011927	3,335																																																																																							
		Total Weight: 23,335-LB	27,000 lbs.																																																																																						
			27 Rolls	2,000 Ties																																																																																					

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt \$

C.O.D. FEE
 Prepaid
 Collect \$

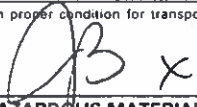
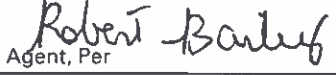
SHIPPER'S IMPRINT IN LIEU OF STAMP: NOT A PART OF BILL OF LADING REQUIRED BY THE INTERSTATE COMMERCE COMMISSION.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

TOTAL CHARGES \$
Freight charges are PREPAID unless marked collect. Check box if charges are Collect.

Shipper certifies that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Shipper, Per  x Agent, Per 

Page 1 of 2
+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.
When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response 1

HIS SHIPPING ORDER

must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent.

B/L NO. **051233**

NAME OF CARRIER BEST WAY FRT	CARRIER'S NO.	DATE 8/22/2016
--	---------------	--------------------------

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading. The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO: CONSIGNEE

**ECO VISTA LF FINAL COVER PHASE 2
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
SPRINGDALE, AR 72764 USA
CLOVIS GRISSOM 870-598-4536**

STREET DESTINATION ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER
--------------------	-------	----------------

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
		Total Packages: 90,046 Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16 Location: GTOWN P.O. No.: 1000032753				

MIT C.O.D. TO:



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. FEE

Prepaid
 Collect \$

C.O.D. Amt \$

When the shipment moves between two ports by a carrier by air, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

Shipper's imprint in lieu of stamp; not a part of bill of lading required by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES \$

Freight charges are PREPAID unless marked collect. Check box if charges are Collect

Shipper is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation

Shipper, Per



Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.



AGRU
AMERICA

Shipping Release

OA # 32532 Date 8 - 22 - 16

Driver's Name/Truck Company: ROBERT / LTL
 Customer: WASTE MANAGEMENT City: SPRINGDALE State: AR Pictures Taken: YES ● NO

Time In : Time Out : Inspector: RM / ROB Loader: RM / ROB

Roll #										External Visual OK		Straps OK		Core OK		Weld Rod OK		CONTAINER/MISC	
G	YEAR	M	WK of YR	DOW	ROLL #					Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No				
1	G	1	6	E	O	1	1	7	6	5	Yes	No	Yes	No	Yes	No	Yes		No
2	G	1	6	E	O	1	1	7	6	6	Yes	No	Yes	No	Yes	No	Yes	No	1846
3	G	1	6	E	O	1	1	7	6	7	Yes	No	Yes	No	Yes	No	Yes	No	TIES
4	G	1	6	E	O	1	1	7	6	8	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
5	G	1	6	E	O	1	1	7	6	9	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
6	G	1	6	E	O	1	1	7	7	0	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
7	G	1	6	E	O	1	1	7	7	1	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
8	G	1	6	E	O	1	1	7	7	2	Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
9	G	1	6	E	O	1	1	7	7	3	Yes	No	Yes	No	Yes	No	Yes	No	
10	G	1	6	E	O	1	1	7	7	4	Yes	No	Yes	No	Yes	No	Yes	No	
11	G	1	6	E	O	1	1	7	7	5	Yes	No	Yes	No	Yes	No	Yes	No	
12	G	1	6	E	O	1	1	7	7	6	Yes	No	Yes	No	Yes	No	Yes	No	
13	G	1	6	E	O	1	1	7	7	7	Yes	No	Yes	No	Yes	No	Yes	No	
14	G	1	6	E	O	1	1	7	7	8	Yes	No	Yes	No	Yes	No	Yes	No	
15	G	1	6	E	O	1	1	7	7	9	Yes	No	Yes	No	Yes	No	Yes	No	
16	G	1	6	E	O	1	1	7	8	0	Yes	No	Yes	No	Yes	No	Yes	No	
17	G	1	6	E	O	1	1	7	8	1	Yes	No	Yes	No	Yes	No	Yes	No	
18	G	1	6	E	O	1	1	7	8	2	Yes	No	Yes	No	Yes	No	Yes	No	
19	G	1	6	E	O	1	1	7	8	3	Yes	No	Yes	No	Yes	No	Yes	No	
20	G	1	6	E	O	1	1	7	8	4	Yes	No	Yes	No	Yes	No	Yes	No	
21	G	1	6	E	O	1	1	8	2	7	Yes	No	Yes	No	Yes	No	Yes	No	
22	G	1	6	E	O	1	1	8	2	8	Yes	No	Yes	No	Yes	No	Yes	No	
23	G	1	6	E	O	1	1	9	1	7	Yes	No	Yes	No	Yes	No	Yes	No	
24	G	1	6	E	O	1	1	9	1	8	Yes	No	Yes	No	Yes	No	Yes	No	
25	G	1	6	E	O	1	1	9	1	9	Yes	No	Yes	No	Yes	No	Yes	No	
26	G	1	6	E	O	1	1	9	2	0	Yes	No	Yes	No	Yes	No	Yes	No	
27	G	1	6	E	O	1	1	9	2	7	Yes	No	Yes	No	Yes	No	Yes	No	

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

Revised 11/11/14

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. **051234**

NAME OF CARRIER **BEST WAY FRT**


LTL

CARRIER'S NO. **1848**

DATE **8/22/2016**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in effect on the said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM:
SHIPPER
(ORIGIN)



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO:
CONSIGNEE
STREET
DESTINATION


ECO VISTA LF FINAL COVER PHASE 2
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
SPRINGDALE, AR 72764 USA
CLOVIS GRISSOM 870-598-4536

ZIP

DELIVERING CARRIER ROUTE VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
50,026		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE				
9,000		AGRUTEX 061 NW HB				
		Item Key	Lot Number	Quantity		
		COMP-06-200-06	G16E011876	3,335		
		COMP-06-200-06	G16E011877	3,335		
		COMP-06-200-06	G16E011883	3,335		
		COMP-06-200-06	G16E011892	3,335		
		COMP-06-200-06	G16E011894	3,335		
		COMP-06-200-06	G16E011895	3,335		
		COMP-06-200-06	G16E011898	3,335		
		COMP-06-200-06	G16E011899	3,335		
		COMP-06-200-06	G16E011921	3,335		
		COMP-06-200-06	G16E011922	3,335		
		COMP-06-200-06	G16E011923	3,335		
		COMP-06-200-06	G16E011924	3,335		
		COMP-06-200-06	G16E011926	3,335		
		COMP-06-200-06	G16E011928	3,335		
		COMP-06-200-06	G16E011932	3,335		
		Total Weight: 12,964 LB	15,500 lbs.			
		Total Packages: 59,026	17 Rolls (15 Composite / 2 Agrutex)			
		Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16				
		Location: GTOWN P.O. No.: 1000032753				
		2,000 Ties				

MIT C.O.D. TO:



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____ per _____

C.O.D. FEE

Prepaid
 Collect \$

C.O.D. Amt \$ _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor: _____

TOTAL CHARGES \$

Freight charges are PREPAID unless marked collect. Check box if charges are Collect

Shipper's imprint in lieu of stamp; not a part of bill of lading covered by the Interstate Commerce Commission.

Signature of Shipper: _____

Signature of Agent: **Steve Phelps**

Shipper, Per _____ Agent, Per _____



SHIPPING

OA # 32532 Date 8 - 22 - 16

Driver's Name/Truck Company STEVE / LTL Customer WASTE MANAGEMENT Destination SPRINGDALE State AR Pictures Taken YES ● NO

Time In : Time Out : Inspector: RM / ROB Loader: RM / ROB

Roll #										External		Straps		Core		Weld Rod		CONTAINER/MISC	
										Visual OK		OK		OK		OK			
G	YEAR	M	WK of YR	DOW	ROLL #					Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No				
1	G	1	6	E	O	1	1	8	7	6	Yes	No	Yes	No	Yes	No	Yes	No	TRUCK#.
2	G	1	6	E	O	1	1	8	7	7	Yes	No	Yes	No	Yes	No	Yes	No	1848
3	G	1	6	E	O	1	1	8	9	2	Yes	No	Yes	No	Yes	No	Yes	No	TIES
4	G	1	6	E	O	1	1	8	9	4	Yes	No	Yes	No	Yes	No	Yes	No	TIES
5	G	1	6	E	O	1	1	8	9	5	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
6	G	1	6	E	O	1	1	8	9	8	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
7	G	1	6	E	O	1	1	8	9	9	Yes	No	Yes	No	Yes	No	Yes	No	
8	G	1	6	E	O	1	1	9	2	1	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
9	G	1	6	E	O	1	1	9	2	2	Yes	No	Yes	No	Yes	No	Yes	No	
10	G	1	6	E	O	1	1	9	2	3	Yes	No	Yes	No	Yes	No	Yes	No	
11	G	1	6	E	O	1	1	9	2	4	Yes	No	Yes	No	Yes	No	Yes	No	
12	G	1	6	E	O	1	1	9	2	6	Yes	No	Yes	No	Yes	No	Yes	No	
13	G	1	6	E	O	1	1	9	2	8	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
14	G	1	6	E	O	1	1	9	3	2	Yes	No	Yes	No	Yes	No	Yes	No	
15	G	1	6	E	O	1	1	8	8	3	Yes	No	Yes	No	Yes	No	Yes	No	
16	A	G	T								Yes	No	Yes	No	Yes	No	Yes	No	
17	1	1	1	1	2	1	1	0	5	8	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
18	1	1	1	1	2	1	1	0	5	9	Yes	No	Yes	No	Yes	No	Yes	No	
19											Yes	No	Yes	No	Yes	No	Yes	No	
20											Yes	No	Yes	No	Yes	No	Yes	No	
21											Yes	No	Yes	No	Yes	No	Yes	No	
22											Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
23											Yes	No	Yes	No	Yes	No	Yes	No	
24											Yes	No	Yes	No	Yes	No	Yes	No	
25											Yes	No	Yes	No	Yes	No	Yes	No	
26											Yes	No	Yes	No	Yes	No	Yes	No	
27											Yes	No	Yes	No	Yes	No	Yes	No	

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

Revised 11/11/14

Shipping Report for Sales Order 004671

PO #	Stock Code	Roll Number	Qty Shipped (SQY)	Qty Shipped (LYD)	# of Rolls
010405/ 32532 ECO VISTA		AGR001 - AGRU AMERICA, INC.			
AGRUTEX 061 NW HB	AGT150060BKPP18000U				
		111211058	500.000	100.00	
		111211059	500.000	100.00	
			1,000.000	200.00	2
			1,000.000	200.00	2



Shipping Report for Sales Order 004671

		Qty Shipped (LYD)	Net Weight	Gross Weight	# of Rolls
AGRU001 - AGRU AMERICA, INC.		PO # 010405/ 32532 ECC			
AGRUTEX 061 NW HB	AGT150060BKPP18000U	6 OZ. PP, BLACK, 180"			
	1111211058	100.00	244.00	260.00	
	1111211059	100.00	240.00	256.00	
		<u>200.00</u>	<u>484.00</u>	<u>516.00</u>	<u>2</u>
		<u>200.00</u>	<u>484.00</u>	<u>516.00</u>	<u>2</u>

APPENDIX C-3
MANUFACTURER QUALITY CONTROL DOCUMENTS
GEOSYNTHETIC CLAY LINER

APPENDIX C-3A
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOSYNTHETIC CLAY LINER
MANUFACTURER'S CERTIFICATION



BentoLiner Manufacturing Certification

Sales Order: 78810
Customer: Waste Management, Inc.
Project: WMI Eco Vista Final Cover GCL
Product Type: BLI-075-06N-03S-D-00 BentoLiner NSL

The GCL purchased and shipped for the above referenced project does meet or exceed the project specifications.

The GCL supplied to this project has been continuously inspected for the presence of needles and is certified to be needle free.

Chuck Taylor
Laboratory Technician

APPROVED JUL 28 2016

BWB



ROLL TEST DATA REPORT



Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
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Roll Number	ASTM D6768 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/2g)	ASTM D2216 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275200	58.7	5.9	0.82	30.0	10.6	13.0
502275201	58.7	5.9	0.82	30.0	10.6	13.0
502275202	58.7	5.9	0.82	30.0	10.6	13.0
502275203	58.7	5.9	0.82	30.0	10.6	13.0
502275204	58.7	5.9	0.82	30.0	10.6	13.0
502275205	58.7	5.9	0.82	30.0	10.6	13.0
502275206	58.7	5.9	0.82	30.0	10.6	13.0
502275207	58.7	5.9	0.82	30.0	10.6	13.0
502275208	58.7	5.9	0.82	30.0	10.6	13.0
502275209	55.4	8.0	0.81	30.0	10.6	13.0
502275210	55.4	8.0	0.81	30.0	10.6	13.0
502275211	55.4	8.0	0.81	30.0	10.6	13.0
502275212	55.4	8.0	0.81	30.0	10.6	13.0
502275213	55.4	8.0	0.81	30.5	10.4	13.8
502275214	55.4	8.0	0.81	30.5	10.4	13.8
502275215	55.4	8.0	0.81	30.5	10.4	13.8
502275216	55.4	8.0	0.81	30.5	10.4	13.8
502275217	55.4	8.0	0.81	30.5	10.4	13.8
502275218	55.4	8.0	0.81	30.5	10.4	13.8
502275219	55.4	8.0	0.81	30.5	10.4	13.8
502275220	55.4	8.0	0.81	30.5	10.4	13.8
502275221	55.4	8.0	0.81	30.5	10.4	13.8
502275222	55.4	8.0	0.81	30.5	10.4	13.8
502275223	55.4	8.0	0.81	30.5	10.4	13.8
502275224	55.4	8.0	0.81	30.5	10.4	13.8
502275225	50.3	8.0	0.80	30.5	10.4	13.8
502275226	50.3	8.0	0.80	30.5	10.4	13.8
502275227	50.3	8.0	0.80	30.5	10.4	13.8
502275228	50.3	8.0	0.80	30.5	10.4	13.8
502275229	50.3	8.0	0.80	30.5	10.4	13.8
502275230	50.3	8.0	0.80	30.5	10.4	13.8
502275231	50.3	8.0	0.80	30.5	10.4	13.8
502275232	50.3	8.0	0.80	30.5	10.4	13.8
502275233	50.3	8.0	0.80	30.5	10.4	13.8

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ROLL TEST DATA REPORT



Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
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Roll Number	ASTM D6768 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/Zg)	ASTM D2216 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275234	50.3	8.0	0.80	30.5	10.4	13.8
502275235	50.3	8.0	0.80	30.5	10.4	13.8
502275236	50.3	8.0	0.80	30.5	10.4	13.8
502275237	50.3	8.0	0.80	30.5	10.4	13.8
502275238	50.3	8.0	0.80	30.5	10.4	13.8
502275239	50.3	8.0	0.80	30.5	10.4	13.8
502275240	50.3	8.0	0.80	30.5	10.4	13.8
502275242	51.4	7.0	0.82	30.5	10.4	13.8
502275243	51.4	7.0	0.82	30.5	10.4	13.8
502275244	51.4	7.0	0.82	30.5	10.4	13.8
502275245	51.4	7.0	0.82	28.5	10.7	13.8
502275246	51.4	7.0	0.82	28.5	10.7	13.8
502275247	51.4	7.0	0.82	28.5	10.7	13.8
502275248	51.4	7.0	0.82	28.5	10.7	13.8
502275249	51.4	7.0	0.82	28.5	10.7	13.8
502275250	51.4	7.0	0.82	28.5	10.7	13.8
502275251	51.4	7.0	0.82	28.5	10.7	13.8
502275252	51.4	7.0	0.82	28.5	10.7	13.8
502275253	51.4	7.0	0.82	28.5	10.7	13.8
502275254	51.4	7.0	0.82	28.5	10.7	13.8
502275255	51.4	7.0	0.82	28.5	10.7	13.8
502275256	51.4	7.0	0.82	28.5	10.7	13.8
502275257	51.4	7.0	0.82	28.5	10.7	13.8
502275258	42.3	10.4	0.86	28.5	10.7	13.8
502275259	42.3	10.4	0.86	28.5	10.7	13.8
502275260	42.3	10.4	0.86	28.5	10.7	13.8
502275261	42.3	10.4	0.86	28.5	10.7	13.8
502275262	42.3	10.4	0.86	28.5	10.7	13.8
502275263	42.3	10.4	0.86	28.5	10.7	13.8
502275264	42.3	10.4	0.86	28.5	10.7	13.8
502275265	42.3	10.4	0.86	28.5	10.7	13.8
502275266	42.3	10.4	0.86	28.5	10.7	13.8
502275267	42.3	10.4	0.86	28.5	10.7	13.8
502275268	42.3	10.4	0.86	28.5	10.7	13.8

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ROLL TEST DATA REPORT



Report Date: Jul/21/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
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Roll Number	ASTM D6766 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/2g)	ASTM D2216 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275269	42.3	10.4	0.86	28.5	10.7	13.8
502275270	42.3	10.4	0.86	28.5	10.7	13.8
502275271	42.3	10.4	0.86	28.5	10.7	13.8
502275272	42.3	10.4	0.86	28.5	10.7	13.8
502275273	42.3	10.4	0.86	28.5	10.7	13.8
502275274	47.5	10.6	0.87	28.5	10.7	13.8
502275275	47.5	10.6	0.87	28.5	10.7	13.8
502275280	49.3	7.2	0.81	30.0	9.8	14.4
502275281	49.3	7.2	0.81	30.0	9.8	14.4
502275282	49.3	7.2	0.81	30.0	9.8	14.4
502275283	49.3	7.2	0.81	30.0	9.8	14.4
502275284	49.3	7.2	0.81	30.0	9.8	14.4
502275285	49.3	7.2	0.81	30.0	9.8	14.4
502275286	49.3	7.2	0.81	30.0	9.8	14.4
502275287	49.3	7.2	0.81	30.0	9.8	14.4
502275288	49.3	7.2	0.81	30.0	9.8	14.4
502275289	49.3	7.2	0.81	30.0	9.8	14.4
502275290	49.3	7.2	0.81	30.0	9.8	14.4
502275291	49.3	7.2	0.81	30.0	9.8	14.4
502275292	49.3	7.2	0.81	30.0	9.8	14.4
502275293	49.3	7.2	0.81	30.0	9.8	14.4
502275294	49.3	7.2	0.81	30.0	9.8	14.4
502275295	49.3	7.2	0.81	30.0	9.8	14.4
502275296	50.3	5.8	0.82	30.0	9.8	14.4
502275297	50.3	5.8	0.82	30.0	9.8	14.4
502275298	50.3	5.8	0.82	30.0	9.8	14.4
502275299	50.3	5.8	0.82	30.0	9.8	14.4
502275300	50.3	5.8	0.82	30.0	9.8	14.4
502275301	50.3	5.8	0.82	30.0	9.8	14.4
502275302	50.3	5.8	0.82	30.0	9.8	14.4
502275303	50.3	5.8	0.82	30.0	9.8	14.4
502275304	50.3	5.8	0.82	30.0	9.8	14.4
502275305	50.3	5.8	0.82	30.0	9.8	14.4
502275306	50.3	5.8	0.82	30.0	9.8	14.4

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ROLL TEST DATA REPORT



Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
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Roll Number	ASTM D6768 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D5893 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/2g)	ASTM D2216 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275307	50.3	5.8	0.82	30.0	9.8	14.4
502275308	50.3	5.8	0.82	30.0	9.8	14.4
502275309	50.3	5.8	0.82	30.0	9.8	14.4
502275310	50.3	5.8	0.82	30.0	9.8	14.4
502275311	50.3	5.8	0.82	30.0	9.8	14.4
502275312	46.0	6.3	0.83	30.0	10.7	13.8
502275313	46.0	6.3	0.83	30.0	10.7	13.8
502275314	46.0	6.3	0.83	30.0	10.7	13.8
502275315	46.0	6.3	0.83	30.0	10.7	13.8
502275316	46.0	6.3	0.83	30.0	10.7	13.8
502275317	46.0	6.3	0.83	30.0	10.7	13.8
502275318	46.0	6.3	0.83	30.0	10.7	13.8
502275319	46.0	6.3	0.83	30.0	10.7	13.8
502275320	46.0	6.3	0.83	30.0	10.7	13.8
502275321	46.0	6.3	0.83	30.0	10.7	13.8
502275322	46.0	6.3	0.83	30.0	10.7	13.8
502275323	46.0	6.3	0.83	30.0	10.7	13.8
502275324	46.0	6.3	0.83	30.0	10.7	13.8
502275325	46.0	6.3	0.83	30.0	10.7	13.8
502275326	46.0	6.3	0.83	30.0	10.7	13.8
502275327	46.0	6.3	0.83	30.0	10.7	13.8
502275328	52.5	10.1	0.79	30.0	10.7	13.8
502275329	52.5	10.1	0.79	30.0	10.7	13.8
502275330	52.5	10.1	0.79	30.0	10.7	13.8
502275331	52.5	10.1	0.79	30.0	10.7	13.8
502275332	52.5	10.1	0.79	30.0	10.7	13.8
502275333	52.5	10.1	0.79	30.0	10.7	13.8
502275334	52.5	10.1	0.79	30.0	10.7	13.8
502275335	52.5	10.1	0.79	30.0	10.7	13.8
502275336	35.9	9.3	0.81	30.0	10.7	13.8
502275337	35.9	9.3	0.81	30.0	10.7	13.8
502275338	35.9	9.3	0.81	30.0	10.7	13.8
502275339	35.9	9.3	0.81	30.0	10.7	13.8
502275340	35.9	9.3	0.81	30.0	10.7	13.8

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ROLL TEST DATA REPORT



Report Date: Jul/21/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
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Roll Number	ASTM D6768 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/2g)	ASTM D2216 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275341	35.9	9.3	0.81	30.0	10.7	13.8
502275342	35.9	9.3	0.81	30.0	10.7	13.8
502275344	35.9	9.3	0.81	29.0	9.7	14.2
502275345	35.9	9.3	0.81	29.0	9.7	14.2
502275346	35.9	9.3	0.81	29.0	9.7	14.2
502275347	35.9	9.3	0.81	29.0	9.7	14.2
502275348	35.9	9.3	0.81	29.0	9.7	14.2
502275349	35.9	9.3	0.81	29.0	9.7	14.2
502275350	35.9	9.3	0.81	29.0	9.7	14.2
502275351	35.9	9.3	0.81	29.0	9.7	14.2
502275352	35.9	9.3	0.81	29.0	9.7	14.2
502275353	45.7	8.5	0.84	29.0	9.7	14.2
502275354	45.7	8.5	0.84	29.0	9.7	14.2
502275355	45.7	8.5	0.84	29.0	9.7	14.2
502275356	45.7	8.5	0.84	29.0	9.7	14.2
502275357	45.7	8.5	0.84	29.0	9.7	14.2
502275358	45.7	8.5	0.84	29.0	9.7	14.2
502275359	45.7	8.5	0.84	29.0	9.7	14.2
502275360	45.7	8.5	0.84	29.0	9.7	14.2
502275361	45.7	8.5	0.84	29.0	9.7	14.2
502275362	45.7	8.5	0.84	29.0	9.7	14.2
502275363	45.7	8.5	0.84	29.0	9.7	14.2
502275364	45.7	8.5	0.84	29.0	9.7	14.2
502275365	45.7	8.5	0.84	29.0	9.7	14.2
502275366	45.7	8.5	0.84	29.0	9.7	14.2
502275367	45.7	8.5	0.84	29.0	9.7	14.2
502275368	45.7	8.5	0.84	29.0	9.7	14.2
502275369	49.6	9.0	0.80	29.0	9.7	14.2
502275370	49.6	9.0	0.80	29.0	9.7	14.2
502275371	49.6	9.0	0.80	29.0	9.7	14.2
502275372	49.6	9.0	0.80	29.0	9.7	14.2
502275373	49.6	9.0	0.80	29.0	9.7	14.2
502275374	49.6	9.0	0.80	29.0	9.7	14.2
502275375	49.6	9.0	0.80	29.5	9.8	13.6

APPROVED JUL 28 2016

BSWB

✓ ✓ ✓ ✓ ✓

ROLL TEST DATA REPORT



Report Date: Jul/21/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number
-------------------------------------	--	---	---	-------------------

Roll Number	ASTM D6768 Tensile Strength (psi)	ASTM D5496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (lbs/sf)	ASTM D5890 Free Swell (ml/2g)	ASTM D2216 Moisture Content (%)	ASTM D5991 Fluid Loss (ml)
502275376	49.6	9.0	0.80	29.5	9.8	13.6
502275377	49.6	9.0	0.80	29.5	9.8	13.6
502275378	49.6	9.0	0.80	29.5	9.8	13.6
502275379	49.6	9.0	0.80	29.5	9.8	13.6
502275380	49.6	9.0	0.80	29.5	9.8	13.6
502275381	49.6	9.0	0.80	29.5	9.8	13.6
502275382	49.6	9.0	0.80	29.5	9.8	13.6
502275383	49.6	9.0	0.80	29.5	9.8	13.6
502275384	49.6	9.0	0.80	29.5	9.8	13.6
502275385	45.7	11.9	0.81	29.5	9.8	13.6
502275386	45.7	11.9	0.81	29.5	9.8	13.6
502275387	45.7	11.9	0.81	29.5	9.8	13.6
502275388	45.7	11.9	0.81	29.5	9.8	13.6
502275389	45.7	11.9	0.81	29.5	9.8	13.6
502275390	45.7	11.9	0.81	29.5	9.8	13.6
502275391	45.7	11.9	0.81	29.5	9.8	13.6
502275392	45.7	11.9	0.81	29.5	9.8	13.6
502275393	45.7	11.9	0.81	29.5	9.8	13.6
502275394	45.7	11.9	0.81	29.5	9.8	13.6
502275395	45.7	11.9	0.81	29.5	9.8	13.6
	✓	✓	✓	✓		✓

APPROVED JUL 28 2016
BWB

Laboratory Manager Mauricio Osuna

GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2016

PRODUCT : NATIONAL® 30

SHIPPED FROM: **BENTONITE PERFORMANCE MINERALS LLC**
 554 US HWY 212
 COLONY PLANT
 BELLE FOURCHE, S.D. 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0003391000	07-08-16	1070716D	10.0 ✓	0.05 ✓	2.62 ✓	13.0 ✓	118 ✓	32 ✓	1064 ✓

JULY No. of CARS	M AVG STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
7		8.97 0.09	0.08 0.09	5.29 1.71	12.90 0.42	119.36 1.94	28.44 1.36	979.22 30.93

YTD No. of CARS	M AVG STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
291		9.26 0.64	0.08 0.07	4.63 1.92	13.67 1.00	117.23 2.85	27.88 1.66	962.31 41.58

SOLD TO: **GSE CLAY LINING TECHNOLOGY, Co.**
 3150 FIRST AVENUE
 SPEARFISH, SD 57783

Attn: Bob Stadler (rstadler@gseworld.com)
 Chuck Taylor (ctaylor@gseworld.com)
 Cheryl Hofer (chofer@gseworld.com)
 (ezimmel@gseworld.com)

SHIPPED TO: **GSE CLAY LINING TECHNOLOGY, Co.**
 3150 FIRST AVENUE
 SPEARFISH, SD 57783

CC: Thomas Anderson
 Jason Tawse

Q.A. SUPERVISOR
 Don Staley/BPM
 07/08/16

Prepared by: BAM

APPROVED JUL 28 2016

BWB

GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2016

PRODUCT : NATIONAL® 30

SHIPPED FROM: **BENTONITE PERFORMANCE MINERALS LLC**
 554 US HWY 212
 COLONY PLANT
 BELLE FOURCHE, S.D. 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0003391002	07-10-16	1071016A	9.5	0.03	2.83	13.8	118	30	1073
B0003392826	07-11-16	1071016B	9.6	0.06	4.62	13.2	118	31	1056
			✓	✓	✓	✓	✓	✓	✓

JULY No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
9	M AVG	STD DEV	8.97	0.08	5.29	12.90	119.36	28.44	979.22
			0.09	0.09	1.71	0.42	1.94	1.36	30.93

YTD No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
291	M AVG	STD DEV	9.26	0.08	4.63	13.67	117.23	27.88	962.31
			0.64	0.07	1.92	1.00	2.85	1.66	41.58

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 (ezimmel@gseworld.com)

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CC: Thomas Anderson
 Jason Tawse

Q.A. SUPERVISOR
 Don Staley/BPM
 07/11/16

Prepared by: BAM

APPROVED JUL 28 2016

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GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2016

PRODUCT : NATIONAL® 30

SHIPPED FROM: BENTONITE PERFORMANCE MINERALS LLC
 554 US HWY 212
 COLONY PLANT
 BELLE FOURCHE, S D 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0003392828	07-11-16	1071016C	8.9	0.06	3.55	13.4	118	29	1025
B0003392830	07-12-16	1071016D	9.7	0.22	6.56	13.6	122	30	1042
			✓	✓	✓	✓	✓	✓	✓

JULY No. of CARS		% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
11	M AVG	8.97	0.08	5.29	12.90	119.36	28.44	979.22
	STD DEV	0.09	0.09	1.71	0.42	1.94	1.36	30.93

YTD No. of CARS		% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
291	M AVG	9.26	0.08	4.63	13.67	117.23	27.88	962.31
	STD DEV	0.64	0.07	1.92	1.00	2.85	1.66	41.58

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CC: Thomas Anderson
 Jason Tawse

Q.A. SUPERVISOR
 Don Staley/BPM
 07/12/16

Prepared by: BAM

APPROVED JUL 28 2016

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GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2016

PRODUCT : NATIONAL® 30

SHIPPED FROM: **BENTONITE PERFORMANCE MINERALS LLC**
 554 US HWY 212
 COLONY PLANT
 BELLE FOURCHE, S.D. 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0003392832	07-12-16	1071216A	8.6	0.00	4.23	13.2	122	32	1043
B0003392833	07-12-16	1071216B	8.8	0.12	4.05	13.0	120	31	1007

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

JULY No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
13	M AVG	STD DEV	8.97	0.08	5.29	12.90	119.36	28.44	979.22
			0.09	0.09	1.71	0.42	1.94	1.36	30.93

YTD No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
291	M AVG	STD DEV	9.26	0.08	4.63	13.67	117.23	27.88	962.31
			0.64	0.07	1.92	1.00	2.85	1.66	41.58

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SHIPPED TO: **GSE CLAY LINING TECHNOLOGY, Co.**
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 SPEARFISH, SD 57783

CC: **Thomas Anderson**
Jason Tawse

Q.A. SUPERVISOR
Don Staley/BPM
 07/13/16

Prepared by: **BAM**

APPROVED JUL 28 2016
 BwB



Report Date
7/25/2016

Quality Assurance Laboratory Test Results

Project: WMI Eco Vista Final Cover GCL
Sales Order: 78810
Product: BLI-075-06N-03S-D-00 BentoLiner NSL

Required Testing: ASTM D5887 - Standard Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens Using a Flexible Wall Permeameter

Frequency: 1/250,000sf

Effective Stress: 5 psi

Daily Lot	Roll Number	Production Date	Index Flux (m ³ /m ² /sec)	Hydraulic Conductivity (cm/sec)
26071503	502275208	7/18/2016	3.69E-09	1.52E-09
26071903	502275319	7/19/2016	4.46E-09 ✓	1.87E-09 ✓

APPROVED JUL 28 2016

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Approved By: Chuck Taylor
Date Approved: July 25, 2016



Large Scale Direct Shear Report

Project Name: WMI EcoVista Final Cover GCL

Sales Order No. 78810

Profile:

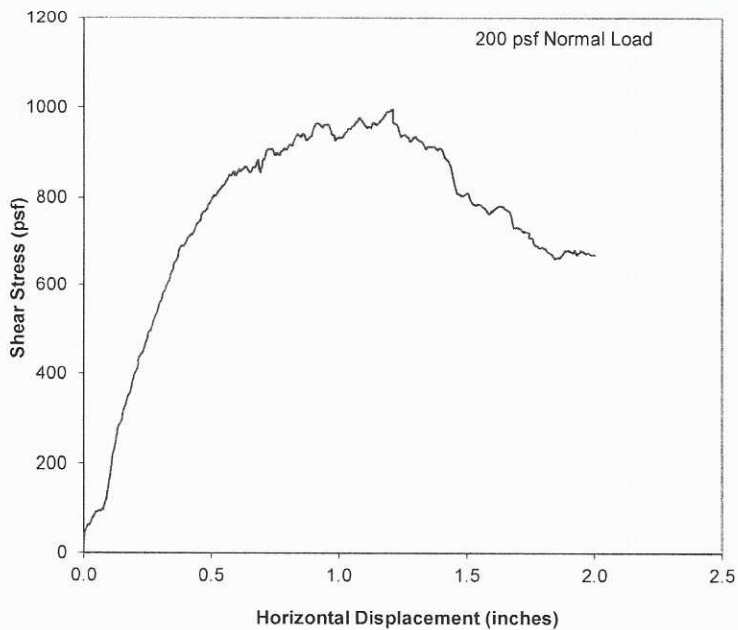
Testing Date: 7/22/2016

Internal Shear of BentoLiner NSL, Roll # 502275232 Lot #26071803
BLI-075-06N-03S-D-00

DISPLACEMENT vs SHEAR STRESS

Normal Stress (psf)	Peak Stress (psf)	L.D. Stress (psf)
200	995	670

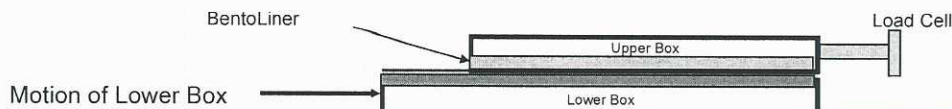
The gripper plate slipped against the GCL with a peak shear stress of 995 psf. There was no internal failure of the GCL.



TESTING INFORMATION:

- 1 Tests were conducted in general accordance with ASTM 6243.
- 2 Tests were conducted with the profile immersed in tap water.
- 3 The GCL was hydrated for 24 hours at 200 psf before the start of shearing.
- 4 Testing Speed: 0.04 in/min
- 5 Large Displacement (LD): 2.0 inches
- 6 The 200 psf normal load was applied with a dead weight load.

TEST ORIENTATION



SHEAR DEVICE INFORMATION:

- 1 Manufactured by GeoSyntec Consultants
- 2 Upper box dimensions: 12" x 12" x 3"
- 3 Lower box dimensions: 12" x 16" x 3"
- 4 Large Displacement: Up to 4"

APPROVED JUL 28 2016

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APPENDIX C-3B
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOSYNTHETIC CLAY LINER
SUMMARY OF MANUFACTURER'S INVENTORY

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
1	502275200	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
2	502275201	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
3	502275202	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
4	502275203	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
5	502275204	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
6	502275205	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
7	502275206	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
8	502275207	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
9	502275208	07/18/16	2,325	26071503	502275200	07/18/16	07/18/16	07/25/16	Pass	07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
10	502275209	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
11	502275210	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
12	502275211	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
13	502275212	07/18/16	2,325	26071503	502275200					07/25/16	07/28/16	1070716D	07/25/16	07/28/16	07/28/16	08/01/16	
14	502275213	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
15	502275214	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
16	502275215	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
17	502275216	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
18	502275217	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
19	502275218	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
20	502275219	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
21	502275220	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
22	502275221	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
23	502275222	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
24	502275223	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
25	502275224	07/18/16	2,325	26071503	502275213					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
26	502275225	07/18/16	2,325	26071503	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
27	502275226	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
28	502275227	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
29	502275228	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
30	502275229	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
31	502275230	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
32	502275231	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
33	502275232	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
34	502275233	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
35	502275234	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
36	502275235	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
37	502275236	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
38	502275237	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
39	502275238	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
40	502275239	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
41	502275240	07/18/16	2,325	26071803	502275225					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
42	502275242	07/18/16	1,240	26071803	502275242					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
43	502275243	07/18/16	2,325	26071803	502275242					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
44	502275244	07/18/16	2,325	26071803	502275242					07/25/16	07/28/16	1071016A	07/25/16	07/28/16	07/28/16	08/01/16	
45	502275245	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
46	502275246	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
47	502275247	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
48	502275248	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
49	502275249	07/18/16	2,325	26071803	502275245	07/18/16	07/18/16	07/25/16	Pass	07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
50	502275250	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
51	502275251	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
52	502275252	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
53	502275253	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
54	502275254	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
55	502275255	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
56	502275256	07/18/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
57	502275257	07/19/16	2,325	26071803	502275245					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
58	502275258	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
59	502275259	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
60	502275260	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
61	502275261	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
62	502275262	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
63	502275263	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
64	502275264	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
65	502275265	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
66	502275266	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
67	502275267	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
68	502275268	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
69	502275269	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
70	502275270	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
71	502275271	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
72	502275272	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
73	502275273	07/19/16	2,325	26071803	502275258					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
74	502275274	07/19/16	2,325	26071803	502275274					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
75	502275275	07/19/16	2,325	26071803	502275274					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/01/16	
76	502275280	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016B	07/25/16	07/28/16	07/28/16	08/02/16	
77	502275281	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
78	502275282	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
79	502275283	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
80	502275284	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
81	502275285	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
82	502275286	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
83	502275287	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
84	502275288	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
85	502275289	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/02/16	
86	502275290	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	07/28/16	08/08/16	
87	502275291	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
88	502275292	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
89	502275293	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
90	502275294	07/19/16	2,325	26071803	502275280					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
91	502275295	07/19/16	2,325	26071803	502275280	07/19/16	07/20/16	08/01/16	Pass	07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
92	502275296	07/19/16	1,581	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/01/16	
93	502275297	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
94	502275298	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
95	502275299	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
96	502275300	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
97	502275301	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
98	502275302	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
99	502275303	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
100	502275304	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
101	502275305	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
102	502275306	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
103	502275307	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
104	502275308	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
105	502275309	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
106	502275310	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
107	502275311	07/19/16	2,325	26071803	502275296					07/25/16	07/28/16	1071016C	07/25/16	07/28/16	08/03/16	08/08/16	
108	502275312	07/19/16	2,325	26071803	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
109	502275313	07/19/16	2,325	26071803	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
110	502275314	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
111	502275315	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
112	502275316	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
113	502275317	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
114	502275318	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
115	502275319	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
116	502275320	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
117	502275321	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
118	502275322	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
119	502275323	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
120	502275324	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
121	502275325	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
122	502275326	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
123	502275327	07/19/16	2,325	26071903	502275312					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
124	502275328	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
125	502275329	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
126	502275330	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
127	502275331	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
128	502275332	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
129	502275333	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
130	502275334	07/19/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
131	502275335	07/20/16	2,325	26071903	502275328					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
132	502275336	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
133	502275337	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
134	502275338	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
135	502275339	07/20/16	2,325	26071903	502275336	07/20/16	07/20/16	08/01/16	Pass	07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
136	502275340	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
137	502275341	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
138	502275342	07/20/16	2,325	26071903	502275336					07/25/16	07/28/16	1071016D	07/25/16	07/28/16	08/03/16	08/08/16	
139	502275344	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
140	502275345	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
141	502275346	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
142	502275347	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
143	502275348	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
144	502275349	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
145	502275350	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
146	502275351	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
147	502275352	07/20/16	2,325	26071903	502275344					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
148	502275353	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
149	502275354	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
150	502275355	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
151	502275356	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
152	502275357	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
153	502275358	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
154	502275359	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
155	502275360	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
156	502275361	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
157	502275362	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
158	502275363	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
159	502275364	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
160	502275365	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
161	502275366	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
162	502275367	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
163	502275368	07/20/16	2,325	26071903	502275353					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
164	502275369	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
165	502275370	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
166	502275371	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
167	502275372	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
168	502275373	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
169	502275374	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216A	07/25/16	07/28/16	08/03/16	08/08/16	
170	502275375	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
171	502275376	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
172	502275377	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
173	502275378	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
174	502275379	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
175	502275380	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
176	502275381	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
177	502275382	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
178	502275383	07/20/16	2,325	26071903	502275369					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
179	502275384	07/20/16	2,325	26071903	502275369	07/20/16	07/20/16	08/01/16	Pass	07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
180	502275385	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	

Summary of Geosynthetic Clay Liner Manufacturing Inventory



Client Name: Waste Management of Arkansas
Landfill: Eco Vista Landfill
Project Name: Final Cover Phase 2 Construction
Location: Tontitown, Arkansas

Project Number: 16038
Reviewed by: Bryan Bailey, P.E.

	Roll Number	Date Manuf.	Sheet Area (SF)	Lot No.	GCL Roll Tested by Manufacturer	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Lab. (pass/fail)	Roll QC Certs Recd. (date)	Roll QC Certs. Aprvd. (date)	Bentonite Lot No.	Bentonite Cert. Recd. (date)	Bentonite Cert. Aprvd. (date)	Aprvd. for Shipment (date)	Recd. On-Site (date)	COMMENTS
181	502275386	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
182	502275387	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
183	502275388	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
184	502275389	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
185	502275390	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
186	502275391	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
187	502275392	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
188	502275393	07/20/16	1,829	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
189	502275394	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	
190	502275395	07/20/16	2,325	26071903	502275385					07/25/16	07/28/16	1071216B	07/25/16	07/28/16	08/03/16	08/08/16	



Roll Allocation List

Conformance: 1' x Roll Width,
1/100,000sf, min. 1/lot
1 Additional 2' x Roll Width for Interface
TRI TX

Sales Order SO-078810
Customer Name Waste Management, Inc.
Project Name WMI Eco Vista Final Cover GCL

Serial number	Item Number	Daily lot	Roll width	Clay	Length
502275200	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275201	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275202	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275203	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275204	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275205	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275206	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275207	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275208	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275209	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275210	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275211	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275212	BLI-075-06N-03S-D-00	26071503	15.50	1070716D	150.00
502275213	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275214	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275215	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275216	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275217	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275218	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275219	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275220	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275221	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275222	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275223	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275224	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275225	BLI-075-06N-03S-D-00	26071503	15.50	1071016A	150.00
502275226	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275227	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275228	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275229	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275230	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275231	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275232	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275233	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275234	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275235	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275236	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275237	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275238	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275239	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275240	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275242	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	80.00
502275243	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275244	BLI-075-06N-03S-D-00	26071803	15.50	1071016A	150.00
502275245	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275246	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275247	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275248	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275249	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275250	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275251	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275252	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275253	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275254	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275255	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275256	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275257	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275258	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275259	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275260	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00

Conformance ✓

Interface

Conformance ✓

APPROVED JUL 28 2016

BWB



Roll Allocation List

Sales Order SO-078810
Customer Name Waste Management, Inc.
Project Name WMI Eco Vista Final Cover GCL

Serial number	Item Number	Daily lot	Roll width	Clay	Length
502275261	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275262	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275263	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275264	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275265	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275266	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275267	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275268	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275269	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275270	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275271	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275272	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275273	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275274	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275275	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275280	BLI-075-06N-03S-D-00	26071803	15.50	1071016B	150.00
502275281	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275282	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275283	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275284	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275285	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275286	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275287	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275288	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275289	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275290	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275291	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275292	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275293	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275294	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275295	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275296	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	102.00
502275297	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275298	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275299	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275300	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275301	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275302	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275303	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275304	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275305	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275306	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275307	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275308	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275309	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275310	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275311	BLI-075-06N-03S-D-00	26071803	15.50	1071016C	150.00
502275312	BLI-075-06N-03S-D-00	26071803	15.50	1071016D	150.00
502275313	BLI-075-06N-03S-D-00	26071803	15.50	1071016D	150.00
502275314	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275315	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275316	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275317	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275318	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275319	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275320	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275321	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275322	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275323	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275324	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00

Conformance ✓

APPROVED JUL 28 2016
BWB



Roll Allocation List

Sales Order SO-078810
Customer Name Waste Management, Inc.
Project Name WMI Eco Vista Final Cover GCL

Serial number	Item Number	Daily lot	Roll width	Clay	Length
502275325	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275326	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275327	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275328	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275329	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275330	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275331	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275332	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275333	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275334	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275335	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275336	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275337	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275338	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275339	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275340	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275341	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275342	BLI-075-06N-03S-D-00	26071903	15.50	1071016D	150.00
502275344	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275345	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275346	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275347	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275348	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275349	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275350	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275351	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275352	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275353	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275354	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275355	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275356	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275357	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275358	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275359	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275360	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275361	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275362	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275363	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275364	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275365	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275366	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275367	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275368	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275369	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275370	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275371	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275372	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275373	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275374	BLI-075-06N-03S-D-00	26071903	15.50	1071216A	150.00
502275375	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275376	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275377	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275378	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275379	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275380	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275381	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275382	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275383	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275384	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275385	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00

Conformance ✓

APPROVED JUL 28 2016

BWB

Conformance ✓

APPROVED JUL 28 2016



Roll Allocation List

Sales Order SO-078810
Customer Name Waste Management, Inc.
Project Name WMI Eco Vista Final Cover GCL

Serial number	Item Number	Daily lot	Roll width	Clay	Length
502275386	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275387	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275388	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275389	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275390	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275391	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275392	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275393	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	118.00
502275394	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00
502275395	BLI-075-06N-03S-D-00	26071903	15.50	1071216B	150.00

APPROVED JUL 28 2016

BWB

APPENDIX C-3C
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOSYNTHETIC CLAY LINER
DELIVERY CHECKLIST

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
1	502275200	26071503	15.5	150.0	None	08/01/16	BL-0097670
2	502275201	26071503	15.5	150.0	None	08/01/16	BL-0097670
3	502275202	26071503	15.5	150.0	None	08/01/16	BL-0097656
4	502275203	26071503	15.5	150.0	None	08/01/16	BL-0097656
5	502275204	26071503	15.5	150.0	None	08/01/16	BL-0097656
6	502275205	26071503	15.5	150.0	None	08/01/16	BL-0097656
7	502275206	26071503	15.5	150.0	None	08/01/16	BL-0097656
8	502275207	26071503	15.5	150.0	None	08/01/16	BL-0097656
9	502275208	26071503	15.5	150.0	None	08/01/16	BL-0097656
10	502275209	26071503	15.5	150.0	None	08/01/16	BL-0097656
11	502275210	26071503	15.5	150.0	None	08/01/16	BL-0097656
12	502275211	26071503	15.5	150.0	None	08/01/16	BL-0097656
13	502275212	26071503	15.5	150.0	None	08/01/16	BL-0097656
14	502275213	26071503	15.5	150.0	None	08/01/16	BL-0097656
15	502275214	26071503	15.5	150.0	None	08/01/16	BL-0097656
16	502275215	26071503	15.5	150.0	None	08/01/16	BL-0097656
17	502275216	26071503	15.5	150.0	None	08/01/16	BL-0097670

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
18	502275217	26071503	15.5	150.0	None	08/01/16	BL-0097683
19	502275218	26071503	15.5	150.0	None	08/01/16	BL-0097670
20	502275219	26071503	15.5	150.0	None	08/01/16	BL-0097670
21	502275220	26071503	15.5	150.0	None	08/01/16	BL-0097670
22	502275221	26071503	15.5	150.0	None	08/01/16	BL-0097670
23	502275222	26071503	15.5	150.0	None	08/01/16	BL-0097670
24	502275223	26071503	15.5	150.0	None	08/01/16	BL-0097670
25	502275224	26071503	15.5	150.0	None	08/01/16	BL-0097670
26	502275225	26071503	15.5	150.0	None	08/01/16	BL-0097670
27	502275226	26071803	15.5	150.0	None	08/01/16	BL-0097670
28	502275227	26071803	15.5	150.0	None	08/01/16	BL-0097670
29	502275228	26071803	15.5	150.0	None	08/01/16	BL-0097670
30	502275229	26071803	15.5	150.0	None	08/01/16	BL-0097670
31	502275230	26071803	15.5	150.0	None	08/01/16	BL-0097670
32	502275231	26071803	15.5	150.0	None	08/01/16	BL-0097674
33	502275232	26071803	15.5	150.0	None	08/01/16	BL-0097683
34	502275233	26071803	15.5	150.0	None	08/01/16	BL-0097683

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
35	502275234	26071803	15.5	150.0	None	08/01/16	BL-0097683
36	502275235	26071803	15.5	150.0	None	08/01/16	BL-0097683
37	502275236	26071803	15.5	150.0	None	08/01/16	BL-0097683
38	502275237	26071803	15.5	150.0	None	08/01/16	BL-0097674
39	502275238	26071803	15.5	150.0	None	08/01/16	BL-0097674
40	502275239	26071803	15.5	150.0	None	08/01/16	BL-0097674
41	502275240	26071803	15.5	150.0	None	08/01/16	BL-0097674
42	502275242	26071803	15.5	80.0	None	08/01/16	BL-0097656
43	502275243	26071803	15.5	150.0	None	08/01/16	BL-0097674
44	502275244	26071803	15.5	150.0	None	08/01/16	BL-0097674
45	502275245	26071803	15.5	150.0	None	08/01/16	BL-0097670
46	502275246	26071803	15.5	150.0	None	08/01/16	BL-0097670
47	502275247	26071803	15.5	150.0	None	08/01/16	BL-0097674
48	502275248	26071803	15.5	150.0	None	08/01/16	BL-0097683
49	502275249	26071803	15.5	150.0	None	08/01/16	BL-0097683
50	502275250	26071803	15.5	150.0	None	08/01/16	BL-0097683
51	502275251	26071803	15.5	150.0	None	08/01/16	BL-0097683

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
52	502275252	26071803	15.5	150.0	None	08/01/16	BL-0097683
53	502275253	26071803	15.5	150.0	None	08/01/16	BL-0097683
54	502275254	26071803	15.5	150.0	None	08/02/16	BL-0097701
55	502275255	26071803	15.5	150.0	None	08/01/16	BL-0097683
56	502275256	26071803	15.5	150.0	None	08/01/16	BL-0097674
57	502275257	26071803	15.5	150.0	None	08/01/16	BL-0097674
58	502275258	26071803	15.5	150.0	None	08/01/16	BL-0097674
59	502275259	26071803	15.5	150.0	None	08/01/16	BL-0097674
60	502275260	26071803	15.5	150.0	None	08/01/16	BL-0097674
61	502275261	26071803	15.5	150.0	None	08/01/16	BL-0097674
62	502275262	26071803	15.5	150.0	None	08/01/16	BL-0097674
63	502275263	26071803	15.5	150.0	None	08/02/16	BL-0097701
64	502275264	26071803	15.5	150.0	None	08/02/16	BL-0097701
65	502275265	26071803	15.5	150.0	None	08/02/16	BL-0097701
66	502275266	26071803	15.5	150.0	None	08/02/16	BL-0097701
67	502275267	26071803	15.5	150.0	None	08/02/16	BL-0097701
68	502275268	26071803	15.5	150.0	None	08/02/16	BL-0097701

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
69	502275269	26071803	15.5	150.0	None	08/01/16	BL-0097683
70	502275270	26071803	15.5	150.0	None	08/01/16	BL-0097683
71	502275271	26071803	15.5	150.0	None	08/01/16	BL-0097683
72	502275272	26071803	15.5	150.0	None	08/01/16	BL-0097674
73	502275273	26071803	15.5	150.0	None	08/01/16	BL-0097674
74	502275274	26071803	15.5	150.0	None	08/01/16	BL-0097683
75	502275275	26071803	15.5	150.0	None	08/01/16	BL-0097683
76	502275280	26071803	15.5	150.0	None	08/02/16	BL-0097701
77	502275281	26071803	15.5	150.0	None	08/02/16	BL-0097701
78	502275282	26071803	15.5	150.0	None	08/02/16	BL-0097701
79	502275283	26071803	15.5	150.0	None	08/02/16	BL-0097701
80	502275284	26071803	15.5	150.0	None	08/02/16	BL-0097701
81	502275285	26071803	15.5	150.0	None	08/02/16	BL-0097701
82	502275286	26071803	15.5	150.0	None	08/02/16	BL-0097701
83	502275287	26071803	15.5	150.0	None	08/02/16	BL-0097701
84	502275288	26071803	15.5	150.0	None	08/02/16	BL-0097701
85	502275289	26071803	15.5	150.0	None	08/02/16	BL-0097701

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
86	502275290	26071803	15.5	150.0	None	08/08/16	BL-0097858
87	502275291	26071803	15.5	150.0	None	08/08/16	BL-0097858
88	502275292	26071803	15.5	150.0	None	08/08/16	BL-0097834
89	502275293	26071803	15.5	150.0	None	08/08/16	BL-0097834
90	502275294	26071803	15.5	150.0	None	08/08/16	BL-0097834
91	502275295	26071803	15.5	150.0	None	08/08/16	BL-0097858
92	502275296	26071803	15.5	102.0	None	08/01/16	BL-0097674
93	502275297	26071803	15.5	150.0	None	08/08/16	BL-0097858
94	502275298	26071803	15.5	150.0	None	08/08/16	BL-0097858
95	502275299	26071803	15.5	150.0	None	08/08/16	BL-0097858
96	502275300	26071803	15.5	150.0	None	08/08/16	BL-0097858
97	502275301	26071803	15.5	150.0	None	08/08/16	BL-0097858
98	502275302	26071803	15.5	150.0	None	08/08/16	BL-0097858
99	502275303	26071803	15.5	150.0	None	08/08/16	BL-0097858
100	502275304	26071803	15.5	150.0	None	08/08/16	BL-0097858
101	502275305	26071803	15.5	150.0	None	08/08/16	BL-0097858
102	502275306	26071803	15.5	150.0	None	08/08/16	BL-0097850

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
103	502275307	26071803	15.5	150.0	None	08/08/16	BL-0097850
104	502275308	26071803	15.5	150.0	None	08/08/16	BL-0097850
105	502275309	26071803	15.5	150.0	None	08/08/16	BL-0097850
106	502275310	26071803	15.5	150.0	None	08/08/16	BL-0097850
107	502275311	26071803	15.5	150.0	None	08/08/16	BL-0097850
108	502275312	26071803	15.5	150.0	None	08/08/16	BL-0097850
109	502275313	26071803	15.5	150.0	None	08/08/16	BL-0097850
110	502275314	26071903	15.5	150.0	None	08/08/16	BL-0097850
111	502275315	26071903	15.5	150.0	None	08/08/16	BL-0097850
112	502275316	26071903	15.5	150.0	None	08/08/16	BL-0097850
113	502275317	26071903	15.5	150.0	None	08/08/16	BL-0097850
114	502275318	26071903	15.5	150.0	None	08/08/16	BL-0097850
115	502275319	26071903	15.5	150.0	None	08/08/16	BL-0097850
116	502275320	26071903	15.5	150.0	None	08/08/16	BL-0097850
117	502275321	26071903	15.5	150.0	None	08/08/16	BL-0097850
118	502275322	26071903	15.5	150.0	None	08/08/16	BL-0097850
119	502275323	26071903	15.5	150.0	None	08/08/16	BL-0097865

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
120	502275324	26071903	15.5	150.0	None	08/08/16	BL-0097865
121	502275325	26071903	15.5	150.0	None	08/08/16	BL-0097865
122	502275326	26071903	15.5	150.0	None	08/08/16	BL-0097865
123	502275327	26071903	15.5	150.0	None	08/08/16	BL-0097865
124	502275328	26071903	15.5	150.0	None	08/08/16	BL-0097865
125	502275329	26071903	15.5	150.0	None	08/08/16	BL-0097865
126	502275330	26071903	15.5	150.0	None	08/08/16	BL-0097865
127	502275331	26071903	15.5	150.0	None	08/08/16	BL-0097865
128	502275332	26071903	15.5	150.0	None	08/08/16	BL-0097866
129	502275333	26071903	15.5	150.0	None	08/08/16	BL-0097866
130	502275334	26071903	15.5	150.0	None	08/08/16	BL-0097865
131	502275335	26071903	15.5	150.0	None	08/08/16	BL-0097865
132	502275336	26071903	15.5	150.0	None	08/08/16	BL-0097865
133	502275337	26071903	15.5	150.0	None	08/08/16	BL-0097866
134	502275338	26071903	15.5	150.0	None	08/08/16	BL-0097865
135	502275339	26071903	15.5	150.0	None	08/08/16	BL-0097866
136	502275340	26071903	15.5	150.0	None	08/08/16	BL-0097865

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
137	502275341	26071903	15.5	150.0	None	08/08/16	BL-0097866
138	502275342	26071903	15.5	150.0	None	08/08/16	BL-0097865
139	502275344	26071903	15.5	150.0	None	08/08/16	BL-0097865
140	502275345	26071903	15.5	150.0	None	08/08/16	BL-0097866
141	502275346	26071903	15.5	150.0	None	08/08/16	BL-0097865
142	502275347	26071903	15.5	150.0	None	08/08/16	BL-0097866
143	502275348	26071903	15.5	150.0	None	08/08/16	BL-0097866
144	502275349	26071903	15.5	150.0	None	08/08/16	BL-0097866
145	502275350	26071903	15.5	150.0	None	08/08/16	BL-0097866
146	502275351	26071903	15.5	150.0	None	08/08/16	BL-0097866
147	502275352	26071903	15.5	150.0	None	08/08/16	BL-0097866
148	502275353	26071903	15.5	150.0	None	08/08/16	BL-0097866
149	502275354	26071903	15.5	150.0	None	08/08/16	BL-0097866
150	502275355	26071903	15.5	150.0	None	08/08/16	BL-0097866
151	502275356	26071903	15.5	150.0	None	08/08/16	BL-0097866
152	502275357	26071903	15.5	150.0	None	08/08/16	BL-0097866
153	502275358	26071903	15.5	150.0	None	08/08/16	BL-0097834

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
154	502275359	26071903	15.5	150.0	None	08/08/16	BL-0097834
155	502275360	26071903	15.5	150.0	None	08/08/16	BL-0097834
156	502275361	26071903	15.5	150.0	None	08/08/16	BL-0097834
157	502275362	26071903	15.5	150.0	None	08/08/16	BL-0097834
158	502275363	26071903	15.5	150.0	None	08/08/16	BL-0097834
159	502275364	26071903	15.5	150.0	None	08/08/16	BL-0097834
160	502275365	26071903	15.5	150.0	None	08/08/16	BL-0097834
161	502275366	26071903	15.5	150.0	None	08/08/16	BL-0097834
162	502275367	26071903	15.5	150.0	None	08/08/16	BL-0097834
163	502275368	26071903	15.5	150.0	None	08/08/16	BL-0097834
164	502275369	26071903	15.5	150.0	None	08/08/16	BL-0097834
165	502275370	26071903	15.5	150.0	None	08/08/16	BL-0097858
166	502275371	26071903	15.5	150.0	None	08/08/16	BL-0097858
167	502275372	26071903	15.5	150.0	None	08/08/16	BL-0097858
168	502275373	26071903	15.5	150.0	None	08/08/16	BL-0097858
169	502275374	26071903	15.5	150.0	None	08/08/16	BL-0097834
170	502275375	26071903	15.5	150.0	None	08/08/16	BL-0097834

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
171	502275376	26071903	15.5	150.0	None	08/08/16	BL-0097834
172	502275377	26071903	15.5	150.0	None	08/08/16	BL-0097858
173	502275378	26071903	15.5	150.0	None	08/08/16	BL-0097855
174	502275379	26071903	15.5	150.0	None	08/08/16	BL-0097855
175	502275380	26071903	15.5	150.0	None	08/08/16	BL-0097855
176	502275381	26071903	15.5	150.0	None	08/08/16	BL-0097855
177	502275382	26071903	15.5	150.0	None	08/08/16	BL-0097855
178	502275383	26071903	15.5	150.0	None	08/08/16	BL-0097855
179	502275384	26071903	15.5	150.0	None	08/08/16	BL-0097855
180	502275385	26071903	15.5	150.0	None	08/08/16	BL-0097855
181	502275386	26071903	15.5	150.0	None	08/08/16	BL-0097855
182	502275387	26071903	15.5	150.0	None	08/08/16	BL-0097855
183	502275388	26071903	15.5	150.0	None	08/08/16	BL-0097855
184	502275389	26071903	15.5	150.0	None	08/08/16	BL-0097855
185	502275390	26071903	15.5	150.0	None	08/08/16	BL-0097855
186	502275391	26071903	15.5	150.0	None	08/08/16	BL-0097855
187	502275392	26071903	15.5	150.0	None	08/08/16	BL-0097855

GCL Delivery Check List



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
Landfill: Eco Vista Class I Landfill
Project Name: Phase 2 Final Cover Construction
Location: Tontitown, Arkansas
Project No.: 16038
CQA Monitor: _____
Reviewed By: Bryan Bailey, P.E.

No.	GCL Roll Number	Lot No.	Roll Size		Damage/Remarks	Date Delivered	Shippers No.
			width	length			
188	502275393	26071903	15.5	118.0	None	08/08/16	BL-0097855
189	502275394	26071903	15.5	150.0	None	08/08/16	BL-0097855
190	502275395	26071903	15.5	150.0	None	08/08/16	BL-0097855



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097656

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/28/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! Four Truck per day to arrive at site on 8/1/16! ONLY SHIP ROLL NUMBERS
502275208 - 502275249!!!!!!!
Full tag *Delivery Date 8-1-16*

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	33,790.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect. Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. <i>[Signature]</i> Signature of Consignor Local Verification Signed <i>[Signature]</i> X PRO Number SF039549 Seal numbers Truckers P.O. # PO1935
1				502275202 GSE BentoLiner NSL, 15.5'	2,355.00	
2				502275203 GSE BentoLiner NSL, 15.5'	2,380.00	
3				502275204 GSE BentoLiner NSL, 15.5'	2,360.00	
4				502275205 GSE BentoLiner NSL, 15.5'	2,355.00	
5				502275206 GSE BentoLiner NSL, 15.5'	2,345.00	
6				502275207 GSE BentoLiner NSL, 15.5'	2,340.00	
7				502275208 GSE BentoLiner NSL, 15.5'	2,315.00	
8				502275209 GSE BentoLiner NSL, 15.5'	2,310.00	
9				502275210 GSE BentoLiner NSL, 15.5'	2,315.00	
10				502275211 GSE BentoLiner NSL, 15.5'	2,335.00	
11				502275212 GSE BentoLiner NSL, 15.5'	2,335.00	
12				502275213 GSE BentoLiner NSL, 15.5'	2,325.00	
13				502275214 GSE BentoLiner NSL, 15.5'	2,325.00	
14				502275215 GSE BentoLiner NSL, 15.5'	2,320.00	
15				502275242 GSE BentoLiner NSL, 15.5'	1,235.00	
	96.00	BENTGRAN00-030	BC	Loose Bentonite Clay		
16				Loose Bentonite Clay	0.00	

Total quantity: 33,886.00 **Total weight: 33,950.00**

Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (605) 642-8531 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: East West Motor Express, Inc. Carrier signature: _____ Date: _____
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GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Jul/28/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097656
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Roll Number	ASTM D5738 Density (pcf)	ASTM D5738 Strength (psi)	ASTM D6993 CBR % Measure (bars)	ASTM D5890 Free Swell (m/2g)	ASTM Moisture Content (%)	ASTM D5891 Flux Loss (mil)
502275202	58.7	5.9	0.82	30.0	10.6	13.0
502275203	58.7	5.9	0.82	30.0	10.6	13.0
502275204	58.7	5.9	0.82	30.0	10.6	13.0
502275205	58.7	5.9	0.82	30.0	10.6	13.0
502275206	58.7	5.9	0.82	30.0	10.6	13.0
502275207	58.7	5.9	0.82	30.0	10.6	13.0
502275208	58.7	5.9	0.82	30.0	10.6	13.0
502275209	55.4	8.0	0.81	30.0	10.6	13.0
502275210	55.4	8.0	0.81	30.0	10.6	13.0
502275211	55.4	8.0	0.81	30.0	10.6	13.0
502275212	55.4	8.0	0.81	30.0	10.6	13.0
502275213	55.4	8.0	0.81	30.5	10.4	13.8
502275214	55.4	8.0	0.81	30.5	10.4	13.8
502275215	55.4	8.0	0.81	30.5	10.4	13.8
502275242	51.4	7.0	0.82	30.5	10.4	13.8

Laboratory Manager

Mauricio Osma

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19103 Gundie Road Houston TX 77073

GSE-8.2.4-029 Rev.01 - - 02/10



Shipping Order - Packing List - Original - Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097670

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and the Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/29/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! Four Truck per day to arrive at site on 8/1/16! ONLY SHIP ROLL NUMBERS 502275208 - 502275249!!!!!!!

Full tarp *Delivery Date 8-1-16*

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	41,850.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275200 GSE BentoLiner NSL, 15.5'	2,475.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/>
2				502275201 GSE BentoLiner NSL, 15.5'	2,340.00	
3				502275216 GSE BentoLiner NSL, 15.5'	2,340.00	
4				502275218 GSE BentoLiner NSL, 15.5'	2,310.00	
5				502275219 GSE BentoLiner NSL, 15.5'	2,305.00	
6				502275220 GSE BentoLiner NSL, 15.5'	2,260.00	
7				502275221 GSE BentoLiner NSL, 15.5'	2,275.00	
8				502275222 GSE BentoLiner NSL, 15.5'	2,260.00	
9				502275223 GSE BentoLiner NSL, 15.5'	2,270.00	
10				502275224 GSE BentoLiner NSL, 15.5'	2,260.00	
11				502275225 GSE BentoLiner NSL, 15.5'	2,245.00	
12				502275226 GSE BentoLiner NSL, 15.5'	2,250.00	
13				502275227 GSE BentoLiner NSL, 15.5'	2,250.00	
14				502275228 GSE BentoLiner NSL, 15.5'	2,245.00	
15				502275229 GSE BentoLiner NSL, 15.5'	2,225.00	
16				502275230 GSE BentoLiner NSL, 15.5'	2,270.00	
17				502275245 GSE BentoLiner NSL, 15.5'	2,290.00	
18				502275246 GSE BentoLiner NSL, 15.5'	2,290.00	
Total quantity: 41,850.00					Total weight: 41,160.00	PRO Number SF039550
						Seal numbers
						Truckers P.O. # PO1935

Clovis Grissom

- Driver requirements:**
- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
 - 2) Driver must call (605) 642-8531 when unloaded.
 - 3) Driver must call and advise any delay in transit.
 - 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: East West Motor Express, Inc.
Carrier signature: *[Signature]*
Date: 7-29-16



GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Jul/29/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BL-075-06N-03S-D-00	BOL Number BL-0097670
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Roll Number	ASTM D5768 Sulfur Content (%)	ASTM D5993 Clay Content (%)	ASTM D5216 Moisture Content (%)	ASTM D5930 Loss (%)
502275200	58.7	5.9	0.82	30.0
502275201	58.7	5.9	0.82	30.0
502275216	55.4	8.0	0.81	30.5
502275218	55.4	8.0	0.81	30.5
502275219	55.4	8.0	0.81	30.5
502275220	55.4	8.0	0.81	30.5
502275221	55.4	8.0	0.81	30.5
502275222	55.4	8.0	0.81	30.5
502275223	55.4	8.0	0.81	30.5
502275224	55.4	8.0	0.81	30.5
502275225	50.3	8.0	0.80	30.5
502275226	50.3	8.0	0.80	30.5
502275227	50.3	8.0	0.80	30.5
502275228	50.3	8.0	0.80	30.5
502275229	50.3	8.0	0.80	30.5
502275230	50.3	8.0	0.80	30.5
502275245	51.4	7.0	0.82	28.5
502275246	51.4	7.0	0.82	28.5

water coming out of Bags

Laboratory Manager

Mauricio Osora

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Determine Date 8-1-16



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097674

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/29/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! Four Truck per day to arrive at site on 8/1/16! ONLY SHIP ROLL NUMBERS 502275208 - 502275249!!!!!!!

Full load Delivered Date 8-1-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	41,106.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect. Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/>
1				502275231 GSE BentoLiner NSL, 15.5'	2,295.00	
2				502275237 GSE BentoLiner NSL, 15.5'	2,275.00	
3				502275238 GSE BentoLiner NSL, 15.5'	2,250.00	
4				502275239 GSE BentoLiner NSL, 15.5'	2,265.00	
5				502275240 GSE BentoLiner NSL, 15.5'	2,230.00	
6				502275243 GSE BentoLiner NSL, 15.5'	2,260.00	
7				502275244 GSE BentoLiner NSL, 15.5'	2,265.00	
8				502275247 GSE BentoLiner NSL, 15.5'	2,285.00	
9				502275256 GSE BentoLiner NSL, 15.5'	2,270.00	
10				502275257 GSE BentoLiner NSL, 15.5'	2,315.00	
11				502275258 GSE BentoLiner NSL, 15.5'	2,320.00	
12				502275259 GSE BentoLiner NSL, 15.5'	2,325.00	
13				502275260 GSE BentoLiner NSL, 15.5'	2,320.00	
14				502275261 GSE BentoLiner NSL, 15.5'	2,335.00	
15				502275262 GSE BentoLiner NSL, 15.5'	2,340.00	
16				502275272 GSE BentoLiner NSL, 15.5'	2,325.00	
17				502275273 GSE BentoLiner NSL, 15.5'	2,355.00	
18				502275296 GSE BentoLiner NSL, 15.5'	1,575.00	

Clovis Grissom

Total quantity: 41,106.00	Total weight: 40,605.00	Truckers P.O. # PO1935
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Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (605) 642-8531 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: East West Motor Express, Inc. Carrier signature: <i>[Signature]</i> Date: 7-29-16
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GSE Environmental, LLC

ROLL TEST DATA REPORT



Report Date: Jul/29/2016

ENVIRONMENTAL

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097674
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Roll Number	ASTM D8765 Tensile Strength (psi)	ASTM D496 Peel Strength (psi)	ASTM D5993 Clay Content @ 0% Moisture (0.95%)	ASTM D3850 Tensile Strength (psi)	ASTM D2216 Moisture Content (%)	ASTM D5931 Tear (psi)
502275231	50.3	8.0	0.80	30.5	10.4	13.8
502275237	50.3	8.0	0.80	30.5	10.4	13.8
502275238	50.3	8.0	0.80	30.5	10.4	13.8
502275239	50.3	8.0	0.80	30.5	10.4	13.8
502275240	50.3	8.0	0.80	30.5	10.4	13.8
502275243	51.4	7.0	0.82	30.5	10.4	13.8
502275244	51.4	7.0	0.82	30.5	10.4	13.8
502275247	51.4	7.0	0.82	28.5	10.7	13.8
502275256	51.4	7.0	0.82	28.5	10.7	13.8
502275257	51.4	7.0	0.82	28.5	10.7	13.8
502275258	42.3	10.4	0.86	28.5	10.7	13.8
502275259	42.3	10.4	0.86	28.5	10.7	13.8
502275260	42.3	10.4	0.86	28.5	10.7	13.8
502275261	42.3	10.4	0.86	28.5	10.7	13.8
502275262	42.3	10.4	0.86	28.5	10.7	13.8
502275272	42.3	10.4	0.86	28.5	10.7	13.8
502275273	42.3	10.4	0.86	28.5	10.7	13.8
502275296	50.3	5.8	0.82	30.0	9.8	14.4

Laboratory Manager Mauricio Osca

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19103 Gundie Road Houston, TX 77073



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097683

2nd

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: <u>WMI Eco Vista Final Cover GCI</u> 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/29/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! Four Truck per day to arrive at site on 8/1/16! ONLY SHIP ROLL NUMBERS 502275208 - 502275249!!!!!!!
Full tarp *Delivery Date 8-1-16*

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	41,850.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275217 GSE BentoLiner NSL, 15.5'	2,340.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/>
2				502275232 GSE BentoLiner NSL, 15.5'	2,290.00	
3				502275233 GSE BentoLiner NSL, 15.5'	2,290.00	
4				502275234 GSE BentoLiner NSL, 15.5'	2,275.00	
5				502275235 GSE BentoLiner NSL, 15.5'	2,275.00	
6				502275236 GSE BentoLiner NSL, 15.5'	2,245.00	
7				502275248 GSE BentoLiner NSL, 15.5'	2,255.00	
8				502275249 GSE BentoLiner NSL, 15.5'	2,255.00	
9				502275250 GSE BentoLiner NSL, 15.5'	2,260.00	
10				502275251 GSE BentoLiner NSL, 15.5'	2,250.00	
11				502275252 GSE BentoLiner NSL, 15.5'	2,250.00	
12				502275253 GSE BentoLiner NSL, 15.5'	2,250.00	
13				502275255 GSE BentoLiner NSL, 15.5'	2,230.00	
14				502275269 GSE BentoLiner NSL, 15.5'	2,265.00	
15				502275270 GSE BentoLiner NSL, 15.5'	2,280.00	
16				502275271 GSE BentoLiner NSL, 15.5'	2,305.00	
17				502275274 GSE BentoLiner NSL, 15.5'	2,370.00	
18				502275275 GSE BentoLiner NSL, 15.5'	2,350.00	
				<i>Clovis Grissom</i>		
Total quantity: 41,850.00				Total weight: 41,035.00		PO1935

Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (605) 642-8531 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: East West Motor Express, Inc. Carrier signature: _____ Date: 7/1/16
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GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Jul/29/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097683
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Roll Number	ASTM D2276 Tensile Strength (psi)	ASTM D5696 Peel Strength (psi)	ASTM D2276 Percent Elongation @ Break	ASTM D5690 Free Swell (m ² /g)	ASTM D2276 Moisture Content (%)	ASTM D5891 Fluid Loss (ml)
502275217	55.4	8.0	0.81	30.5	10.4	13.8
502275232	50.3	8.0	0.80	30.5	10.4	13.8
502275233	50.3	8.0	0.80	30.5	10.4	13.8
502275234	50.3	8.0	0.80	30.5	10.4	13.8
502275235	50.3	8.0	0.80	30.5	10.4	13.8
502275236	50.3	8.0	0.80	30.5	10.4	13.8
502275248	51.4	7.0	0.82	28.5	10.7	13.8
502275249	51.4	7.0	0.82	28.5	10.7	13.8
502275250	51.4	7.0	0.82	28.5	10.7	13.8
502275251	51.4	7.0	0.82	28.5	10.7	13.8
502275252	51.4	7.0	0.82	28.5	10.7	13.8
502275253	51.4	7.0	0.82	28.5	10.7	13.8
502275255	51.4	7.0	0.82	28.5	10.7	13.8
502275269	42.3	10.4	0.86	28.5	10.7	13.8
502275270	42.3	10.4	0.86	28.5	10.7	13.8
502275271	42.3	10.4	0.86	28.5	10.7	13.8
502275274	47.5	10.6	0.87	28.5	10.7	13.8
502275275	47.5	10.6	0.87	28.5	10.7	13.8

Laboratory Manager

Maureen Ossa

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19103 Gundle Road Houston, TX 77073

GSE-8.2.4-029 Rev01 -- 02/10

Delivery Date 8-1-16



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097701

1st

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 07/29/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! Four Truck per day to arrive at site on 8/1/16! ONLY SHIP ROLL NUMBERS 502275208 – 502275249!!!!!!!
Full tarp *Delivery Date 8-2-16*

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	39,525.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275254 GSE BentoLiner NSL, 15.5'	2,260.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. <i>[Signature]</i> Signature of Consignor Local Verification Signed <i>[Signature]</i> X PRO Number SF039553 Seal numbers Truckers P.O. # PO1935
2				502275263 GSE BentoLiner NSL, 15.5'	2,340.00	
3				502275264 GSE BentoLiner NSL, 15.5'	2,310.00	
4				502275265 GSE BentoLiner NSL, 15.5'	2,310.00	
5				502275266 GSE BentoLiner NSL, 15.5'	2,300.00	
6				502275267 GSE BentoLiner NSL, 15.5'	2,290.00	
7				502275268 GSE BentoLiner NSL, 15.5'	2,280.00	
8				502275280 GSE BentoLiner NSL, 15.5'	2,410.00	
9				502275281 GSE BentoLiner NSL, 15.5'	2,370.00	
10				502275282 GSE BentoLiner NSL, 15.5'	2,380.00	
11				502275283 GSE BentoLiner NSL, 15.5'	2,375.00	
12				502275284 GSE BentoLiner NSL, 15.5'	2,375.00	
13				502275285 GSE BentoLiner NSL, 15.5'	2,355.00	
14				502275286 GSE BentoLiner NSL, 15.5'	2,335.00	
15				502275287 GSE BentoLiner NSL, 15.5'	2,315.00	
16				502275288 GSE BentoLiner NSL, 15.5'	2,320.00	
17				502275289 GSE BentoLiner NSL, 15.5'	2,365.00	
Total quantity:		39,525.00			Total weight:	39,690.00

Driver requirements:

- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
- 2) Driver must call (605) 642-8531 when unloaded.
- 3) Driver must call and advise any delay in transit.
- 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: East West Motor Express, Inc.
Carrier signature: _____
Date: 07/29/16



GSE Environmental, LLC

ENVIRONMENTAL

ROLL TEST DATA REPORT



Report Date: Jul/29/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097701
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Roll Number	ASTM D676 Tensile Strength (psi)	ASTM D446 Peel Strength (psi)	ASTM D5993 Clay Content @ Moisture (test)	ASTM D590 Fine Shell (wt%)	ASTM D216 Moisture (%)	ASTM D5917 Mud Loss (wt)
502275254	51.4	7.0	0.82	28.5	10.7	13.8
502275263	42.3	10.4	0.86	28.5	10.7	13.8
502275264	42.3	10.4	0.86	28.5	10.7	13.8
502275265	42.3	10.4	0.86	28.5	10.7	13.8
502275266	42.3	10.4	0.86	28.5	10.7	13.8
502275267	42.3	10.4	0.86	28.5	10.7	13.8
502275268	42.3	10.4	0.86	28.5	10.7	13.8
502275280	49.3	7.2	0.81	30.0	9.8	14.4
502275281	49.3	7.2	0.81	30.0	9.8	14.4
502275282	49.3	7.2	0.81	30.0	9.8	14.4
502275283	49.3	7.2	0.81	30.0	9.8	14.4
502275284	49.3	7.2	0.81	30.0	9.8	14.4
502275285	49.3	7.2	0.81	30.0	9.8	14.4
502275286	49.3	7.2	0.81	30.0	9.8	14.4
502275287	49.3	7.2	0.81	30.0	9.8	14.4
502275288	49.3	7.2	0.81	30.0	9.8	14.4
502275289	49.3	7.2	0.81	30.0	9.8	14.4

Laboratory Manager

Marcia D. Ossa

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19103 Gundie Road Houston, TX 77073

GSE-824-029 Rev01 -- 02/10

Delivery Date 8-2-16

TS



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097834

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 08/03/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!!

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project	
	41,850.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.	
1				502275292 GSE BentoLiner NSL, 15.5'	2,310.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. <div style="text-align: center;"> Signature of Consignor </div> Local Verification Signed <div style="text-align: center;"> <input checked="" type="checkbox"/> X </div> PRO Number SF039562 Seal numbers Truckers P.O. # PO1935	
2				502275293 GSE BentoLiner NSL, 15.5'	2,315.00		
3				502275294 GSE BentoLiner NSL, 15.5'	2,310.00		
4				502275358 GSE BentoLiner NSL, 15.5'	2,265.00		
5				502275359 GSE BentoLiner NSL, 15.5'	2,250.00		
6				502275360 GSE BentoLiner NSL, 15.5'	2,250.00		
7				502275361 GSE BentoLiner NSL, 15.5'	2,270.00		
8				502275362 GSE BentoLiner NSL, 15.5'	2,255.00		
9				502275363 GSE BentoLiner NSL, 15.5'	2,260.00		
10				502275364 GSE BentoLiner NSL, 15.5'	2,280.00		
11				502275365 GSE BentoLiner NSL, 15.5'	2,290.00		
12				502275366 GSE BentoLiner NSL, 15.5'	2,290.00		
13				502275367 GSE BentoLiner NSL, 15.5'	2,305.00		
14				502275368 GSE BentoLiner NSL, 15.5'	2,310.00		
15				502275369 GSE BentoLiner NSL, 15.5'	2,325.00		
16				502275374 GSE BentoLiner NSL, 15.5'	2,270.00		
17				502275375 GSE BentoLiner NSL, 15.5'	2,280.00		
18				502275376 GSE BentoLiner NSL, 15.5'	2,275.00		
Total quantity:				41,850.00	Total weight:		41,110.00

Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (605) 642-8531 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: East West Motor Express, Inc. Carrier signature: Date: <u> </u>
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GSE Environmental, LLC

ENVIRONMENTAL

ROLL TEST DATA REPORT



Report Date: Aug 3/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BL-075-06N-03S-D-00	BOL Number BL-0097834
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Roll Number	ASTM D698 Tensile Strength (psi)	ASTM D2922 Moisture Strength (psi)	ASTM D5833 Comp % Moisture (heft)	ASTM D690 Free Swell (inZ)	ASTM D2216 Moisture Content (%)	ASTM D5957 Fluid Loss (ml)
502275292	49.3	7.2	0.81	30.0	9.8	14.4
502275293	49.3	7.2	0.81	30.0	9.8	14.4
502275294	49.3	7.2	0.81	30.0	9.8	14.4
502275358	45.7	8.5	0.84	29.0	9.7	14.2
502275359	45.7	8.5	0.84	29.0	9.7	14.2
502275360	45.7	8.5	0.84	29.0	9.7	14.2
502275361	45.7	8.5	0.84	29.0	9.7	14.2
502275362	45.7	8.5	0.84	29.0	9.7	14.2
502275363	45.7	8.5	0.84	29.0	9.7	14.2
502275364	45.7	8.5	0.84	29.0	9.7	14.2
502275365	45.7	8.5	0.84	29.0	9.7	14.2
502275366	45.7	8.5	0.84	29.0	9.7	14.2
502275367	45.7	8.5	0.84	29.0	9.7	14.2
502275368	45.7	8.5	0.84	29.0	9.7	14.2
502275369	49.6	9.0	0.80	29.0	9.7	14.2
502275374	49.6	9.0	0.80	29.0	9.7	14.2
502275375	49.6	9.0	0.80	29.5	9.8	13.6
502275376	49.6	9.0	0.80	29.5	9.8	13.6

Laboratory Manager

Marcia Ossa

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19103 Gurdle Road Houston, TX 77073



Shipping Order - Packing List - Original - Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097850

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: **WMI Eco Vista Final Cover GCL**
2210 Waste Management Drive
Springdale, AR 72762

Ship date: 08/04/2016

Branch plant: 1502

Sales order: SO-078810

Shipping instructions: **Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE**
REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!!

1041 APPROX ARCHIVE PAD
Full tarp Delivery Date 8-8-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	39,525.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		
1				502275306 GSE BentoLiner NSL, 15.5'	2,285.00	Freight charges are prepaid unless marked collect.
2				502275307 GSE BentoLiner NSL, 15.5'	2,295.00	
3				502275308 GSE BentoLiner NSL, 15.5'	2,295.00	Check box if collect <input type="checkbox"/>
4				502275309 GSE BentoLiner NSL, 15.5'	2,280.00	
5				502275310 GSE BentoLiner NSL, 15.5'	2,295.00	Customer PO number 1000032755
6				502275311 GSE BentoLiner NSL, 15.5'	2,310.00	
7				502275312 GSE BentoLiner NSL, 15.5'	2,285.00	If this shipment is to be delivered to consignee, consignor shall sign the following statement.
8				502275313 GSE BentoLiner NSL, 15.5'	2,295.00	
9				502275314 GSE BentoLiner NSL, 15.5'	2,285.00	Carrier may decline to deliver this shipment without payment of freight and all other lawful charges.
10				502275315 GSE BentoLiner NSL, 15.5'	2,325.00	
11				502275316 GSE BentoLiner NSL, 15.5'	2,320.00	Signature of Consignor <i>[Signature]</i>
12				502275317 GSE BentoLiner NSL, 15.5'	2,335.00	
13				502275318 GSE BentoLiner NSL, 15.5'	2,305.00	Local Verification Signed <i>[Signature]</i> X
14				502275319 GSE BentoLiner NSL, 15.5'	2,330.00	
15				502275320 GSE BentoLiner NSL, 15.5'	2,340.00	PRO Number SF039567
16				502275321 GSE BentoLiner NSL, 15.5'	2,325.00	
17				502275322 GSE BentoLiner NSL, 15.5'	2,285.00	Seal numbers Truckers P.O. # PO1935

Total quantity: 39,525.00

Total weight: 39,190.00

Driver requirements:

- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
- 2) Driver must call (605) 642-8531 when unloaded.
- 3) Driver must call and advise any delay in transit.
- 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: **Coast2Coast Logistics**

Carrier signature: *[Signature]*

Date: **8-4-16**



GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Aug 4/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097850
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Roll Number	ASTM D6798 Tensile Strength (psi)	ASTM D6496 Peel Strength (psi)	ASTM D6993 Char Content @ 2800 (wt%)	ASTM D5890 Free Swell (ml/2g)	ASTM D2240 Moisture Content (%)	ASTM D5631 Flex Loss (ml)
502275306	50.3	5.8	0.82	30.0	9.8	14.4
502275307	50.3	5.8	0.82	30.0	9.8	14.4
502275308	50.3	5.8	0.82	30.0	9.8	14.4
502275309	50.3	5.8	0.82	30.0	9.8	14.4
502275310	50.3	5.8	0.82	30.0	9.8	14.4
502275311	50.3	5.8	0.82	30.0	9.8	14.4
502275312	46.0	6.3	0.83	30.0	10.7	13.8
502275313	46.0	6.3	0.83	30.0	10.7	13.8
502275314	46.0	6.3	0.83	30.0	10.7	13.8
502275315	46.0	6.3	0.83	30.0	10.7	13.8
502275316	46.0	6.3	0.83	30.0	10.7	13.8
502275317	46.0	6.3	0.83	30.0	10.7	13.8
502275318	46.0	6.3	0.83	30.0	10.7	13.8
502275319	46.0	6.3	0.83	30.0	10.7	13.8
502275320	46.0	6.3	0.83	30.0	10.7	13.8
502275321	46.0	6.3	0.83	30.0	10.7	13.8
502275322	46.0	6.3	0.83	30.0	10.7	13.8

1041 ARBER

Delivered 8-3-16

Laboratory Manager

Mauricio Osuna

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19103 Gundie Road Houston, TX 77073



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD



Number BL-0097855

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WM/ Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 08/05/2016
	Branch plant: 1502
	Sales order: SO-078810

Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!


Full Tarp Delivered Date 8-8-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	41,354.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275378 GSE BentoLiner NSL, 15.5'	2,255.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges.  Signature of Consignor Local Verification Signed  X PRO Number SF039564 Seal numbers Truckers P.O. # PO1935
2				502275379 GSE BentoLiner NSL, 15.5'	2,250.00	
3				502275380 GSE BentoLiner NSL, 15.5'	2,260.00	
4				502275381 GSE BentoLiner NSL, 15.5'	2,280.00	
5				502275382 GSE BentoLiner NSL, 15.5'	2,265.00	
6				502275383 GSE BentoLiner NSL, 15.5'	2,280.00	
7				502275384 GSE BentoLiner NSL, 15.5'	2,275.00	
8				502275385 GSE BentoLiner NSL, 15.5'	2,280.00	
9				502275386 GSE BentoLiner NSL, 15.5'	2,300.00	
10				502275387 GSE BentoLiner NSL, 15.5'	2,295.00	
11				502275388 GSE BentoLiner NSL, 15.5'	2,250.00	
12				502275389 GSE BentoLiner NSL, 15.5'	2,235.00	
13				502275390 GSE BentoLiner NSL, 15.5'	2,290.00	
14				502275391 GSE BentoLiner NSL, 15.5'	2,325.00	
15				502275392 GSE BentoLiner NSL, 15.5'	2,320.00	
16				502275393 GSE BentoLiner NSL, 15.5'	1,825.00	
17				502275394 GSE BentoLiner NSL, 15.5'	2,340.00	
18				502275395 GSE BentoLiner NSL, 15.5'	2,300.00	
Total quantity:		41,354.00		Total weight:	40,625.00	

Driver requirements:

- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
- 2) Driver must call (605) 642-8531 when unloaded.
- 3) Driver must call and advise any delay in transit.
- 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: East West Motor Express, Inc.

Carrier signature: 

Date: _____



GSE Environmental, LLC

ROLL TEST DATA REPORT



Report Date: Aug/5/2016

ENVIRONMENTAL™

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BL-075-06N-03S-D-00	BOL Number BL-0097855
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Roll Number	ASTM D5768 Tensile Strength (psi)	ASTM D695 Pave Strength (psi)	ASTM D5993 Clay Content (%)	ASTM D2216 Moisture Content (%)	ASTM D695 Pave Loss (mm)
502275378	49.6	9.0	0.80	29.5	9.8
502275379	49.6	9.0	0.80	29.5	9.8
502275380	49.6	9.0	0.80	29.5	9.8
502275381	49.6	9.0	0.80	29.5	9.8
502275382	49.6	9.0	0.80	29.5	9.8
502275383	49.6	9.0	0.80	29.5	9.8
502275384	49.6	9.0	0.80	29.5	9.8
502275385	45.7	11.9	0.81	29.5	9.8
502275386	45.7	11.9	0.81	29.5	9.8
502275387	45.7	11.9	0.81	29.5	9.8
502275388	45.7	11.9	0.81	29.5	9.8
502275389	45.7	11.9	0.81	29.5	9.8
502275390	45.7	11.9	0.81	29.5	9.8
502275391	45.7	11.9	0.81	29.5	9.8
502275392	45.7	11.9	0.81	29.5	9.8
502275393	45.7	11.9	0.81	29.5	9.8
502275394	45.7	11.9	0.81	29.5	9.8
502275395	45.7	11.9	0.81	29.5	9.8

Laboratory Manager

Marcia Ossa

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19103 Gundie Road Houston, TX 77073

GSE-8.2.4-029 Rev01 - 02/10



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097858

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI/ Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 08/05/2016 Branch plant: 1502 Sales order: SO-078810
---	--

Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!!
Full Tank Delivery Date 8-5-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	39,525.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275290 GSE BentoLiner NSL, 15.5'	2,320.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor Local Verification Signed <i>X</i> _____ PRO Number SF039563 Seal numbers Truckers P.O. # PO1935
2				502275291 GSE BentoLiner NSL, 15.5'	2,330.00	
3				502275295 GSE BentoLiner NSL, 15.5'	2,320.00	
4				502275297 GSE BentoLiner NSL, 15.5'	2,320.00	
5				502275298 GSE BentoLiner NSL, 15.5'	2,315.00	
6				502275299 GSE BentoLiner NSL, 15.5'	2,310.00	
7				502275300 GSE BentoLiner NSL, 15.5'	2,295.00	
8				502275301 GSE BentoLiner NSL, 15.5'	2,260.00	
9				502275302 GSE BentoLiner NSL, 15.5'	2,320.00	
10				502275303 GSE BentoLiner NSL, 15.5'	2,335.00	
11				502275304 GSE BentoLiner NSL, 15.5'	2,315.00	
12				502275305 GSE BentoLiner NSL, 15.5'	2,265.00	
13				502275370 GSE BentoLiner NSL, 15.5'	2,290.00	
14				502275371 GSE BentoLiner NSL, 15.5'	2,260.00	
15				502275372 GSE BentoLiner NSL, 15.5'	2,270.00	
16				502275373 GSE BentoLiner NSL, 15.5'	2,285.00	
17				502275377 GSE BentoLiner NSL, 15.5'	2,270.00	
Total quantity:		39,525.00			Total weight:	39,080.00

Driver requirements:

- 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
- 2) Driver must call (605) 642-8531 when unloaded.
- 3) Driver must call and advise any delay in transit.
- 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: East West Motor Express, Inc.
Carrier signature: *[Signature]*
Date: 8-5-16



GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Aug/5/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097858
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Roll Number	ASTM D695 Tensile Strength (psi)	ASTM D695 Tensile Strength (psi)	ASTM D563 Clay Content @ 100°C (mass)	ASTM D5890 Fine Sieve (75µm)	ASTM D2216 Moisture Content (%)	ASTM D593 Loss (wt)
502275290	49.3	7.2	0.81	30.0	9.8	14.4
502275291	49.3	7.2	0.81	30.0	9.8	14.4
502275295	49.3	7.2	0.81	30.0	9.8	14.4
502275297	50.3	5.8	0.82	30.0	9.8	14.4
502275298	50.3	5.8	0.82	30.0	9.8	14.4
502275299	50.3	5.8	0.82	30.0	9.8	14.4
502275300	50.3	5.8	0.82	30.0	9.8	14.4
502275301	50.3	5.8	0.82	30.0	9.8	14.4
502275302	50.3	5.8	0.82	30.0	9.8	14.4
502275303	50.3	5.8	0.82	30.0	9.8	14.4
502275304	50.3	5.8	0.82	30.0	9.8	14.4
502275305	50.3	5.8	0.82	30.0	9.8	14.4
502275370	49.6	9.0	0.80	29.0	9.7	14.2
502275371	49.6	9.0	0.80	29.0	9.7	14.2
502275372	49.6	9.0	0.80	29.0	9.7	14.2
502275373	49.6	9.0	0.80	29.0	9.7	14.2
502275377	49.6	9.0	0.80	29.5	9.8	13.6

Printed

Laboratory Manager Mauricio Osca

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19103 Gundle Road Houston, TX 77073



Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097865

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WMI/ Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 08/05/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!!
Full Tank Delivery Dates 8-8-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	39,525.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275323 GSE BentoLiner NSL, 15.5'	2,290.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/> _____ PRO Number SF039565 Seal numbers Truckers P.O. # PO1935
2				502275324 GSE BentoLiner NSL, 15.5'	2,290.00	
3				502275325 GSE BentoLiner NSL, 15.5'	2,270.00	
4				502275326 GSE BentoLiner NSL, 15.5'	2,275.00	
5				502275327 GSE BentoLiner NSL, 15.5'	2,255.00	
6				502275328 GSE BentoLiner NSL, 15.5'	2,275.00	
7				502275329 GSE BentoLiner NSL, 15.5'	2,265.00	
8				502275330 GSE BentoLiner NSL, 15.5'	2,265.00	
9				502275331 GSE BentoLiner NSL, 15.5'	2,265.00	
10				502275334 GSE BentoLiner NSL, 15.5'	2,245.00	
11				502275335 GSE BentoLiner NSL, 15.5'	2,265.00	
12				502275336 GSE BentoLiner NSL, 15.5'	2,290.00	
13				502275338 GSE BentoLiner NSL, 15.5'	2,290.00	
14				502275340 GSE BentoLiner NSL, 15.5'	2,265.00	
15				502275342 GSE BentoLiner NSL, 15.5'	2,240.00	
16				502275344 GSE BentoLiner NSL, 15.5'	2,255.00	
17				502275346 GSE BentoLiner NSL, 15.5'	2,220.00	
Total quantity: 39,525.00				Total weight:	38,520.00	

Driver requirements: *KGland 8/6:26 AM*

1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
 2) Driver must call (605) 842-8531 when unloaded.
 3) Driver must call and advise any delay in transit.
 4) A copy of this bill of lading must accompany Freight Invoice.

Carrier name: *Larry White*
Carrier signature: _____
Date: _____



GSE Environmental, LLC

ROLL TEST DATA REPORT



Report Date: Aug/5/2016

ENVIRONMENTAL™

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097865
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Roll Number	ASTM D6766 Tensile Strength (psi)	ASTM D6985 Peel Strength (psi)	ASTM D6993 Clay Content @ 0% Moisture (Wt%)	ASTM D2276 D3980 Fineness (Wt%)	ASTM D2276 Moisture Content (%)	ASTM D6981 Fluid Loss (ml)
502275323	46.0	6.3	0.83	30.0	10.7	13.8
502275324	46.0	6.3	0.83	30.0	10.7	13.8
502275325	46.0	6.3	0.83	30.0	10.7	13.8
502275326	46.0	6.3	0.83	30.0	10.7	13.8
502275327	46.0	6.3	0.83	30.0	10.7	13.8
502275328	52.5	10.1	0.79	30.0	10.7	13.8
502275329	52.5	10.1	0.79	30.0	10.7	13.8
502275330	52.5	10.1	0.79	30.0	10.7	13.8
502275331	52.5	10.1	0.79	30.0	10.7	13.8
502275334	52.5	10.1	0.79	30.0	10.7	13.8
502275335	52.5	10.1	0.79	30.0	10.7	13.8
502275336	35.9	9.3	0.81	30.0	10.7	13.8
502275338	35.9	9.3	0.81	30.0	10.7	13.8
502275340	35.9	9.3	0.81	30.0	10.7	13.8
502275342	35.9	9.3	0.81	30.0	10.7	13.8
502275344	35.9	9.3	0.81	29.0	9.7	14.2
502275346	35.9	9.3	0.81	29.0	9.7	14.2

Laboratory Manager

Maustacio Osna

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Shipping Order – Packing List – Original – Not Negotiable

GSE Environmental, LLC Spearfish, SD

Number BL-0097866

Received at Spearfish, SD from GSE Environmental, LLC the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing by GSE Environmental, LLC and Carrier. GSE Environmental, LLC's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the Carrier transporting the freight and (2) the Carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Environmental, LLC for payment.

Ship to: WM/ Eco Vista Final Cover GCL 2210 Waste Management Drive Springdale, AR 72762	Ship date: 08/05/2016 Branch plant: 1502 Sales order: SO-078810
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Shipping instructions: Contact Clovis Grissom @ 870 598-4536 24 hrs prior to delivery for unloading appt. PPE SITE REQUIREMENTS!! All Trucks to arrive at site on 8/8/16!!!
Full tarp Delivery Date 8-5-16

Line no.	Shipped quantity	Product code	Unit	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight	Project
	39,525.00	BLI-075-06N-03S-D-00	SF	GSE BentoLiner NSL, 15.5'		Freight charges are prepaid unless marked collect.
1				502275332 GSE BentoLiner NSL, 15.5'	2,265.00	Check box if collect <input type="checkbox"/> Customer PO number 1000032755 If this shipment is to be delivered to consignee, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges. _____ Signature of Consignor Local Verification Signed <input checked="" type="checkbox"/> _____ PRO Number SF039566 Seal numbers Truckers P.O. # PO1935
2				502275333 GSE BentoLiner NSL, 15.5'	2,245.00	
3				502275337 GSE BentoLiner NSL, 15.5'	2,295.00	
4				502275339 GSE BentoLiner NSL, 15.5'	2,280.00	
5				502275341 GSE BentoLiner NSL, 15.5'	2,250.00	
6				502275345 GSE BentoLiner NSL, 15.5'	2,230.00	
7				502275347 GSE BentoLiner NSL, 15.5'	2,250.00	
8				502275348 GSE BentoLiner NSL, 15.5'	2,265.00	
9				502275349 GSE BentoLiner NSL, 15.5'	2,290.00	
10				502275350 GSE BentoLiner NSL, 15.5'	2,270.00	
11				502275351 GSE BentoLiner NSL, 15.5'	2,270.00	
12				502275352 GSE BentoLiner NSL, 15.5'	2,240.00	
13				502275353 GSE BentoLiner NSL, 15.5'	2,245.00	
14				502275354 GSE BentoLiner NSL, 15.5'	2,235.00	
15				502275355 GSE BentoLiner NSL, 15.5'	2,255.00	
16				502275356 GSE BentoLiner NSL, 15.5'	2,275.00	
17				502275357 GSE BentoLiner NSL, 15.5'	2,260.00	

Total quantity: 39,525.00 **Total weight: 38,420.00**

Driver requirements: 1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery. 2) Driver must call (605) 642-8531 when unloaded. 3) Driver must call and advise any delay in transit. 4) A copy of this bill of lading must accompany Freight Invoice.	Carrier name: <i>Larry White</i> Carrier signature: _____ Date: _____
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GSE Environmental, LLC

ENVIRONMENTAL™

ROLL TEST DATA REPORT



Report Date: Aug/5/2016

Sales Order No. SO-078810	Customer Name Waste Management, Inc.	Project Location Springdale AR US	Product Name BLI-075-06N-03S-D-00	BOL Number BL-0097866
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Roll Number	ASTM D2768 Tensile Strength (psi)	ASTM D2768 Tensile Strength (psi)	ASTM D5993 Clay Content @ 100% Moisture (0.25%)	ASTM D2218 Moisture Content (%)	ASTM D5991 Fluid Loss (%)	
502275332	52.5	10.1	0.79	30.0	10.7	13.8
502275333	52.5	10.1	0.79	30.0	10.7	13.8
502275337	35.9	9.3	0.81	30.0	10.7	13.8
502275339	35.9	9.3	0.81	30.0	10.7	13.8
502275341	35.9	9.3	0.81	30.0	10.7	13.8
502275345	35.9	9.3	0.81	29.0	9.7	14.2
502275347	35.9	9.3	0.81	29.0	9.7	14.2
502275348	35.9	9.3	0.81	29.0	9.7	14.2
502275349	35.9	9.3	0.81	29.0	9.7	14.2
502275350	35.9	9.3	0.81	29.0	9.7	14.2
502275351	35.9	9.3	0.81	29.0	9.7	14.2
502275352	35.9	9.3	0.81	29.0	9.7	14.2
502275353	45.7	8.5	0.84	29.0	9.7	14.2
502275354	45.7	8.5	0.84	29.0	9.7	14.2
502275355	45.7	8.5	0.84	29.0	9.7	14.2
502275356	45.7	8.5	0.84	29.0	9.7	14.2
502275357	45.7	8.5	0.84	29.0	9.7	14.2

Laboratory Manager

Mauricio Ossa

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19103 Gundie Road Houston, TX 77073

APPENDIX C-4
MANUFACTURER QUALITY CONTROL DOCUMENTS
GEOTEXTILE (6 OZ/YD²)

APPENDIX C-4A
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOTEXTILE (6 OZ/YD²)
MANUFACTURER'S CERTIFICATION

AGRU AMERICA ANDREWS PLANT



PO # / PROJECT: DOC 32532 PO010405 W M SOUTH-ECO VISTA LANDFILL

PRODUCT / STYLE NAME: MARV 6OZ AGRUTEX 061

181 Hwy521

DATE: 7/5/2016

Andrews, SC 29510

ASTM	D5261	D4632				D4533		D4491			D483	D624	D4751	D4355	
Method	Average Weight	Average Grab Tensile(MD)	Average Grab Tensile(CD)	Average Elongation (MD)	Average Elongation (CD)	Average Trap Tear (MD)	Average TRAP Tear (CD)	Water Flow Rate	Permeab.	Permittiv.	Puncture	Average CBR Puncture	Apparent Opening Size	UV Resist % Retained @ 500 hrs	Roll Length
Units	oz / yd ²	Lbs	Lbs	%	%	Lbs	Lbs	gpm / ft ²	cm / sec	sec ⁻¹	lbs.	Units: Lbs	sieve	* % ret.	yds
Roll Number															
1111211058	6.66	206.00	233.00	76	76	86.00	107.00	132.00	.35	1.79	112.00	606	70	70.000	100
1111211059	6.66	206.00	233.00	76	76	86.00	107.00	132.00	.35	1.79	112.00	606	70	70.000	100
MIN	6.66	206.00	233.00	76.00	76.00	86.00	107.00	132.00	.35	1.79	112.00	606.00	70.00	70.00	2 ROLLS

Norman A. Legette

Norman Legette, Plant Manager, Agru Andrews

Date: 7/5/2016

For Questions, Please Contact: Lab Manager, Agru Andrews
 Mark Locklear
 843-221-4121
 Ext 1211

* UV test results are based on test performed at TRI Environmental Laboratory on similar weight products with the same raw material components per ASTM D-4355

APPROVED JUL 07 2016

BWB

APPENDIX C-4B
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOTEXTILE (6 OZ/YD²)
SUMMARY OF MANUFACTURER'S INVENTORY

Summary of 6 oz/yd² Geotextile Manufacturing Inventory



Client Name: Waste Management of Arkansas

Attn: Mr. David Conrad

Project Name: Phase 2 Final Cover System Construction

Location: Eco Vista Class I Landfill

Tontitown, Arkansas

Project Number: 16038

Reviewed By: Bryan Bailey, P.E.

Roll Number	Date Manif.	Roll Dim. Area SY	Thickness Checked		Product Number	Conf. Sample Taken (date)	Conf. Sample Sent (date)	Conf. Sample Results (date)	Conf. Sample Pass/Fail	Appr. for Shipment (date)	QC Certs Date Recd.	QC Certs Date Appr.	Mass per Unit Area (oz/yd ²)		Grab Strength (Lbs)		Grab Elongation (%)		CBR Puncture Strength (Lbs)		Permeability (cm/sec)		
			LAB	Manif.									REQ	ACT	REQ	ACT	REQ	ACT	REQ	ACT	REQ	ACT	
1	1111211058	7/5/16	500	NA	NA	AGRUTEX 061	07/05/16	07/05/16	07/13/16	Pass	08/17/16	07/05/16	07/07/16	6	6.7	160	206	50	76	410	606	0.30	0.35
2	1111211059	7/5/16	500	NA	NA	AGRUTEX 061						07/05/16	07/07/16	6	6.7	160	206	50	76	410	606	0.30	0.35

APPENDIX C-4C
MANUFACTURER'S QUALITY CONTROL DOCUMENTATION
GEOTEXTILE (6 OZ/YD²)
DELIVERY CHECKLIST

Geotextile Delivery Check List



Client Name: Waste Management of Arkansas

Landfill: Eco Vista Class I Landfill

Project Name: Phase 2 Final Cover Construction

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

No.	Geotextile Roll Number	Product Type	Roll Size	Damage/Remarks	Date Delivered	Shippers No.
			Area (SY)			
1	1111211058	AGRUTEX 061	500	None	08/25/16	51234
2	1111211059	AGRUTEX 061	500	None	08/25/16	51234

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. **051234**

NAME OF CARRIER **BEST WAY FRT**


LTL

CARRIER'S NO. **1848**

DATE **8/22/2016**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in effect on the said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date of issue, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. The shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM:
SHIPPER
(ORIGIN)



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

TO:
CONSIGNEE
STREET
DESTINATION


ECO VISTA LF FINAL COVER PHASE 2
WASTE MANAGEMENT - SOUTH
2210 WM DRIVE
SPRINGDALE, AR 72764 USA
CLOVIS GRISSOM 870-598-4536

EMERGENCY RESPONSE PHONE NO. _____
ZIP _____

DELIVERING CARRIER _____ ROUTE _____ VEHICLE NUMBER _____

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
50,026		6 OZ. DOUBLE-SIDED 200 MIL GEOCOMPOSITE				
9,000		AGRUTEX 061 NW HB				
		Item Key	Lot Number	Quantity		
		COMP-06-200-06	G16E011876	3,335		
		COMP-06-200-06	G16E011877	3,335		
		COMP-06-200-06	G16E011883	3,335		
		COMP-06-200-06	G16E011892	3,335		
		COMP-06-200-06	G16E011894	3,335		
		COMP-06-200-06	G16E011895	3,335		
		COMP-06-200-06	G16E011898	3,335		
		COMP-06-200-06	G16E011899	3,335		
		COMP-06-200-06	G16E011921	3,335		
		COMP-06-200-06	G16E011922	3,335		
		COMP-06-200-06	G16E011923	3,335		
		COMP-06-200-06	G16E011924	3,335		
		COMP-06-200-06	G16E011926	3,335		
		COMP-06-200-06	G16E011928	3,335		
		COMP-06-200-06	G16E011932	3,335		
		Total Weight: 12,964 LB	15,500 lbs.			
		Total Packages: 59,026	17 Rolls (15 Composite / 2 Agrutex)			
		Order No.: 32532 Order Date: 05/02/16 Request Date: 08/01/16				
		Location: GTOWN P.O. No.: 1000032753				
		2,000 Ties				

MIT C.O.D. TO:



AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

the shipment moves between two ports by a carrier by air, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

Shipper's imprint in lieu of stamp; not a part of bill of lading covered by the Interstate Commerce Commission.

C.O.D. Amt \$

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor _____

C.O.D. FEE

Prepaid
 Collect \$

TOTAL CHARGES \$

Freight charges are PREPAID unless marked collect. Check box if charges are Collect

Shipper certifies that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

Shipper, Per **CB** Agent, Per **Steve Phelps**



SHIPPING

OA # 32532 Date 8 - 22 - 16

Driver's Name/Truck Company STEVE / LTL Customer WASTE MANAGEMENT City SPRINGDALE State AR Pictures Taken YES ● NO

Time In : Time Out : Inspector: RM / ROB Loader: RM / ROB

Roll #										External		Straps		Core		Weld Rod		CONTAINER/MISC	
										visual OK		OK		OK		OK			
G	YEAR	M	WK of YR	DOW	ROLL #					Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No	Yes ● No				
1	G	1	6	E	O	1	1	8	7	6	Yes	No	Yes	No	Yes	No	Yes	No	TRUCK#.
2	G	1	6	E	O	1	1	8	7	7	Yes	No	Yes	No	Yes	No	Yes	No	1848
3	G	1	6	E	O	1	1	8	9	2	Yes	No	Yes	No	Yes	No	Yes	No	TIES
4	G	1	6	E	O	1	1	8	9	4	Yes	No	Yes	No	Yes	No	Yes	No	TIES
5	G	1	6	E	O	1	1	8	9	5	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
6	G	1	6	E	O	1	1	8	9	8	Yes	No	Yes	No	Yes	No	Yes	No	2 BAGS
7	G	1	6	E	O	1	1	8	9	9	Yes	No	Yes	No	Yes	No	Yes	No	
8	G	1	6	E	O	1	1	9	2	1	Yes	No	Yes	No	Yes	No	Yes	No	WELD ROD
9	G	1	6	E	O	1	1	9	2	2	Yes	No	Yes	No	Yes	No	Yes	No	
10	G	1	6	E	O	1	1	9	2	3	Yes	No	Yes	No	Yes	No	Yes	No	
11	G	1	6	E	O	1	1	9	2	4	Yes	No	Yes	No	Yes	No	Yes	No	
12	G	1	6	E	O	1	1	9	2	6	Yes	No	Yes	No	Yes	No	Yes	No	
13	G	1	6	E	O	1	1	9	2	8	Yes	No	Yes	No	Yes	No	Yes	No	BENTONITE BAGS
14	G	1	6	E	O	1	1	9	3	2	Yes	No	Yes	No	Yes	No	Yes	No	
15	G	1	6	E	O	1	1	8	8	3	Yes	No	Yes	No	Yes	No	Yes	No	
16	A	G	T								Yes	No	Yes	No	Yes	No	Yes	No	
17	1	1	1	1	2	1	1	0	5	8	Yes	No	Yes	No	Yes	No	Yes	No	STRAPS
18	1	1	1	1	2	1	1	0	5	9	Yes	No	Yes	No	Yes	No	Yes	No	
19											Yes	No	Yes	No	Yes	No	Yes	No	
20											Yes	No	Yes	No	Yes	No	Yes	No	
21											Yes	No	Yes	No	Yes	No	Yes	No	
22											Yes	No	Yes	No	Yes	No	Yes	No	PALLETS
23											Yes	No	Yes	No	Yes	No	Yes	No	
24											Yes	No	Yes	No	Yes	No	Yes	No	
25											Yes	No	Yes	No	Yes	No	Yes	No	
26											Yes	No	Yes	No	Yes	No	Yes	No	
27											Yes	No	Yes	No	Yes	No	Yes	No	

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

Revised 11/11/14

Shipping Report for Sales Order 004671

PO #	Stock Code	Roll Number	Qty Shipped (SQY)	Qty Shipped (LYD)	# of Rolls
010405/ 32532 ECO VISTA		AGR001 - AGRU AMERICA, INC.			
AGRUTEX 061 NW HB	AGT150060BKPP18000U				
		111211058	500.000	100.00	
		111211059	500.000	100.00	
			1,000.000	200.00	2
			1,000.000	200.00	2



Shipping Report for Sales Order 004671

		Qty Shipped (LYD)	Net Weight	Gross Weight	# of Rolls
AGRU001 - AGRU AMERICA, INC.		PO # 010405/ 32532 ECC			
AGRUTEX 061 NW HB	AGT150060BKPP18000U	6 OZ. PP, BLACK, 180"			
	1111211058	100.00	244.00	260.00	
	1111211059	100.00	240.00	256.00	
		<u>200.00</u>	<u>484.00</u>	<u>516.00</u>	<u>2</u>
		<u>200.00</u>	<u>484.00</u>	<u>516.00</u>	<u>2</u>

APPENDIX D
GEOSYNTHETIC CONFORMANCE TEST RESULTS

APPENDIX D-1
GEOSYNTHETIC CONFORMANCE TEST RESULTS
40-MIL LLDPE GEOMEMBRANE



July 27, 2016

Mail To:

David Conrad
WMI

Bill To:

<= Same

email: dconrad@wm.com
cc email: jashepherd@sedcousa.net
cc email: bwbailey@sedcousa.net

Dear Mr. Conrad:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

Project: Eco Vista Phase 2 Final Cover
TRI Job Reference Number: 22527
Material(s) Tested: Five, GSE 40 mil Textured LLDPE Geomembrane(s)
Test(s) Requested: Thickness (ASTM D 5994)
Density (ASTM D 1505)
Carbon Black Content (ASTM D 4218)
Carbon Dispersion (ASTM D 5596)
Tensile Properties (ASTM D 6693)
Puncture Strength (ASTM D 4833)
Tear Resistance (ASTM D 1004)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

APPROVED JUL 28 2016

BWB

*Signature is on file



GEOMEMBRANE TEST RESULTS
 TRI Client: WMI
 Project: Eco Vista Phase 2 Final Cover

Material: GSE 40 mil Textured LLDPE Geomembrane
 Sample Identification: 104181039
 TRI Log #: 22527

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	49	42	40	43	44	41	49	49	42	43	44	3	✓
											40	<< min	✓
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.936								0.935	0.001	0.939 max ✓
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.25	2.37									2.31	0.08	2-3 ✓
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								1 or 2 ✓
Rating - 2nd field view	1	1	1	1	1								1 or 2 ✓
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	81	79	81	93	100						87	9	
TD Yield Strength (ppi)	82	89	90	88	82						86	4	
MD Break Strength (ppi)	143	178	162	174	153						162	15	60 min ✓
TD Break Strength (ppi)	138	116	112	152	152						134	19	60 min ✓
MD Yield Elongation (%)	18	16	16	19	21						18	2	
TD Yield Elongation (%)	14	19	18	17	18						17	2	
MD Break Elongation (%)	520	635	595	604	507						572	56	250 min ✓
TD Break Elongation (%)	574	446	408	578	618						525	92	250 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	98	92	93	93	92						93	3	44 min ✓
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	32.4	37.8	33.4	34.4	33.0	32.9	33.3	33.9	37.9	32.5	34.1	2.0	22 min ✓
TD Tear Strength (lbs)	29.4	32.8	33.9	31.3	30.4	32.4	31.3	33.9	32.3	28.9	31.7	1.7	22 min ✓
MD Machine Direction	TD Transverse Direction												

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GOMEMBRANE TEST RESULTS
 TRI Client: WMI
 Project: Eco Vista Phase 2 Final Cover

Material: GSE 40 mil Textured LLDPE Geomembrane
 Sample Identification: 104181046
 TRI Log #: 22527

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	48	44	41	42	41	45	48	45	49	44	45 41	3 << min	✓ ✓
Density (ASTM D 1505)													
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	0.939 max ✓
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.19	2.25									2.22	0.04	2-3 ✓
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								1 or 2 ✓
Rating - 2nd field view	1	1	1	1	1								1 or 2 ✓
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	88	92	89	94	83						89 88	4 6	
TD Yield Strength (ppi)	78	91	91	92	89								
MD Break Strength (ppi)	178	181	147	173	140						164 147	19 9	60 min ✓ 60 min ✓
TD Break Strength (ppi)	134	146	145	149	160								
MD Yield Elongation (%)	20	14	17	17	17						17 17	2 2	
TD Yield Elongation (%)	16	19	19	15	15								
MD Break Elongation (%)	639	614	547	620	575						599 580	37 17	250 min ✓ 250 min ✓
TD Break Elongation (%)	580	572	582	560	607								
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	97	93	92	94	104						96	5	44 min ✓
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	31.4	35.8	36.4	35.9	31.9	30.4	34.8	35.9	35.9	31.9	34.0 32.1	2.3 2.2	22 min ✓ 22 min ✓
TD Tear Strength (lbs)	29.9	34.8	32.9	34.9	31.9	29.9	29.2	31.9	34.9	30.9			
MD Machine Direction	TD Transverse Direction												

APPROVED JUL 28 2016
 BWR



GEOMEMBRANE TEST RESULTS
 TRI Client: WMI
 Project: Eco Vista Phase 2 Final Cover

Material: GSE 40 mil Textured LLDPE Geomembrane
 Sample Identification: 104181052
 TRI Log #: 22527

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.		
	1	2	3	4	5	6	7	8	9	10					
Thickness (ASTM D 5994)															
Thickness (mils)	42	42	42	40	42	45	44	45	43	44	43	2	<< min	✓	
Density (ASTM D 1505)															
Density (g/cm3)	0.935	0.935	0.935									0.935	0.000	0.939 max	✓
Carbon Black Content (ASTM D 4218)															
% Carbon Black	2.13	2.22										2.18	0.06	2-3	✓
Carbon Black Dispersion (ASTM D 5596)															
Rating - 1st field view	1	1	1	1	1									1 or 2	✓
Rating - 2nd field view	1	1	1	1	1									1 or 2	✓
Tensile Properties (ASTM D 6693, 2 ipm strain rate)															
MD Yield Strength (ppi)	85	99	88	94	82							90	7		
TD Yield Strength (ppi)	80	84	87	93	96							88	7		
MD Break Strength (ppi)	153	143	171	166	143							155	13	60 min	✓
TD Break Strength (ppi)	147	148	136	150	143							145	6	60 min	✓
MD Yield Elongation (%)	17	22	17	20	21							19	2		
TD Yield Elongation (%)	14	17	16	18	18							17	2		
MD Break Elongation (%)	540	473	604	566	556							548	48	250 min	✓
TD Break Elongation (%)	585	588	524	540	514							550	34	250 min	✓
Puncture Resistance (ASTM D 4833)															
Puncture Strength (lbs)	86	86	83	81	87							85	3	44 min	✓
Tear Resistance (ASTM D 1004)															
MD Tear Strength (lbs)	28.4	34.8	36.4	35.4	30.9	36.5	34.3	32.9	33.4	30.4		33.3	2.7	22 min	✓
TD Tear Strength (lbs)	30.4	33.8	30.9	33.9	29.9	30.9	31.3	32.9	33.9	30.4		31.8	1.6	22 min	✓
MD Machine Direction	TD Transverse Direction														

APPROVED JUL 28 2016
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GEOMEMBRANE TEST RESULTS
 TRI Client: WMI
 Project: Eco Vista Phase 2 Final Cover

Material: GSE 40 mil Textured LLDPE Geomembrane
 Sample Identification: 104181057
 TRI Log #: 22527

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	47	42	42	41	45	46	47	42	48	49	45 41	3 << min	✓ ✓
Density (ASTM D 1505)													
Density (g/cm3)	0.934	0.935	0.935								0.935	0.001	0.939 max ✓
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.19	2.22									2.21	0.02	2-3 ✓
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								1 or 2 ✓
Rating - 2nd field view	1	1	1	1	1								1 or 2 ✓
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	83	93	92	96	88						90 89	5 6	
TD Yield Strength (ppi)	82	87	88	97	92								
MD Break Strength (ppi)	169	160	182	172	132						163 132	19 12	60 min ✓ 60 min ✓
TD Break Strength (ppi)	119	136	126	127	151								
MD Yield Elongation (%)	17	22	14	18	19						18 17	3 1	
TD Yield Elongation (%)	16	18	18	17	16								
MD Break Elongation (%)	623	595	623	585	526						590 530	40 41	250 min ✓ 250 min ✓
TD Break Elongation (%)	527	568	506	478	573								
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	91	98	90	89	85						91	5	44 min ✓
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	32.9	33.3	35.9	34.9	30.4	31.4	32.3	32.4	36.4	33.0	33.3	1.9	22 min ✓
TD Tear Strength (lbs)	26.9	31.8	32.4	30.3	29.4	30.9	37.3	32.4	33.4	28.4	31.3	2.9	22 min ✓
MD Machine Direction	TD Transverse Direction												

APPROVED JUL 28 2016
BWG



GOMEMBRANE TEST RESULTS
 TRI Client: WMI
 Project: Eco Vista Phase 2 Final Cover

Material: GSE 40 mil Textured LLDPE Geomembrane
 Sample Identification: 104181062
 TRI Log #: 22527

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Thickness (ASTM D 5994)														
Thickness (mils)	42	41	45	48	49	46	46	49	42	44	45	3	✓	
											41	<< min	✓	
Density (ASTM D 1505)														
Density (g/cm3)	0.935	0.935	0.935								0.935	0.000	0.939 max	✓
Carbon Black Content (ASTM D 4218)														
% Carbon Black	2.35	2.32									2.34	0.02	2-3	✓
Carbon Black Dispersion (ASTM D 5596)														
Rating - 1st field view	1	1	1	1	1								1 or 2	✓
Rating - 2nd field view	1	1	1	1	1								1 or 2	✓
Tensile Properties (ASTM D 6693, 2 ipm strain rate)														
MD Yield Strength (ppi)	87	84	84	90	91						87	3		
TD Yield Strength (ppi)	82	92	98	92	82						89	7		
MD Break Strength (ppi)	159	171	161	167	174						166	6	60 min	✓
TD Break Strength (ppi)	125	128	133	128	148						132	9	60 min	✓
MD Yield Elongation (%)	20	16	22	22	22						20	3		
TD Yield Elongation (%)	14	18	18	18	15						17	2		
MD Break Elongation (%)	566	579	575	580	580						576	6	250 min	✓
TD Break Elongation (%)	492	492	484	476	595						508	49	250 min	✓
Puncture Resistance (ASTM D 4833)														
Puncture Strength (lbs)	91	92	93	91	92						92	1	44 min	✓
Tear Resistance (ASTM D 1004)														
MD Tear Strength (lbs)	37.0	33.8	38.4	36.4	31.9	32.4	30.8	36.4	35.9	33.5	34.6	2.5	22 min	✓
TD Tear Strength (lbs)	28.9	32.8	33.4	32.3	33.5	31.9	31.8	37.4	34.4	33.0	32.9	2.1	22 min	✓
MD Machine Direction	TD Transverse Direction													

APPROVED JUL 28 2010
 BLWB

APPENDIX D-2
GEOSYNTHETIC CONFORMANCE TEST RESULTS
GEOSYNTHETIC CLAY LINER



TESTING, RESEARCH, CONSULTING AND FIELD SERVICES

AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

July 25, 2016

Mail To:

David Conrad
WMI, Inc

Bill To:

<= Same

email: dconrad@wm.com
cc email: jashepherd@sedcousa.net
cc email: bwbailey@sedcousa.net

Dear Mr. Conrad:

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: Eco Vista Phase 2 Final Cover
TRI Job Reference Number: 22468
Material(s) Tested: Two, GSE BentoLiner NSL GCL(s)
Test(s) Requested: Mass/Unit Area (ASTM D5993)
Tensile Strength (ASTM D6768)
Peel Strength (ASTM D6496)
Index Flux (ASTM D5887)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Shawn O'Connor
Geosynthetic Services Division
www.GeosyntheticTesting.com
cc: jkuhn@tri-env.com (Jeffrey A. Kuhn, Ph.D., P.E. - Division Director)

APPROVED JUL 28 2016

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page 1 of 3

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.

9063 BEE CAVES RD. - AUSTIN, TX 78733 - USA | PH: 800.880.TEST OR 512.263.2101



GCL TEST RESULTS

TRI Client: WMI, Inc

Project: Eco Vista Phase 2 Final Cover

Material: GSE BentoLiner NSL GCL

Sample Identification: 502275208

TRI Log #: 22468

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)														
Bentonite mass/unit area (lbs/ft ²)	0.98	0.93	0.89	0.88	0.85							0.91	0.05	0.75 min ✓
Moisture Content (%)	10.1	10.6	10.4	10.7	10.3							10.4	0.2	
Tensile Strength (ASTM D6768)														
MD - Tensile Strength (lbs/in)	50.2	55.4	56.2	55.4	57.1							54.9	2.7	30 marv ✓
Peel Strength (ASTM D6496)														
MD - Peel Strength (lbs/in)	7.3	6.4	5.0	5.5	4.9							5.8	1.0	3.5 min ✓
Index Flux (ASTM D5887)														
Index Flux (m ³ /m ² /sec)		2.4E-09										2.4E-09	✓	1.0E-08 max
Hydraulic Conductivity (cm/sec)		3.0E-09										3.0E-09	✓	
MD Machine Direction	TD Transverse Direction		NA Not Available											

APPROVED [Signature]

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TESTING, RESEARCH, CONSULTING AND FIELD SERVICES

AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

GCL TEST RESULTS

TRI Client: WMI, Inc

Project: Eco Vista Phase 2 Final Cover

Material: GSE BentoLiner NSL GCL

Sample Identification: 502275249

TRI Log #: 22468

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)														
Bentonite mass/unit area (lbs/ft ²)	0.90	0.72	0.72	0.84	0.79							0.79	0.08	0.75 min ✓
Moisture Content (%)	9.7	9.5	9.4	9.4	9.4							9.5	0.1	
Tensile Strength (ASTM D6768)														
MD - Tensile Strength (lbs/in)	53.0	53.6	59.3	42.1	50.4							51.7	6.3	30 marv ✓
Peel Strength (ASTM D6496)														
MD - Peel Strength (lbs/in)	8.2	7.7	8.5	9.0	7.6							8.2	0.6	3.5 min ✓
Index Flux (ASTM D5887)														
Index Flux (m ³ /m ² /sec)		2.4E-09										2.4E-09		✓ 1.0E-08 max
Hydraulic Conductivity (cm/sec)		2.9E-11										2.9E-11		✓
MD Machine Direction	TD Transverse Direction		NA Not Available											

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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.



August 1, 2016

Mail To:

**David Conrad
Waste Management, Inc.**

Bill To:

<= Same

email: dconrad@wm.com
cc email: jashepherd@sedcousa.net
cc email: bwbailey@sedcousa.net

Dear Mr. Conrad:

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:	Eco Vista Final Cover
TRI Job Reference Number:	22560
Material(s) Tested:	Three, GSE BentoLiner NSL GCL(s)
Test(s) Requested:	Mass/Unit Area (ASTM D5993) Tensile Strength (ASTM D6768) Peel Strength (ASTM D6496) Index Flux (ASTM D5887)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Shawn O'Connor
Geosynthetic Services Division
www.GeosyntheticTesting.com
cc: jkuhn@tri-env.com (Jeffrey A. Kuhn, Ph.D., P.E. - Division Director)

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GCL TEST RESULTS
 TRI Client: Waste Management, Inc.
 Project: Eco Vista Final Cover

Material: GSE BentoLiner NSL GCL
 Sample Identification: 502275384
 TRI Log #: 22560

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)														
Bentonite mass/unit area (lbs/ft ²)	0.94	0.87	0.83	0.81	0.79							0.85	0.06	0.75 min ✓
Moisture Content (%)	9.8	9.8	9.8	9.9	9.9							9.8	0.1	
Tensile Strength (ASTM D6768)														
MD - Tensile Strength (lbs/in)	48.3	56.3	52.5	61.6	49.8							53.7	5.4	30 min ✓
Peel Strength (ASTM D6496)														
MD - Peel Strength (lbs/in)	11.6	7.6	5.9	5.6	12.5							8.6	3.2	3.5 min ✓
Index Flux (ASTM D5887)														
Index Flux (m ³ /m ² /sec)		2.5E-09										2.5E-09		1.0E-08 max ✓
Hydraulic Conductivity (cm/sec)		3.3E-09										3.3E-09		
MD Machine Direction	TD Transverse Direction		NA Not Available											

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GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Final Cover

Material: GSE BentoLiner NSL GCL
 Sample Identification: 502275339
 TRI Log #: 22560

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)														
Bentonite mass/unit area (lbs/ft ²)	0.80	0.72	0.69	0.80	0.81							0.76	0.06	0.75 min ✓
Moisture Content (%)	10.3	10.0	10.1	10.0	9.9							10.1	0.2	
Tensile Strength (ASTM D6768)														
MD - Tensile Strength (lbs/in)	67.9	60.1	55.8	48.7	54.9							57.5	7.1	30 min ✓
Peel Strength (ASTM D6496)														
MD - Peel Strength (lbs/in)	6.3	5.3	6.6	9.9	4.6							6.5	2.0	3.5 min ✓
Index Flux (ASTM D5887)														
Index Flux (m ³ /m ² /sec)		2.4E-09										2.4E-09		1.0E-08 max ✓
Hydraulic Conductivity (cm/sec)		2.9E-09										2.9E-09		
MD Machine Direction	TD Transverse Direction				NA Not Available									

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GCL TEST RESULTS
 TRI Client: Waste Management, Inc.
 Project: Eco Vista Final Cover

Material: GSE BentoLiner NSL GCL
 Sample Identification: 502275295
 TRI Log #: 22560

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)														
Bentonite mass/unit area (lbs/ft ²)	0.81	0.80	0.77	0.80	0.84							0.80	0.03	0.75 min ✓
Moisture Content (%)	9.8	9.9	9.7	9.7	9.7							9.8	0.1	
Tensile Strength (ASTM D6768)														
MD - Tensile Strength (lbs/in)	51.4	50.4	45.2	54.0	53.1							50.8	3.4	30 min ✓
Peel Strength (ASTM D6496)														
MD - Peel Strength (lbs/in)	7.4	6.9	7.6	6.6	8.8							7.5	0.9	3.5 min ✓
Index Flux (ASTM D5887)														
Index Flux (m ³ /m ² /sec)		2.5E-09										2.5E-09		1.0E-08 max ✓
Hydraulic Conductivity (cm/sec)		3.0E-09										3.0E-09		
MD Machine Direction	TD Transverse Direction		NA Not Available											

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APPENDIX D-3
GEOSYNTHETIC CONFORMANCE TEST RESULTS
6 OZ/YD² DOUBLE SIDED GEOCOMPOSITE



August 8, 2016
August 10, 2016 Updated with Transmissivity Results

Mail To:

**David Conrad
WMI**

email: dconrad@wm.com
cc email: jashepherd@sedcousa.net
cc email: bwbailey@sedcousa.net

Dear Mr. Conrad:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

Project:	Eco Vista Landfill Phase 2 Final Closure
TRI Job Reference Number:	22936
Material(s) Tested:	Six, Agru 6-200-6 Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC <==Updating Peel Strength (ASTM D 7005) - GC Thickness (ASTM D 5199) - GN Density (ASTM D 1505) - GN Carbon Content (ASTM D 4218) - GN

Bill To:

<= Same

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

*Signature is on file

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GEOCOMPOSITE TEST RESULTS

TRI Client: WMI

Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite

Sample Identification: G16E011765

TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.			
	1	2	3	4	5	6	7	8	9	10						
Hydraulic Transmissivity (ASTM D 4716)																
Direction Tested: Machine Direction																
Normal Load (psf):	200															
Hydraulic Gradient:	0.25															
Test Length (in)	12															
Test Width (in)	12															
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 10px;">Plate /DSGC Sample / Plate</div> </div>																
Seat Time (hours)	Specimen															
		1					2									
Volume (cc)	772	766	766	711	708	707										
Time (s)	10.47	10.40	10.40	10.44	10.41	10.38										
Flow Rate (GPM/ft width)	1.14	1.13	1.13	1.05	1.05	1.05							1.09	0.05		
Transmissivity (m ² /s)	9.40E-04	9.39E-04	9.39E-04	8.67E-04	8.65E-04	8.67E-04							9.03E-04	4.03E-05	2.0E-04 min ✓	
Test Temp (C)	21.4					21.5										
Temp. Corr. Factor	0.972					0.970										
Peel Strength (ASTM D 7005)																
A - MD Average Peel Strength (ppi)	3.3	4.2	5.2	4.4	4.6							4.3	0.7	✓		
A - MD Average Peel Strength (g/in)	1480	1920	2338	1989	2075							1960	312			
B - MD Average Peel Strength (ppi)	2.5	3.9	3.3	4.8	5.7							4.0	1.3	✓		
B - MD Average Peel Strength (g/in)	1130	1771	1480	2179	2574							1827	568			
Note: A and B represent a randomly assigned top and bottom of the sample																
Thickness (ASTM D 5199)																
										GEONET COMPONENT						
Thickness (mils)	244	234	242	226	244	238	234	236	230	241	237	6	200 min	✓		
														226	<< min	
Density (ASTM D 1505)																
										GEONET COMPONENT						
Density (g/cm ³)	0.952	0.952	0.952							0.952	0.000	.94 min	✓			
Carbon Black Content (ASTM D 4218)																
										GEONET COMPONENT						
% Carbon Black	2.31	2.29							2.30	0.01	2-3	✓				
MD Machine Direction																

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GEOCOMPOSITE TEST RESULTS
TRI Client: WMI
Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite
 Sample Identification: G16E011841
 TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.				
	1	2	3	4	5	6	7	8	9	10							
Hydraulic Transmissivity (ASTM D 4716)																	
Direction Tested: Machine Direction Normal Load (psf): <table border="1"><tr><td>200</td></tr></table> Hydraulic Gradient: <table border="1"><tr><td>0.25</td></tr></table> Test Length (in): <table border="1"><tr><td>12</td></tr></table> Test Width (in): <table border="1"><tr><td>12</td></tr></table>														200	0.25	12	12
200																	
0.25																	
12																	
12																	
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;">Plate / DSGC Sample / Plate</div> </div>																	
Seat Time (hours)	Specimen	1		2													
0.25	Volume (cc)	1057	1061	1057	853	858	856										
	Time (s)	10.35	10.37	10.47	10.34	10.38	10.38										
	Flow Rate (GPM/ft width)	1.56	1.56	1.54	1.26	1.26	1.26										
	Transmissivity (m ² /s)	1.29E-03	1.29E-03	1.28E-03	1.04E-03	1.05E-03	1.04E-03										
	Test Temp (C)		21.8			21.7											
	Temp. Corr. Factor		0.963			0.965											
											<table border="1"><tr><td>1.41</td></tr><tr><td>1.17E-03</td></tr></table>	1.41	1.17E-03	0.16	1.32E-04	2.0E-04 min ✓	
1.41																	
1.17E-03																	
Peel Strength (ASTM D 7005)																	
A - MD Average Peel Strength (ppi)	3.1	2.8	3.2	3.1	3.5												
A - MD Average Peel Strength (g/in)	1394	1262	1471	1403	1598												
B - MD Average Peel Strength (ppi)	3.2	4.1	3.9	4.2	3.4												
B - MD Average Peel Strength (g/in)	1453	1870	1762	1925	1521												
Note: A and B represent a randomly assigned top and bottom of the sample																	
Thickness (ASTM D 5199)																	
GEONET COMPONENT																	
Thickness (mils)	237	236	235	229	227	241	235	229	228	237							
											<table border="1"><tr><td>233</td></tr><tr><td>227</td></tr></table>	233	227	5	200 min ✓		
233																	
227																	
Density (ASTM D 1505)																	
GEONET COMPONENT																	
Density (g/cm ³)	0.953	0.953	0.953														
											<table border="1"><tr><td>0.953</td></tr></table>	0.953	0.000	.94 min ✓			
0.953																	
Carbon Black Content (ASTM D 4218)																	
GEONET COMPONENT																	
% Carbon Black	2.26	2.28															
											<table border="1"><tr><td>2.27</td></tr></table>	2.27	0.01	2-3 ✓			
2.27																	
MD Machine Direction																	

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GEOCOMPOSITE TEST RESULTS
TRI Client: WMI
Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite
 Sample Identification: G16E011860
 TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.		
	1	2	3	4	5	6	7	8	9	10					
Hydraulic Transmissivity (ASTM D 4716)															
Direction Tested: Machine Direction Normal Load (psf): 200 Hydraulic Gradient: 0.25 Test Length (in): 12 Test Width (in): 12															
Plate / DSGC Sample / Plate															
Seat Time (hours)	Specimen		1					2							
	Volume (cc)		930	939	930	1174	1181	1145							
	Time (s)		10.37	10.43	10.41	10.44	10.59	10.32							
0.25	Flow Rate (GPM/ft width)		1.38	1.38	1.37	1.72	1.70	1.69				1.54	0.18		
	Transmissivity (m ² /s)		1.14E-03	1.15E-03	1.14E-03	1.42E-03	1.41E-03	1.40E-03				1.28E-03	1.48E-04	2.0E-04 min ✓	
	Test Temp (C)		21.5					21.8							
	Temp. Corr. Factor		0.970					0.963							
Peel Strength (ASTM D 7005)															
A - MD Average Peel Strength (ppi)	2.5	3.7	4.1	3.6	2.9							3.4	0.6	✓	
A - MD Average Peel Strength (g/in)	1117	1675	1848	1643	1330							1523	294		
B - MD Average Peel Strength (ppi)	2.8	3.0	3.8	2.6	3.6							3.2	0.5	✓	
B - MD Average Peel Strength (g/in)	1267	1367	1730	1189	1639							1438	235		
Note: A and B represent a randomly assigned top and bottom of the sample															
Thickness (ASTM D 5199)															
GEONET COMPONENT															
Thickness (mils)	232	226	229	225	233	224	224	229	248	245		231	9	200 min ✓	
												224	<< min		
Density (ASTM D 1505)															
GEONET COMPONENT															
Density (g/cm ³)	0.953	0.953	0.953									0.953	0.000	.94 min ✓	
Carbon Black Content (ASTM D 4218)															
GEONET COMPONENT															
% Carbon Black	2.21	2.22										2.22	0.01	2-3 ✓	
MD Machine Direction															

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GEOCOMPOSITE TEST RESULTS
TRI Client: WMI
Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite
Sample Identification: G16E011872
TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.																																																																																															
	1	2	3	4	5	6	7	8	9	10																																																																																																		
Hydraulic Transmissivity (ASTM D 4716)																																																																																																												
Direction Tested: Machine Direction Normal Load (psf): 200 Hydraulic Gradient: 0.25 Test Length (in): 12 Test Width (in): 12																																																																																																												
Plate / DSGC Sample / Plate																																																																																																												
Seat Time (hours)																																																																																																												
Specimen																																																																																																												
<table border="1"> <tr> <td></td> <td>1</td> <td>2</td> <td colspan="10"></td> </tr> <tr> <td>Volume (cc)</td> <td>981</td> <td>983</td> <td>980</td> <td>1036</td> <td>1036</td> <td>1047</td> <td colspan="7"></td> </tr> <tr> <td>Time (s)</td> <td>10.41</td> <td>10.43</td> <td>10.46</td> <td>10.40</td> <td>10.46</td> <td>10.50</td> <td colspan="7"></td> </tr> <tr> <td>Flow Rate (GPM/ft width)</td> <td>1.44</td> <td>1.44</td> <td>1.43</td> <td>1.52</td> <td>1.52</td> <td>1.53</td> <td colspan="7"></td> </tr> <tr> <td>Transmissivity (m²/s)</td> <td>1.19E-03</td> <td>1.19E-03</td> <td>1.19E-03</td> <td>1.26E-03</td> <td>1.25E-03</td> <td>1.26E-03</td> <td colspan="7"></td> </tr> <tr> <td>Test Temp (C)</td> <td colspan="2">21.7</td> <td colspan="10"></td> </tr> <tr> <td>Temp. Corr. Factor</td> <td colspan="2">0.965</td> <td colspan="10"></td> </tr> </table>															1	2											Volume (cc)	981	983	980	1036	1036	1047								Time (s)	10.41	10.43	10.46	10.40	10.46	10.50								Flow Rate (GPM/ft width)	1.44	1.44	1.43	1.52	1.52	1.53								Transmissivity (m ² /s)	1.19E-03	1.19E-03	1.19E-03	1.26E-03	1.25E-03	1.26E-03								Test Temp (C)	21.7												Temp. Corr. Factor	0.965											
	1	2																																																																																																										
Volume (cc)	981	983	980	1036	1036	1047																																																																																																						
Time (s)	10.41	10.43	10.46	10.40	10.46	10.50																																																																																																						
Flow Rate (GPM/ft width)	1.44	1.44	1.43	1.52	1.52	1.53																																																																																																						
Transmissivity (m ² /s)	1.19E-03	1.19E-03	1.19E-03	1.26E-03	1.25E-03	1.26E-03																																																																																																						
Test Temp (C)	21.7																																																																																																											
Temp. Corr. Factor	0.965																																																																																																											
0.25											1.48	0.05																																																																																																
											1.23E-03	3.77E-05	2.0E-04 min ✓																																																																																															
Peel Strength (ASTM D 7005)																																																																																																												
A - MD Average Peel Strength (ppi)	3.4	3.8	3.0	7.2	2.9									4.1	1.8 ✓																																																																																													
A - MD Average Peel Strength (g/in)	1539	1703	1357	3282	1312									1839	822 ✓																																																																																													
B - MD Average Peel Strength (ppi)	5.8	4.3	5.1	3.4	2.7									4.3	1.2 ✓																																																																																													
B - MD Average Peel Strength (g/in)	2638	1943	2302	1525	1244									1930	564 ✓																																																																																													
Note: A and B represent a randomly assigned top and bottom of the sample																																																																																																												
Thickness (ASTM D 5199)																																																																																																												
GEONET COMPONENT																																																																																																												
Thickness (mils)	229	224	234	232	240	234	232	228	229	238																																																																																																		
											232	5	200 min ✓																																																																																															
											224	<< min																																																																																																
Density (ASTM D 1505)																																																																																																												
GEONET COMPONENT																																																																																																												
Density (g/cm ³)	0.952	0.952	0.952																																																																																																									
											0.952	0.000	.94 min ✓																																																																																															
Carbon Black Content (ASTM D 4218)																																																																																																												
GEONET COMPONENT																																																																																																												
% Carbon Black	2.40	2.32																																																																																																										
											2.36	0.06	2-3 ✓																																																																																															
MD Machine Direction																																																																																																												

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GEOCOMPOSITE TEST RESULTS
TRI Client: WMI
Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite
 Sample Identification: G16E011904
 TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Hydraulic Transmissivity (ASTM D 4716)														
Direction Tested: Machine Direction														
Normal Load (psf):	200													
Hydraulic Gradient:	0.25													
Test Length (in)	12													
Test Width (in)	12													
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 10px;">Plate / DSGC Sample / Plate</div> </div>														
DS GC Plate														
Seat Time (hours)	Specimen													
		1				2								
Volume (cc)	640	633	639	1266	1259	1260								
Time (s)	10.44	10.35	10.47	10.47	10.44	10.41								
Flow Rate (GPM/ft width)	0.94	0.94	0.93	1.85	1.84	1.85								
Transmissivity (m ² /s)	7.76E-04	7.75E-04	7.73E-04	1.53E-03	1.53E-03	1.53E-03								
Test Temp (C)	21.7				21.7									
Temp. Corr. Factor	0.965				0.965									
											1.39	0.50		
											1.15E-03	4.14E-04	2.0E-04 min ✓	
Peel Strength (ASTM D 7005)														
A - MD Average Peel Strength (ppi)	4.7	2.1	4.1	2.3	3.1							3.2	1.1	✓
A - MD Average Peel Strength (g/in)	2116	935	1861	1040	1407							1472	511	
B - MD Average Peel Strength (ppi)	6.2	1.1	2.7	3.9	2.3							3.2	1.9	✓
B - MD Average Peel Strength (g/in)	2819	495	1217	1766	1040							1467	882	
Note: A and B represent a randomly assigned top and bottom of the sample														
Thickness (ASTM D 5199)														
GEONET COMPONENT														
Thickness (mils)	229	244	235	244	225	225	251	242	240	232				
											237	9	200 min ✓	
											225	<< min		
Density (ASTM D 1505)														
GEONET COMPONENT														
Density (g/cm ³)	0.953	0.953	0.953											
											0.953	0.000	.94 min ✓	
Carbon Black Content (ASTM D 4218)														
GEONET COMPONENT														
% Carbon Black	2.09	2.19												
											2.14	0.07	2-3 ✓	
MD Machine Direction														

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GEOCOMPOSITE TEST RESULTS
TRI Client: WMI
Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agru 6-200-6 Double Sided Geocomposite
Sample Identification: G16E011939
TRI Log #: 22936

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.																																																																																																																								
	1	2	3	4	5	6	7	8	9	10																																																																																																																											
Hydraulic Transmissivity (ASTM D 4716)																																																																																																																																					
Direction Tested: Machine Direction Normal Load (psf): <table border="1"><tr><td>200</td></tr></table> Hydraulic Gradient: <table border="1"><tr><td>0.25</td></tr></table> Test Length (in): <table border="1"><tr><td>12</td></tr></table> Test Width (in): <table border="1"><tr><td>12</td></tr></table>														200	0.25	12	12																																																																																																																				
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Plate / DSGC Sample / Plate																																																																																																																																					
Seat Time (hours)																																																																																																																																					
<table border="1"> <thead> <tr> <th>Specimen</th> <th>1</th> <th>2</th> <th colspan="11"></th> </tr> </thead> <tbody> <tr> <td>Volume (cc)</td> <td>1106</td> <td>1110</td> <td>1110</td> <td>896</td> <td>904</td> <td>896</td> <td colspan="7"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Time (s)</td> <td>10.50</td> <td>10.47</td> <td>10.44</td> <td>10.44</td> <td>10.47</td> <td>10.40</td> <td colspan="7"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Flow Rate (GPM/ft width)</td> <td>1.63</td> <td>1.64</td> <td>1.65</td> <td>1.33</td> <td>1.34</td> <td>1.33</td> <td colspan="7"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Transmissivity (m²/s)</td> <td>1.35E-03</td> <td>1.36E-03</td> <td>1.36E-03</td> <td>1.10E-03</td> <td>1.11E-03</td> <td>1.10E-03</td> <td colspan="7"></td> <td><table border="1"><tr><td>1.49</td></tr><tr><td>1.23E-03</td></tr></table></td> <td>0.17</td> <td>1.39E-04</td> <td>2.0E-04 min</td> <td>✓</td> </tr> <tr> <td>Test Temp (C)</td> <td colspan="2">21.2</td> <td colspan="11"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Temp. Corr. Factor</td> <td colspan="2">0.976</td> <td colspan="11"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>														Specimen	1	2												Volume (cc)	1106	1110	1110	896	904	896											Time (s)	10.50	10.47	10.44	10.44	10.47	10.40											Flow Rate (GPM/ft width)	1.63	1.64	1.65	1.33	1.34	1.33											Transmissivity (m ² /s)	1.35E-03	1.36E-03	1.36E-03	1.10E-03	1.11E-03	1.10E-03								<table border="1"><tr><td>1.49</td></tr><tr><td>1.23E-03</td></tr></table>	1.49	1.23E-03	0.17	1.39E-04	2.0E-04 min	✓	Test Temp (C)	21.2																Temp. Corr. Factor	0.976															
Specimen	1	2																																																																																																																																			
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Time (s)	10.50	10.47	10.44	10.44	10.47	10.40																																																																																																																															
Flow Rate (GPM/ft width)	1.63	1.64	1.65	1.33	1.34	1.33																																																																																																																															
Transmissivity (m ² /s)	1.35E-03	1.36E-03	1.36E-03	1.10E-03	1.11E-03	1.10E-03								<table border="1"><tr><td>1.49</td></tr><tr><td>1.23E-03</td></tr></table>	1.49	1.23E-03	0.17	1.39E-04	2.0E-04 min	✓																																																																																																																	
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Peel Strength (ASTM D 7005)																																																																																																																																					
A - MD Average Peel Strength (ppi)	4.2	4.3	4.0	5.0	4.0								<table border="1"><tr><td>4.3</td></tr><tr><td>1942</td></tr></table>	4.3	1942	0.4	183	✓																																																																																																																			
4.3																																																																																																																																					
1942																																																																																																																																					
A - MD Average Peel Strength (g/in)	1920	1943	1798	2247	1802																																																																																																																																
B - MD Average Peel Strength (ppi)	4.9	4.9	5.7	4.0	2.8								<table border="1"><tr><td>4.5</td></tr><tr><td>2021</td></tr></table>	4.5	2021	1.1	502	✓																																																																																																																			
4.5																																																																																																																																					
2021																																																																																																																																					
B - MD Average Peel Strength (g/in)	2202	2229	2583	1834	1258																																																																																																																																
Note: A and B represent a randomly assigned top and bottom of the sample																																																																																																																																					
Thickness (ASTM D 5199)																																																																																																																																					
GEONET COMPONENT																																																																																																																																					
Thickness (mils)	246	226	234	248	222	251	224	227	238	237				<table border="1"><tr><td>235</td></tr><tr><td>222</td></tr></table>	235	222	10	200 min	✓																																																																																																																		
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% Carbon Black	2.26	2.22											<table border="1"><tr><td>2.24</td></tr></table>	2.24	0.03	2-3	✓																																																																																																																				
2.24																																																																																																																																					
MD Machine Direction																																																																																																																																					

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BWB



June 14, 2016

Mail To:

David Conrad
Waste Management, Inc

Bill To:

<= Same

email: Dconrad@wm.com
cc email: jashepherd@sedcousa.net

Dear Mr. Conrad:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

Project: Eco Vista Phase 2 Final Cover
TRI Job Reference Number: 21286
Material(s) Tested: Ten, Agru 6oz Nonwoven Geotextile(s) Component for Composite
Test(s) Requested: Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Puncture Strength (ASTM D 4833)
Apparent Opening Size (ASTM D 4751)
Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

*Signature is on file

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207706 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.94	3.04	2.79	3.00	3.08	3.02	2.93	2.93	2.97	2.93	2.96	0.08	
Mass/Unit Area (oz/sq.yd)	6.84	7.07	6.49	6.98	7.16	7.02	6.82	6.82	6.91	6.82	6.89	0.19	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	179	197	200	237	231	186	185	183	231	220	205	23	160 min ✓
TD - Tensile Strength (lbs)	198	235	259	309	286	229	272	247	274	277	259	32	160 min ✓
MD - Elong. @ Max. Load (%)	82	89	90	99	79	88	87	83	89	76	86	6	50 min ✓
TD - Elong. @ Max. Load (%)	85	87	75	82	101	91	91	81	82	89	86	7	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	119	101	119	157	116						122	21	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.134	0.127	0.141	0.145						0.134	0.009	
Sieve No.	100	100	100	100	100						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207706
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD. PROJ.	
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV. SPEC.
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)												
Water Temp. (C):	19.6											
Correction Factor:	1.013											
Test Specimen No. >:	1					2						
Thickness (mils)	83.8	83.8	83.8	83.8	83.8	89.6	89.6	89.6	89.6	89.6		
Time (s)	19.2	19.6	19.6	19.8	19.5	20.8	20.9	20.9	21.0	20.9		
Specimen Permittivity (s-1)	1.48	1.45	1.45	1.43	1.46	1.36	1.36	1.36	1.35	1.36		
Specimen Permittivity @20°C (sec-1)	1.50	1.47	1.47	1.45	1.47	1.38	1.37	1.37	1.37	1.37		
Specimen Flow rate (GPM/ft ²)	111.9	109.7	109.7	108.6	110.2	103.3	102.8	102.8	102.4	102.8		
Specimen Permeability (cm/s)	0.32	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31		
Test Specimen No. >:	3					4						
Thickness (mils)	82.3	82.3	82.3	82.3	82.3	83.7	83.7	83.7	83.7	83.7		
Time (s)	17.3	17.4	17.5	17.6	17.5	17.5	17.4	17.6	17.5	17.4		
Specimen Permittivity (s-1)	1.64	1.63	1.62	1.61	1.62	1.62	1.63	1.61	1.62	1.63		
Specimen Permittivity @20°C (sec-1)	1.66	1.65	1.64	1.63	1.64	1.64	1.65	1.63	1.64	1.65		
Specimen Flow rate (GPM/ft ²)	124.2	123.5	122.8	122.1	122.8	122.8	123.5	122.1	122.8	123.5		
Specimen Permeability (cm/s)	0.35	0.35	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.35		
											1.53	1.5 min ✓
											114.7	
											0.33	

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207712 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.91	2.94	2.86	2.87	2.68	2.80	2.95	2.95	2.79	2.53	2.83	0.14	
Mass/Unit Area (oz/sq.yd)	6.77	6.84	6.65	6.68	6.23	6.51	6.86	6.86	6.49	5.88	6.58	0.31	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	205	216	167	215	188	211	170	186	214	223	200	20	160 min ✓
TD - Tensile Strength (lbs)	274	290	270	271	218	244	284	296	220	214	258	32	160 min ✓
MD - Elong. @ Max. Load (%)	93	92	85	93	69	89	85	87	89	72	85	8	50 min ✓
TD - Elong. @ Max. Load (%)	92	102	81	81	92	89	86	83	85	86	88	6	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	115	118	92	156	138						124	24	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.152	0.120	0.130	0.135	0.150						0.137	0.014	
Sieve No.	70	100	100	100	70						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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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.



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207712
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD.	PROJ.										
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.									
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)																						
Water Temp. (C):	20.4																					
Correction Factor:	0.995																					
Test Specimen No. >:	1					2																
Thickness (mils)	85.2	85.2	85.2	85.2	85.2	79.8	79.8	79.8	79.8	79.8												
Time (s)	19.4	19.6	19.7	19.8	19.9	17.5	17.6	17.8	17.7	17.6												
Specimen Permittivity (s-1)	1.46	1.45	1.44	1.43	1.43	1.62	1.61	1.59	1.60	1.61												
Specimen Permittivity @20°C (sec-1)	1.45	1.44	1.43	1.43	1.42	1.61	1.60	1.59	1.59	1.60												
Specimen Flow rate (GPM/ft ²)	108.8	107.7	107.2	106.6	106.1	120.6	119.9	118.6	119.3	119.9												
Specimen Permeability (cm/s)	0.31	0.31	0.31	0.31	0.31	0.33	0.33	0.32	0.32	0.33												
Test Specimen No. >:	3					4																
Thickness (mils)	88.1	88.1	88.1	88.1	88.1	79.1	79.1	79.1	79.1	79.1												
Time (s)	18.1	18.2	18.3	18.2	18.4	16.3	16.4	16.5	16.6	16.7												
Specimen Permittivity (s-1)	1.57	1.56	1.55	1.56	1.54	1.74	1.73	1.72	1.71	1.70												
Specimen Permittivity @20°C (sec-1)	1.56	1.55	1.54	1.55	1.53	1.73	1.72	1.71	1.70	1.69												
Specimen Flow rate (GPM/ft ²)	116.6	116.0	115.3	116.0	114.7	129.5	128.7	127.9	127.2	126.4												
Specimen Permeability (cm/s)	0.35	0.35	0.35	0.35	0.34	0.35	0.35	0.34	0.34	0.34												
						<table border="1"> <tr> <td>TEMPERATURE CORRECTED VALUES</td> <td>Permittivity (s-1)</td> <td>1.57</td> </tr> <tr> <td></td> <td>Flow rate (GPM/ft²)</td> <td>117.7</td> </tr> <tr> <td></td> <td>Permeability (cm/s)</td> <td>0.33</td> </tr> </table>					TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	1.57		Flow rate (GPM/ft ²)	117.7		Permeability (cm/s)	0.33			1.5 min ✓
TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	1.57																				
	Flow rate (GPM/ft ²)	117.7																				
	Permeability (cm/s)	0.33																				

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207718 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Mass/Unit Area (ASTM D 5261)														
5" diameter circle (grams)	2.91	2.94	2.68	3.11	2.96	2.82	3.03	2.85	3.15	2.87	2.93	0.14		
Mass/Unit Area (oz/sq.yd)	6.77	6.84	6.23	7.23	6.88	6.56	7.05	6.63	7.33	6.68	6.82	0.33	6 min	✓
Grab Tensile Properties (ASTM D 4632)														
MD - Tensile Strength (lbs)	203	221	200	211	226	175	208	185	186	265	208	26	160 min	✓
TD - Tensile Strength (lbs)	233	299	267	220	252	241	281	285	240	270	259	25	160 min	✓
MD - Elong. @ Max. Load (%)	91	92	93	85	75	82	98	92	83	78	87	7	50 min	✓
TD - Elong. @ Max. Load (%)	85	85	85	85	83	83	81	83	85	96	85	4	50 min	✓
Puncture Resistance (ASTM D 4833)														
Puncture Strength (lbs)	119	131	126	86	106						114	18	90 min	✓
Apparent Opening Size (ASTM D 4751)														
Opening Size Diameter (mm)	0.136	0.128	0.133	0.138	0.158						0.139	0.011		
Sieve No.	100	100	100	100	70						100		70 min	✓
MD Machine Direction	TD Transverse Direction													

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207718
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Constant Head Permittivity (ASTM D 4491, 51-mm Constant Head; 2 in opening)													
Water Temp. (C):	19.6												
Correction Factor:	1.013												
Test Specimen No. >:	1					2							
Thickness (mils)	87.7	87.7	87.7	87.7	87.7	82.3	82.3	82.3	82.3	82.3			
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Time (s)	12.9	13.0	12.9	13.0	13.4	12.2	11.9	11.8	12.0	12.2			
Specimen Permittivity @20°C (sec-1)	1.55	1.53	1.55	1.53	1.49	1.63	1.68	1.69	1.66	1.63			
Specimen Flow rate (GPM/ft2)	115.6	114.7	115.6	114.7	111.3	122.2	125.3	126.4	124.3	122.2			
Specimen Permeability (cm/s)	0.34	0.34	0.34	0.34	0.33	0.36	0.37	0.35	0.35	0.34			
Test Specimen No. >:	3					4							
Thickness (mils)	80.9	80.9	80.9	80.9	80.9	77.5	77.5	77.5	77.5	77.5			
Volume Collected (liters)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Time (s)	11.3	11.1	11.2	11.2	11.2	11.2	11.5	11.2	11.2	11.8			
Specimen Permittivity @20°C (sec-1)	1.76	1.80	1.78	1.78	1.78	1.78	1.73	1.78	1.78	1.69			
Specimen Flow rate (GPM/ft2)	132.0	134.3	133.1	133.1	133.1	133.1	129.7	133.1	133.1	126.4			
Specimen Permeability (cm/s)	0.36	0.37	0.37	0.37	0.37	0.37	0.36	0.35	0.35	0.33			
TEMPERATURE CORRECTED VALUES											Permittivity (s-1)	1.68	1.5 min ✓
											Flow rate (GPM/ft2)	125.7	
											Permeability (cm/s)	0.35	

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207724 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.83	2.94	2.94	2.83	3.07	2.72	2.96	2.86	2.89	3.00	2.90	0.10	
Mass/Unit Area (oz/sq.yd)	6.58	6.84	6.84	6.58	7.14	6.33	6.88	6.65	6.72	6.98	6.75	0.23	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	214	195	172	191	183	177	190	183	172	236	191	20	160 min ✓
TD - Tensile Strength (lbs)	221	292	248	237	230	258	274	279	227	215	248	27	160 min ✓
MD - Elong. @ Max. Load (%)	95	96	93	97	74	83	92	91	93	89	90	7	50 min ✓
TD - Elong. @ Max. Load (%)	93	94	79	81	94	95	89	82	85	79	87	7	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	116	101	111	117	92						108	11	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.138	0.156	0.124	0.152	0.144						0.143	0.013	
Sieve No.	100	70	100	70	100						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207724
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD. MEAN	PROJ. DEV.	SPEC.
	1	2	3	4	5	6	7	8	9	10			
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	20.9												
Correction Factor:	0.983												
Test Specimen No. >:	1					2							
Thickness (mils)	81.4	81.4	81.4	81.4	81.4	79.5	79.5	79.5	79.5	79.5			
Time (s)	17.6	17.7	17.7	17.8	17.8	16.8	17.0	16.9	16.8	17.0			
Specimen Permittivity (s-1)	1.61	1.60	1.60	1.59	1.59	1.69	1.67	1.68	1.69	1.67			
Specimen Permittivity @20°C (sec-1)	1.59	1.58	1.58	1.57	1.57	1.66	1.64	1.65	1.66	1.64			
Specimen Flow rate (GPM/ft2)	118.6	117.9	117.9	117.2	117.2	124.2	122.8	123.5	124.2	122.8			
Specimen Permeability (cm/s)	0.33	0.33	0.33	0.32	0.32	0.34	0.33	0.33	0.34	0.33			
Test Specimen No. >:	3					4							
Thickness (mils)	79.7	79.7	79.7	79.7	79.7	81.1	81.1	81.1	81.1	81.1			
Time (s)	16.2	16.5	16.5	16.5	16.4	14.3	14.3	14.4	14.4	14.4			
Specimen Permittivity (s-1)	1.75	1.72	1.72	1.72	1.73	1.98	1.98	1.97	1.97	1.97			
Specimen Permittivity @20°C (sec-1)	1.72	1.69	1.69	1.69	1.70	1.95	1.95	1.94	1.94	1.94			
Specimen Flow rate (GPM/ft2)	128.8	126.5	126.5	126.5	127.2	145.9	145.9	144.9	144.9	144.9			
Specimen Permeability (cm/s)	0.35	0.34	0.34	0.34	0.34	0.40	0.40	0.40	0.40	0.40			
											1.72		1.5 min ✓
											128.4		
											0.35		

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207730 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD. PROJ.		
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.71	2.72	2.98	2.95	3.06	2.57	2.67	3.04	3.15	2.93	2.88	0.20	
Mass/Unit Area (oz/sq.yd)	6.30	6.33	6.93	6.86	7.12	5.96	6.21	7.07	7.33	6.82	6.69	0.45	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	196	204	231	205	187	188	202	232	209	227	208	17	160 min ✓
TD - Tensile Strength (lbs)	170	261	312	246	234	192	278	283	229	236	244	42	160 min ✓
MD - Elong. @ Max. Load (%)	72	83	79	83	73	71	88	86	87	77	80	6	50 min ✓
TD - Elong. @ Max. Load (%)	98	94	77	86	87	92	87	79	84	91	87	7	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	92	100	125	117	114						109	13	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.128	0.135	0.121	0.118	0.114						0.123	0.008	
Sieve No.	100	100	100	100	100						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207730
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD.	PROJ.	
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	21.3												
Correction Factor:	0.974												
Test Specimen No. >:	1					2							
Thickness (mils)	75.2	75.2	75.2	75.2	75.2	73.4	73.4	73.4	73.4	73.4			
Time (s)	16.1	16.2	16.1	16.3	16.3	17.3	17.7	17.7	17.6	17.6			
Specimen Permittivity (s-1)	1.76	1.75	1.76	1.74	1.74	1.64	1.60	1.60	1.61	1.61			
Specimen Permittivity @20°C (sec-1)	1.72	1.71	1.72	1.70	1.70	1.60	1.56	1.56	1.57	1.57			
Specimen Flow rate (GPM/ft2)	128.4	127.6	128.4	126.8	126.8	119.5	116.8	116.8	117.5	117.5			
Specimen Permeability (cm/s)	0.33	0.33	0.33	0.32	0.32	0.30	0.29	0.29	0.29	0.29			
Test Specimen No. >:	3					4							
Thickness (mils)	70.9	70.9	70.9	70.9	70.9	71.7	71.7	71.7	71.7	71.7			
Time (s)	19.8	19.8	20.0	20.2	19.8	20.3	20.4	20.2	20.5	20.6			
Specimen Permittivity (s-1)	1.43	1.43	1.42	1.40	1.43	1.40	1.39	1.40	1.38	1.38			
Specimen Permittivity @20°C (sec-1)	1.40	1.40	1.38	1.37	1.40	1.36	1.35	1.37	1.35	1.34			
Specimen Flow rate (GPM/ft2)	104.4	104.4	103.4	102.4	104.4	101.8	101.3	102.4	100.9	100.4			
Specimen Permeability (cm/s)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.24			
											1.51		1.5 min ✓
											112.6		
											0.28		

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DWB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207736 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD.		PROJ.	
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.	
Mass/Unit Area (ASTM D 5261)														
5" diameter circle (grams)	3.74	3.46	3.22	3.10	2.87	3.60	3.40	3.34	3.08	3.09	3.29	0.27		
Mass/Unit Area (oz/sq.yd)	8.70	8.05	7.49	7.21	6.68	8.37	7.91	7.77	7.16	7.19	7.65	0.62	6 min	✓
Grab Tensile Properties (ASTM D 4632)														
MD - Tensile Strength (lbs)	262	263	229	242	201	241	251	212	236	233	237	20	160 min	✓
TD - Tensile Strength (lbs)	290	324	336	331	272	250	287	278	336	303	301	30	160 min	✓
MD - Elong. @ Max. Load (%)	91	89	93	103	77	85	91	90	95	82	90	7	50 min	✓
TD - Elong. @ Max. Load (%)	91	93	86	86	95	86	87	80	87	96	89	5	50 min	✓
Puncture Resistance (ASTM D 4833)														
Puncture Strength (lbs)	110	135	156	121	112						127	19	90 min	✓
Apparent Opening Size (ASTM D 4751)														
Opening Size Diameter (mm)	0.141	0.143	0.151	0.156	0.129						0.144	0.010		
Sieve No.	100	100	70	70	100						100		70 min	✓
MD Machine Direction	TD Transverse Direction													

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 BwB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207736
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD. MEAN	PROJ. DEV.	SPEC.
	1	2	3	4	5	6	7	8	9	10			
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	18.9												
Correction Factor:	1.029												
Test Specimen No. >:	1					2							
Thickness (mils)	89.1	89.1	89.1	89.1	89.1	78.8	78.8	78.8	78.8	78.8			
Time (s)	19.2	19.3	19.0	19.1	19.0	19.3	19.5	19.2	19.3	19.4			
Specimen Permittivity (s-1)	1.48	1.47	1.49	1.49	1.49	1.47	1.46	1.48	1.47	1.46			
Specimen Permittivity @20°C (sec-1)	1.52	1.51	1.54	1.53	1.54	1.51	1.50	1.52	1.51	1.50			
Specimen Flow rate (GPM/ft2)	113.7	113.1	114.9	114.3	114.9	113.1	112.0	113.7	113.1	112.5			
Specimen Permeability (cm/s)	0.34	0.34	0.35	0.35	0.35	0.30	0.30	0.30	0.30	0.30			
Test Specimen No. >:	3					4							
Thickness (mils)	92	92	92	92	92	84.9	84.9	84.9	84.9	84.9			
Time (s)	20.4	20.4	20.8	20.6	20.6	17.2	17.1	17.4	17.3	17.2			
Specimen Permittivity (s-1)	1.39	1.39	1.36	1.38	1.38	1.65	1.66	1.63	1.64	1.65			
Specimen Permittivity @20°C (sec-1)	1.43	1.43	1.40	1.42	1.42	1.70	1.71	1.68	1.69	1.70			
Specimen Flow rate (GPM/ft2)	107.0	107.0	105.0	106.0	106.0	126.9	127.7	125.5	126.2	126.9			
Specimen Permeability (cm/s)	0.33	0.33	0.33	0.33	0.33	0.37	0.37	0.36	0.36	0.37			
											1.54	1.5 min	✓
											115.0		
											0.34		

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 BWR



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207742 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.82	2.80	3.23	2.90	3.02	2.68	2.87	3.15	3.33	3.07	2.99	0.21	
Mass/Unit Area (oz/sq.yd)	6.56	6.51	7.51	6.75	7.02	6.23	6.68	7.33	7.75	7.14	6.95	0.48	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	233	198	194	236	219	201	201	207	215	198	210	15	160 min ✓
TD - Tensile Strength (lbs)	201	244	250	279	211	226	242	317	283	240	249	35	160 min ✓
MD - Elong. @ Max. Load (%)	68	83	77	87	77	66	85	87	77	75	78	7	50 min ✓
TD - Elong. @ Max. Load (%)	81	86	80	86	86	91	83	89	85	85	85	3	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	146	113	121	113	116						122	14	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.116	0.112	0.126	0.131	0.112						0.119	0.009	
Sieve No.	100	100	100	100	100						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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 BwB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207742
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	19.5												
Correction Factor:	1.015												
Test Specimen No. >:	1					2							
Thickness (mils)	76	76	76	76	76	68.9	68.9	68.9	68.9	68.9			
Time (s)	17.5	17.6	17.5	17.4	17.5	18.3	18.2	18.4	18.4	18.5			
Specimen Permittivity (s-1)	1.62	1.61	1.62	1.63	1.62	1.55	1.56	1.54	1.54	1.53			
Specimen Permittivity @20°C (sec-1)	1.65	1.64	1.65	1.66	1.65	1.57	1.58	1.57	1.57	1.56			
Specimen Flow rate (GPM/ft2)	123.1	122.4	123.1	123.8	123.1	117.7	118.4	117.1	117.1	116.4			
Specimen Permeability (cm/s)	0.32	0.32	0.32	0.32	0.32	0.28	0.28	0.27	0.27	0.27			
Test Specimen No. >:	3					4							
Thickness (mils)	84.7	84.7	84.7	84.7	84.7	81.9	81.9	81.9	81.9	81.9			
Time (s)	20.0	20.1	20.3	20.0	20.2	20.8	20.8	20.9	20.9	21.0			
Specimen Permittivity (s-1)	1.42	1.41	1.40	1.42	1.40	1.36	1.36	1.36	1.36	1.35			
Specimen Permittivity @20°C (sec-1)	1.44	1.43	1.42	1.44	1.43	1.38	1.38	1.38	1.38	1.37			
Specimen Flow rate (GPM/ft2)	107.7	107.2	106.1	107.7	106.6	103.6	103.6	103.1	103.1	102.6			
Specimen Permeability (cm/s)	0.31	0.31	0.31	0.31	0.31	0.29	0.29	0.29	0.29	0.29			
TEMPERATURE CORRECTED VALUES											Permittivity (s-1)	1.51	1.5 min ✓
											Flow rate (GPM/ft2)	112.7	
											Permeability (cm/s)	0.30	

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207748 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	2.92	2.62	2.83	3.07	2.78	2.87	2.67	3.06	2.87	2.74	2.84	0.15	
Mass/Unit Area (oz/sq.yd)	6.79	6.09	6.58	7.14	6.47	6.68	6.21	7.12	6.68	6.37	6.61	0.35	6 min ✓
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	202	297	153	229	233	205	185	181	270	240	220	43	160 min ✓
TD - Tensile Strength (lbs)	281	274	243	309	256	262	279	292	263	252	271	20	160 min ✓
MD - Elong. @ Max. Load (%)	81	98	97	87	75	83	89	103	93	81	89	9	50 min ✓
TD - Elong. @ Max. Load (%)	85	85	86	80	93	81	90	80	79	90	85	5	50 min ✓
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	136	128	125	110	137						127	11	90 min ✓
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.147	0.130	0.133	0.146	0.129						0.137	0.009	
Sieve No.	100	100	100	100	100						100		70 min ✓
MD Machine Direction	TD Transverse Direction												

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GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207748
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD.	PROJ.	
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	20.2												
Correction Factor:	0.999												
Test Specimen No. >:	1					2							
Thickness (mils)	89.2	89.2	89.2	89.2	89.2	87.4	87.4	87.4	87.4	87.4			
Time (s)	14.8	14.9	15.0	15.1	15.1	17.5	17.6	17.8	17.6	17.6			
Specimen Permittivity (s-1)	1.92	1.90	1.89	1.88	1.88	1.62	1.61	1.59	1.61	1.61			
Specimen Permittivity @20°C (sec-1)	1.92	1.90	1.89	1.88	1.88	1.62	1.61	1.59	1.61	1.61			
Specimen Flow rate (GPM/ft ²)	143.3	142.3	141.4	140.4	140.4	121.2	120.5	119.1	120.5	120.5			
Specimen Permeability (cm/s)	0.43	0.43	0.43	0.43	0.43	0.36	0.36	0.35	0.36	0.36			
Test Specimen No. >:	3					4							
Thickness (mils)	72.3	72.3	72.3	72.3	72.3	99.2	99.2	99.2	99.2	99.2			
Time (s)	17.1	17.1	17.1	17.3	17.1	18.6	18.5	18.6	18.8	18.8			
Specimen Permittivity (s-1)	1.66	1.66	1.66	1.64	1.66	1.53	1.53	1.53	1.51	1.51			
Specimen Permittivity @20°C (sec-1)	1.66	1.66	1.66	1.64	1.66	1.52	1.53	1.52	1.51	1.51			
Specimen Flow rate (GPM/ft ²)	124.0	124.0	124.0	122.6	124.0	114.0	114.6	114.0	112.8	112.8			
Specimen Permeability (cm/s)	0.30	0.30	0.30	0.30	0.30	0.38	0.39	0.38	0.38	0.38			
											1.67		1.5 min ✓
											124.8		
											0.37		

APPROVED JUN 22 2016

BWB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207754 ✓
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Mass/Unit Area (ASTM D 5261)														
5" diameter circle (grams)	3.19	3.04	3.14	3.27	2.81	3.26	3.25	3.22	2.97	2.66	3.08	0.21		
Mass/Unit Area (oz/sq.yd)	7.42	7.07	7.30	7.61	6.54	7.58	7.56	7.49	6.91	6.19	7.17	0.49	6 min ✓	
Grab Tensile Properties (ASTM D 4632)														
MD - Tensile Strength (lbs)	239	228	189	219	218	246	204	185	232	222	218	20	160 min ✓	
TD - Tensile Strength (lbs)	281	287	260	266	335	254	275	260	347	237	280	35	160 min ✓	
MD - Elong. @ Max. Load (%)	87	93	96	94	97	86	97	81	98	94	92	6	50 min ✓	
TD - Elong. @ Max. Load (%)	95	103	83	83	91	94	87	89	85	85	89	6	50 min ✓	
Puncture Resistance (ASTM D 4833)														
Puncture Strength (lbs)	164	119	102	123	116						125	23	90 min ✓	
Apparent Opening Size (ASTM D 4751)														
Opening Size Diameter (mm)	0.149	0.153	0.127	0.158	0.148						0.147	0.012		
Sieve No.	100	70	100	70	100						100		70 min ✓	
MD Machine Direction	TD Transverse Direction													

APPROVED JUN 22 2016
 BLWB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207754
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD.	PROJ.		
	1	2	3	4	5	6	7	8	9	10	MEAN	DEV.	SPEC.	
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)														
Water Temp. (C):	20.4													
Correction Factor:	0.995													
Test Specimen No. >:	1					2								
Thickness (mils)	86.9	86.9	86.9	86.9	86.9	87.9	87.9	87.9	87.9	87.9				
Time (s)	13.7	14.0	13.8	13.8	13.9	16.6	16.8	16.7	16.9	16.7				
Specimen Permittivity (s-1)	2.07	2.03	2.06	2.06	2.04	1.71	1.69	1.70	1.68	1.70				
Specimen Permittivity @20°C (sec-1)	2.06	2.02	2.04	2.04	2.03	1.70	1.68	1.69	1.67	1.69				
Specimen Flow rate (GPM/ft ²)	154.1	150.8	153.0	153.0	151.9	127.2	125.6	126.4	124.9	126.4				
Specimen Permeability (cm/s)	0.45	0.44	0.45	0.45	0.45	0.38	0.38	0.38	0.37	0.38				
Test Specimen No. >:	3					4								
Thickness (mils)	91	91	91	91	91	85.1	85.1	85.1	85.1	85.1				
Time (s)	14.7	14.7	14.8	14.9	14.9	16.4	16.4	16.3	16.5	16.4				
Specimen Permittivity (s-1)	1.93	1.93	1.92	1.90	1.90	1.73	1.73	1.74	1.72	1.73				
Specimen Permittivity @20°C (sec-1)	1.92	1.92	1.91	1.89	1.89	1.72	1.72	1.73	1.71	1.72				
Specimen Flow rate (GPM/ft ²)	143.6	143.6	142.6	141.7	141.7	128.7	128.7	129.5	127.9	128.7				
Specimen Permeability (cm/s)	0.44	0.44	0.44	0.44	0.44	0.37	0.37	0.37	0.37	0.37				
						TEMPERATURE CORRECTED VALUES					Permittivity (s-1)	1.84		
											Flow rate (GPM/ft ²)	137.5		
											Permeability (cm/s)	0.41		
													1.5 min ✓	

APPROVED JUN 22 2016

BWB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite

Sample Identification: 1111207760 ✓

TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.	
	1	2	3	4	5	6	7	8	9	10				
Mass/Unit Area (ASTM D 5261)														
5" diameter circle (grams)	3.20	3.21	3.28	3.21	2.86	3.22	3.07	3.22	3.35	2.81	3.14	0.18		
Mass/Unit Area (oz/sq.yd)	7.44	7.47	7.63	7.47	6.65	7.49	7.14	7.49	7.79	6.54	7.31	0.41	6 min	✓
Grab Tensile Properties (ASTM D 4632)														
MD - Tensile Strength (lbs)	215	198	162	215	197	192	215	197	186	190	197	16	160 min	✓
TD - Tensile Strength (lbs)	259	298	295	230	259	249	301	224	276	254	265	27	160 min	✓
MD - Elong. @ Max. Load (%)	91	95	85	91	83	85	99	97	85	91	90	6	50 min	✓
TD - Elong. @ Max. Load (%)	97	95	79	86	79	99	91	81	85	94	89	8	50 min	✓
Puncture Resistance (ASTM D 4833)														
Puncture Strength (lbs)	103	125	100	108	96	118					108	11	90 min	✓
Apparent Opening Size (ASTM D 4751)														
Opening Size Diameter (mm)	0.147	0.135	0.146	0.146	0.174						0.150	0.015		
Sieve No.	100	100	100	100	70						100		70 min	✓
MD Machine Direction	TD Transverse Direction													

APPROVED JUN 22 2016

BUB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Phase 2 Final Cover

Material: Agru 6oz Nonwoven Geotextile Component for Composite
 Sample Identification: 1111207760
 TRI Log #: 21286

PARAMETER	TEST REPLICATE NUMBER										STD. MEAN	PROJ. DEV.	SPEC.									
	1	2	3	4	5	6	7	8	9	10												
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)																						
Water Temp. (C):	20.9																					
Correction Factor:	0.983																					
Test Specimen No. >:	1					2																
Thickness (mils)	89.1	89.1	89.1	89.1	89.1	90.1	90.1	90.1	90.1	90.1												
Time (s)	19.9	19.9	20.0	19.9	20.0	17.7	17.7	17.7	17.7	17.9												
Specimen Permittivity (s-1)	1.43	1.43	1.42	1.43	1.42	1.60	1.60	1.60	1.60	1.59												
Specimen Permittivity @20°C (sec-1)	1.40	1.40	1.39	1.40	1.39	1.58	1.58	1.58	1.58	1.56												
Specimen Flow rate (GPM/ft2)	104.9	104.9	104.3	104.9	104.3	117.9	117.9	117.9	117.9	116.6												
Specimen Permeability (cm/s)	0.32	0.32	0.32	0.32	0.32	0.36	0.36	0.36	0.36	0.36												
Test Specimen No. >:	3					4																
Thickness (mils)	86.5	86.5	86.5	86.5	86.5	89.5	89.5	89.5	89.5	89.5												
Time (s)	16.9	17.0	17.1	17.0	17.0	18.5	18.4	18.6	18.7	18.5												
Specimen Permittivity (s-1)	1.68	1.67	1.66	1.67	1.67	1.53	1.54	1.53	1.52	1.53												
Specimen Permittivity @20°C (sec-1)	1.65	1.64	1.63	1.64	1.64	1.51	1.52	1.50	1.49	1.51												
Specimen Flow rate (GPM/ft2)	123.5	122.8	122.0	122.8	122.8	112.8	113.4	112.2	111.6	112.8												
Specimen Permeability (cm/s)	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.34	0.34	0.34												
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">TEMPERATURE CORRECTED VALUES</td> <td style="text-align: center;">Permittivity (s-1)</td> <td style="text-align: center;">1.53</td> </tr> <tr> <td></td> <td style="text-align: center;">Flow rate (GPM/ft2)</td> <td style="text-align: center;">114.4</td> </tr> <tr> <td></td> <td style="text-align: center;">Permeability (cm/s)</td> <td style="text-align: center;">0.34</td> </tr> </table>											TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	1.53		Flow rate (GPM/ft2)	114.4		Permeability (cm/s)	0.34			1.5 min ✓
TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	1.53																				
	Flow rate (GPM/ft2)	114.4																				
	Permeability (cm/s)	0.34																				

APPROVED JUN 22 2016

BWB

APPENDIX D-4
GEOSYNTHETIC CONFORMANCE TEST RESULTS
GEOTEXTILE (6 OZ/YD²)



July 13, 2016

Mail To:

David Conrad
Waste Management, Inc

Bill To:

<= Same

email: Dconrad@wm.com
cc email: jashepherd@sedcousa.net

Dear Mr. Conrad:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

Project: Eco Vista Landfill Phase 2 Final Closure

TRI Job Reference Number: 22150

Material(s) Tested: One, Agrutex 061 (6oz) Nonwoven Geotextile

Test(s) Requested: Mass/Unit Area (ASTM D 5261)
Grab Tensile (ASTM D 4632)
Puncture Strength (ASTM D 4833)
Apparent Opening Size (ASTM D 4751)
Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,

Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

APPROVED JUL 17 2016

BWB

*Signature is on file



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agrutex 061 (6oz) Nonwoven Geotextile
 Sample Identification: 1111211058
 TRI Log #: 22150

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	2.43	2.86	2.59	2.72	3.08	2.81	2.49	2.45	3.22	2.90	2.76	0.27
Mass/Unit Area (oz/sq.yd)	5.65	6.65	6.02	6.33	7.16	6.54	5.79	5.70	7.49	6.75	6.41	0.63 ✓
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	207	163	167	230	207	205	222	154	203	217	198	26 ✓
TD - Tensile Strength (lbs)	205	239	196	224	188	179	221	216	203	228	210	19 ✓
MD - Elong. @ Max. Load (%)	63	59	68	61	61	62	63	59	69	79	64	6 ✓
TD - Elong. @ Max. Load (%)	97	84	87	89	93	96	85	89	84	99	90	5 ✓
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	138	141	103	104	128						123	18 ✓
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.135	0.164	0.153	0.141	0.139						0.146	0.012 ✓
Sieve No.	100	70	70	100	100						100	✓
MD Machine Direction	TD Transverse Direction											

APPROVED JUL 17 2016

BWB



GEOTEXTILE TEST RESULTS
 TRI Client: Waste Management, Inc
 Project: Eco Vista Landfill Phase 2 Final Closure

Material: Agrutex 061 (6oz) Nonwoven Geotextile
 Sample Identification: 1111211058
 TRI Log #: 22150

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	
	1	2	3	4	5	6	7	8	9	10			
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)													
Water Temp. (C):	18.6												
Correction Factor:	1.035												
Test Specimen No. >:	1					2							
Thickness (mils)	75.4	75.4	75.4	75.4	75.4	75.1	75.1	75.1	75.1	75.1			
Time (s)	12.6	12.7	12.7	12.7	12.7	20.2	20.3	20.3	20.4	20.6			
Specimen Permittivity (s-1)	2.25	2.23	2.23	2.23	2.23	1.40	1.40	1.40	1.39	1.38			
Specimen Permittivity @20°C (sec-1)	2.33	2.31	2.31	2.31	2.31	1.45	1.45	1.45	1.44	1.43			
Specimen Flow rate (GPM/ft2)	174.4	173.0	173.0	173.0	173.0	108.8	108.3	108.3	107.7	106.7			
Specimen Permeability (cm/s)	0.45	0.44	0.44	0.44	0.44	0.28	0.28	0.28	0.27	0.27			
Test Specimen No. >:	3					4							
Thickness (mils)	70.9	70.9	70.9	70.9	70.9	69.5	69.5	69.5	69.5	69.5			
Time (s)	17.3	17.2	17.1	17.2	17.2	15.0	15.1	15.2	15.2	15.2			
Specimen Permittivity (s-1)	1.64	1.65	1.66	1.65	1.65	1.89	1.88	1.87	1.87	1.87			
Specimen Permittivity @20°C (sec-1)	1.70	1.71	1.72	1.71	1.71	1.96	1.95	1.93	1.93	1.93			
Specimen Flow rate (GPM/ft2)	127.0	127.8	128.5	127.8	127.8	146.5	145.5	144.6	144.6	144.6			
Specimen Permeability (cm/s)	0.31	0.31	0.31	0.31	0.31	0.35	0.34	0.34	0.34	0.34			
TEMPERATURE CORRECTED VALUES											Permittivity (s-1)	1.85	✓
											Flow rate (GPM/ft2)	138.5	
											Permeability (cm/s)	0.34	

APPROVED JUL 17 2016

BWB

APPENDIX E
SUBGRADE CERTIFICATE OF ACCEPTANCE



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 01 THRU. PANEL - 24**

PANEL NUMBERS: **PANEL - 01 THRU. PANEL - 24**

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **28-Oct** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

28-Oct

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: **ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.**

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 25 THRU. PANEL - 34**

PANEL NUMBERS: **PANEL - 25 THRU. PANEL - 34**

GRADE ACCEPTANCE: INSPECTOR: *[Signature]*

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **29-Oct** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

29-Oct

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: **ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.**

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 35 THRU. PANEL - 48**

PANEL NUMBERS: **PANEL - 35 THRU. PANEL - 48**

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **31-Oct** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

31-Oct

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 49 THRU. PANEL - 66**

PANEL NUMBERS: **PANEL - 49 THRU. PANEL - 66**

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **1-Nov** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

1-Nov

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: **ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.**

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 67 THRU. PANEL - 86**

PANEL NUMBERS: **PANEL - 67 THRU. PANEL - 86**

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **2-Nov** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

2-Nov

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788



CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: **WM Eco Vista Cap** PROJECT NO: **15 - 12 - 1446**

LOCATION: **SPRINGDALE, AR.**

AREA ACCEPTED: **PANEL - 87 THRU. PANEL - 102**

PANEL NUMBERS: **PANEL - 87 THRU. PANEL - 102**

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, **MOHAMMED MALIMAR**, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on **3-Nov** and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Mohammed Malimar A.

SUPERINTENDENT

3-Nov

Signature

Title

OWNER REPRESENTATIVE:

Signature

Title

DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

**APPENDIX F
GEOSYNTHETIC CLAY LINER
PANEL PLACEMENT LOGS**



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: Geosynthetic Clay Liner

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 1	26071503	5203	10/28/16	9 : 00	150	14.5	East Slope
GCL- 2	26071503	5206	10/28/16	9 : 05	150	14.5	East Slope
GCL- 3	26071503	5202	10/28/16	9 : 10	150	14.5	East Slope
GCL- 4	26071503	5212	10/28/16	9 : 20	150	14.5	East Slope
GCL- 5	26071503	5216	10/28/16	9 : 25	150	14.5	East Slope
GCL- 6	26071803	5227	10/28/16	9 : 30	150	14.5	East Slope
GCL- 7	26071803	5228	10/28/16	9 : 40	150	14.5	East Slope
GCL- 8	26071503	5220	10/28/16	9 : 45	150	14.5	East Slope
GCL- 9	26071803	5237	10/28/16	9 : 50	150	14.5	East Slope
GCL- 10	26071803	5253	10/28/16	9 : 55	150	14.5	East Slope
GCL- 11	26071803	5238	10/28/16	10 : 05	150	14.5	East Slope
GCL- 12	26071503	5223	10/28/16	10 : 10	150	14.5	East Slope
GCL- 13	26071503	5207	10/28/16	10 : 15	150	14.5	East Slope
GCL- 14	26071503	5205	10/28/16	10 : 20	150	14.5	East Slope
GCL- 15	26071803	5275	10/28/16	10 : 25	150	14.5	East Slope
GCL- 16	26071803	5285	10/28/16	10 : 35	150	14.5	East Slope
GCL- 17	26071903	5316	10/28/16	10 : 45	150	14.5	East Slope
GCL- 18	26071803	5309	10/28/16	10 : 50	150	14.5	East Slope
GCL- 19	26071803	5306	10/28/16	10 : 55	150	14.5	East Slope
GCL- 20	26071903	5321	10/28/16	11 : 00	150	14.5	East Slope
GCL- 21	26071903	5322	10/28/16	11 : 05	150	14.5	East Slope
GCL- 22	26071803	5243	10/28/16	11 : 10	150	14.5	East Slope
GCL- 23	26071803	5229	10/28/16	11 : 15	150	14.5	East Slope
GCL- 24	26071803	5230	10/28/16	11 : 20	150	14.5	East Slope
GCL- 25	26071503	5221	10/28/16	11 : 25	150	14.5	East Slope
GCL- 26	26071503	5217	10/28/16	11 : 30	150	14.5	East Slope
GCL- 27	26071503	5222	10/28/16	11 : 35	150	14.5	East Slope
GCL- 28	26071503	5211	10/28/16	11 : 40	150	14.5	East Slope
GCL- 29	26071803	5233	10/28/16	11 : 45	150	14.5	East Slope
GCL- 30	26071803	5226	10/28/16	11 : 50	150	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: Geosynthetic Clay Liner

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 31	26071803	5239	10/28/16	11 : 55	150	14.5	East Slope
GCL- 32	26071803	5252	10/28/16	12 : 00	150	14.5	East Slope
GCL- 33	26071803	5255	10/28/16	12 : 05	150	14.5	East Slope
GCL- 34	26071803	5254	10/28/16	12 : 10	150	14.5	East Slope
GCL- 35	26071803	5256	10/28/16	12 : 15	150	14.5	East Slope
GCL- 36	26071803	5272	10/28/16	12 : 20	150	14.5	East Slope
GCL- 37	26071803	5273	10/28/16	12 : 25	150	14.5	East Slope
GCL- 38	26071803	5308	10/28/16	12 : 30	150	14.5	East Slope
GCL- 39	26071903	5317	10/28/16	12 : 35	150	14.5	East Slope
GCL- 40	26071803	5310	10/28/16	12 : 40	150	14.5	East Slope
GCL- 41	26071903	5339	10/28/16	12 : 45	150	14.5	East Slope
GCL- 42	26071903	5340	10/28/16	12 : 50	150	14.5	East Slope
GCL- 43	26071903	5341	10/31/16	8 : 00	150	14.5	East Slope
GCL- 44	26071903	5342	10/31/16	8 : 05	150	14.5	East Slope
GCL- 45	26071903	5363	10/31/16	8 : 10	150	14.5	East Slope
GCL- 46	26071803	5244	10/31/16	8 : 20	150	14.5	East Slope
GCL- 47	26071503	5219	10/31/16	8 : 25	150	14.5	East Slope
GCL- 48	26071503	5213	10/31/16	8 : 30	150	14.5	East Slope
GCL- 49	26071503	5214	10/31/16	8 : 40	150	14.5	East Slope
GCL- 50	26071503	5201	10/31/16	8 : 45	150	14.5	East Slope
GCL- 51	26071803	5250	10/31/16	8 : 50	150	14.5	East Slope
GCL- 52	26071803	5251	10/31/16	8 : 55	150	14.5	East Slope
GCL- 53	26071803	5281	10/31/16	9 : 05	150	14.5	East Slope
GCL- 54	26071903	5380	10/31/16	9 : 10	150	14.5	East Slope
GCL- 55	26071903	5381	10/31/16	9 : 15	150	14.5	East Slope
GCL- 56	26071903	5364	10/31/16	9 : 20	150	14.5	East Slope
GCL- 57	26071903	5327	10/31/16	9 : 25	150	14.5	East Slope
GCL- 58	26071903	5320	10/31/16	9 : 35	150	14.5	East Slope
GCL- 59	26071803	5286	10/31/16	9 : 45	150	14.5	East Slope
GCL- 60	26071803	5284	10/31/16	9 : 50	150	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: Geosynthetic Clay Liner

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 61	26071803	5263	10/31/16	10 : 00	150	14.5	East Slope
GCL- 62	26071803	5264	10/31/16	10 : 05	150	14.5	East Slope
GCL- 63	26071803	5262	10/31/16	10 : 10	150	14.5	East Slope
GCL- 64	26071803	5265	10/31/16	10 : 15	150	14.5	East Slope
GCL- 65	26071803	5296	10/31/16	10 : 20	150	14.5	East Slope
GCL- 66	26071903	5319	10/31/16	10 : 25	150	14.5	East Slope
GCL- 67	26071903	5335	10/31/16	10 : 30	150	14.5	East Slope
GCL- 68	26071903	5365	10/31/16	10 : 35	150	14.5	East Slope
GCL- 69	26071903	5395	10/31/16	10 : 40	150	14.5	East Slope
GCL- 70	26071903	5385	10/31/16	10 : 45	150	14.5	East Slope
GCL- 71	26071903	5325	10/31/16	10 : 50	150	14.5	East Slope
GCL- 72	26071903	5326	10/31/16	11 : 00	150	14.5	East Slope
GCL- 73	26071803	5307	10/31/16	11 : 05	150	14.5	East Slope
GCL- 74	26071903	5345	10/31/16	11 : 10	150	14.5	East Slope
GCL- 75	26071903	5360	10/31/16	11 : 20	150	14.5	East Slope
GCL- 76	26071903	5361	10/31/16	11 : 25	150	14.5	East Slope
GCL- 77	26071903	5356	10/31/16	11 : 30	150	14.5	East Slope
GCL- 78	26071803	5283	10/31/16	11 : 35	150	14.5	East Slope
GCL- 79	26071803	5236	10/31/16	11 : 40	150	14.5	East Slope
GCL- 80	26071803	5242	10/31/16	11 : 45	150	14.5	East Slope
GCL- 81	26071503	5200	11/1/16	7 : 10	150	14.5	East Slope
GCL- 82	26071503	5208	11/1/16	7 : 20	150	14.5	East Slope
GCL- 83	26071503	5210	11/1/16	7 : 25	150	14.5	East Slope
GCL- 84	26071803	5257	11/1/16	7 : 30	150	14.5	East Slope
GCL- 85	26071803	5258	11/1/16	7 : 40	150	14.5	East Slope
GCL- 86	26071803	5249	11/1/16	7 : 45	150	14.5	East Slope
GCL- 87	26071803	5292	11/1/16	7 : 50	150	14.5	East Slope
GCL- 88	26071903	5323	11/1/16	7 : 55	150	14.5	East Slope
GCL- 89	26071903	5353	11/1/16	8 : 05	150	14.5	East Slope
GCL- 90	26071903	5346	11/1/16	8 : 15	150	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: Geosynthetic Clay Liner

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 91	26071903	5344	11/1/16	8 : 20	150	14.5	East Slope
GCL- 92	26071903	5359	11/1/16	8 : 25	150	14.5	East Slope
GCL- 93	26071903	5377	11/1/16	8 : 30	150	14.5	East Slope
GCL- 94	26071903	5388	11/1/16	8 : 35	150	14.5	East Slope
GCL- 95	26071903	5387	11/1/16	8 : 40	150	14.5	East Slope
GCL- 96	26071903	5390	11/1/16	8 : 45	150	14.5	East Slope
GCL- 97	26071903	5394	11/1/16	8 : 50	150	14.5	East Slope
GCL- 98	26071903	5373	11/1/16	9 : 15	150	14.5	East Slope
GCL- 99	26071903	5374	11/1/16	9 : 20	150	14.5	East Slope
GCL- 100	26071903	5333	11/1/16	9 : 25	150	14.5	East Slope
GCL- 101	26071903	5334	11/1/16	9 : 30	150	14.5	East Slope
GCL- 102	26071903	5329	11/1/16	9 : 35	150	14.5	East Slope
GCL- 103	26071803	5268	11/1/16	9 : 40	150	14.5	East Slope
GCL- 104	26071803	5269	11/1/16	9 : 45	150	14.5	East Slope
GCL- 105	26071803	5266	11/1/16	9 : 50	150	14.5	East Slope
GCL- 106	26071803	5267	11/1/16	10 : 00	150	14.5	East Slope
GCL- 107	26071803	5289	11/1/16	10 : 15	150	14.5	East Slope
GCL- 108	26071803	5280	11/1/16	10 : 20	150	14.5	East Slope
GCL- 109	26071503	5209	11/1/16	10 : 35	150	14.5	East Slope
GCL- 110	26071503	5204	11/1/16	10 : 40	150	14.5	East Slope
GCL- 111	26071503	5218	11/1/16	10 : 55	150	14.5	East Slope
GCL- 112	26071903	5348	11/2/16	7 : 00	150	14.5	East Slope
GCL- 113	26071903	5358	11/2/16	7 : 05	150	14.5	East Slope
GCL- 114	26071903	5338	11/2/16	7 : 10	150	14.5	East Slope
GCL- 115	26071903	5332	11/2/16	7 : 20	150	14.5	East Slope
GCL- 116	26071803	5302	11/2/16	7 : 25	150	14.5	East Slope
GCL- 117	26071903	5349	11/2/16	7 : 30	150	14.5	East Slope
GCL- 118	26071903	5375	11/2/16	7 : 40	150	14.5	East Slope
GCL- 119	26071903	5376	11/2/16	7 : 45	150	14.5	East Slope
GCL- 120	26071903	5378	11/2/16	7 : 50	150	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas Project Number: 16038
 Project Name: Phase 2 Final Cover CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill
 Location: Tontitown, AR Product Type: Geosynthetic Clay Liner

Primary: Secondary: Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 121	26071903	5379	11/2/16	7 : 55	150	14.5	East Slope
GCL- 122	26071903	5393	11/2/16	8 : 00	150	14.5	East Slope
GCL- 123	26071903	5369	11/2/16	8 : 05	150	14.5	East Slope
GCL- 124	26071903	5389	11/2/16	8 : 10	150	14.5	East Slope
GCL- 125	26071903	5391	11/2/16	8 : 15	150	14.5	East Slope
GCL- 126	26071903	5382	11/2/16	8 : 25	150	14.5	East Slope
GCL- 127	26071903	5366	11/2/16	8 : 30	150	14.5	East Slope
GCL- 128	26071903	5370	11/2/16	8 : 35	150	14.5	East Slope
GCL- 129	26071903	5392	11/2/16	8 : 40	150	14.5	East Slope
GCL- 130	26071903	5337	11/2/16	8 : 45	150	14.5	East Slope
GCL- 131	26071903	5336	11/2/16	8 : 50	150	14.5	East Slope
GCL- 132	26071803	5274	11/2/16	8 : 55	150	14.5	East Slope
GCL- 133	26071803	5270	11/2/16	9 : 05	150	14.5	East Slope
GCL- 134	26071803	5271	11/2/16	9 : 10	150	14.5	East Slope
GCL- 135	26071803	5288	11/2/16	9 : 15	150	14.5	East Slope
GCL- 136	26071803	5234	11/2/16	9 : 25	150	14.5	East Slope
GCL- 137	26071503	5225	11/2/16	9 : 35	150	14.5	East Slope
GCL- 138	26071503	5215	11/2/16	9 : 45	150	14.5	East Slope
GCL- 139	26071503	5224	11/2/16	9 : 50	150	14.5	East Slope
GCL- 140	26071803	5246	11/2/16	9 : 55	150	14.5	East Slope
GCL- 141	26071803	5248	11/2/16	10 : 05	150	14.5	East Slope
GCL- 142	26071803	5259	11/3/16	7 : 05	150	14.5	East Slope
GCL- 143	26071803	5282	11/3/16	7 : 10	150	14.5	East Slope
GCL- 144	26071803	5291	11/3/16	7 : 15	150	14.5	East Slope
GCL- 145	26071803	5298	11/3/16	7 : 20	150	14.5	East Slope
GCL- 146	26071903	5324	11/3/16	7 : 25	150	14.5	East Slope
GCL- 147	26071903	5347	11/3/16	8 : 35	150	14.5	East Slope
GCL- 148	26071903	5350	11/3/16	7 : 45	150	14.5	East Slope
GCL- 149	26071903	5351	11/3/16	7 : 50	150	14.5	East Slope
GCL- 150	26071903	5352	11/3/16	7 : 55	150	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: Geosynthetic Clay Liner

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GCL- 151	26071903	5362	11/3/16	8 : 05	150	14.5	East Slope
GCL- 152	26071903	5383	11/3/16	8 : 15	150	14.5	East Slope
GCL- 153	26071903	5384	11/3/16	8 : 25	150	14.5	East Slope
GCL- 154	26071903	5386	11/3/16	8 : 35	150	14.5	East Slope
GCL- 155	26071903	5357	11/3/16	8 : 45	150	14.5	East Slope
GCL- 156	26071903	5354	11/3/16	8 : 50	150	14.5	East Slope
GCL- 157	26071903	5355	11/3/16	8 : 55	150	14.5	East Slope
GCL- 158	26071903	5331	11/3/16	9 : 00	150	14.5	East Slope
GCL- 159	26071903	5328	11/3/16	9 : 05	150	14.5	East Slope
GCL- 160	26071903	5330	11/3/16	9 : 15	150	14.5	East Slope
GCL- 161	26071803	5290	11/3/16	9 : 20	150	14.5	East Slope
GCL- 162	26071803	5293	11/3/16	9 : 25	150	14.5	East Slope
GCL- 163	26071803	5260	11/3/16	9 : 35	150	14.5	East Slope
GCL- 164	26071803	5261	11/3/16	9 : 40	150	14.5	East Slope
GCL- 165	26071803	5245	11/3/16	9 : 55	150	14.5	East Slope
GCL- 166	26071803	5235	11/3/16	10 : 00	150	14.5	East Slope
GCL- 167	26071803	5240	11/3/16	10 : 05	150	14.5	East Slope
GCL- 168	26071803	5231	11/3/16	10 : 10	150	14.5	East Slope
GCL- 169	26071803	5232	11/3/16	10 : 15	150	14.5	East Slope
GCL- 170	26071803	5247	11/3/16	10 : 20	150	14.5	East Slope
GCL- 171	26071803	5287	11/3/16	10 : 25	150	14.5	East Slope
				:			
				:			
				:			
				:			
				:			
				:			
				:			
				:			
				:			
				:			
				:			

APPENDIX G
LLDPE GEOMEMBRANE PANEL PLACEMENT LOGS



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 40-mil textured LLDPE

Primary:

Secondary:

Other: _____

Panel No.	Bacth No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
P - 1	16BB231	1041	10/28/16	1 : 15	144	22.5	East Slope
P - 2	16BB231	1041	10/28/16	1 : 20	147	22.5	East Slope
P - 3	16BB231	1041	10/28/16	1 : 30	146	22.5	East Slope
P - 4	16BB231	1041	10/28/16	1 : 35	148	22.5	East Slope
P - 5	16BB231	1041	10/28/16	1 : 40	85	22.5	East Slope
P - 6	16BB231	1040	10/28/16	1 : 45	68	22.5	East Slope
P - 7	16BB231	1040	10/28/16	1 : 55	165	22.5	East Slope
P - 8	16BB231	1040	10/28/16	2 : 05	178	22.5	East Slope
P - 9	16BB231	1040	10/28/16	2 : 10	186	22.5	East Slope
P - 10	16BB231	1040	10/28/16	2 : 15	59	22.5	East Slope
P - 11	16BB231	1052	10/28/16	2 : 35	144	22.5	East Slope
P - 12	16BB231	1052	10/28/16	2 : 50	219	22.5	East Slope
P - 13	16BB231	1052	10/28/16	3 : 00	30	16.0	East Slope, DIVIDE BY 2 - PIE SLICE
P - 14	16BB231	1052	10/28/16	3 : 05	55	22.0	East Slope
P - 15	16BB231	1052	10/28/16	3 : 10	111	22.0	East Slope
P - 16	16BB231	1052	10/28/16	3 : 15	22	22.0	East Slope
P - 17	16BB231	1052	10/28/16	3 : 20	34	22.0	East Slope
P - 18	16BB231	1052	10/28/16	3 : 25	83	22.5	East Slope, DIVIDE BY 2 - PIE SLICE
P - 19	16BB160	1064	10/28/16	3 : 31	80	22.5	East Slope, DIVIDE BY 2 - PIE SLICE
P - 20	16BB160	1064	10/28/16	3 : 37	222	22.5	East Slope
P - 21	16BB160	1064	10/28/16	3 : 50	25	22.5	East Slope
P - 22	16BB160	1064	10/28/16	3 : 55	302	22.5	East Slope
P - 23	16BB160	1064	10/28/16	4 : 10	42	22.5	East Slope
P - 24	16BB231	1039	10/28/16	4 : 15	364	17.0	East Slope
P - 25	16BB231	1039	10/29/16	8 : 05	141	22.5	East Slope
P - 26	16BB231	1039	10/29/16	8 : 15	140	22.5	East Slope
P - 27	16BB231	1042	10/29/16	8 : 24	140	22.5	East Slope
P - 28	16BB231	1042	10/29/16	8 : 32	128	22.5	East Slope
P - 29	16BB231	1042	10/29/16	8 : 40	109	22.5	East Slope
P - 30	16BB231	1042	10/29/16	8 : 48	90	22.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 40-mil textured LLDPE

Primary:

Secondary:

Other: _____

Panel No.	Bacth No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
P - 31	16BB231	1042	10/29/16	8 : 56	70	22.5	East Slope
P - 32	16BB231	1042	10/29/16	9 : 05	60	22.5	East Slope
P - 33	16BB231	1042	10/29/16	9 : 12	40	22.5	East Slope
P - 34	16BB231	1042	10/29/16	9 : 20	11	5.0	East Slope, far south of Phase 2 FC
P - 35	16BB160	1065	10/31/16	1 : 15	467	22.5	East Slope
P - 36	16BB160	1065	10/31/16	1 : 35	212	22.5	East Slope
P - 37	16BB231	1054	10/31/16	1 : 50	271	22.5	East Slope
P - 38	16BB231	1054	10/31/16	2 : 05	27	22.5	East Slope, DIVIDE BY 2 - PIE SLICE
P - 39	16BB231	1054	10/31/16	2 : 30	396	22.5	East Slope
P - 40	16BB231	1038	10/31/16	2 : 45	107	22.5	East Slope
P - 41	16BB231	1038	10/31/16	3 : 20	540	22.5	East Slope
P - 42	16BB231	1038	10/31/16	3 : 38	38	22.5	East Slope
P - 43	16BB231	1057	10/31/16	3 : 45	509	22.5	East Slope
P - 44	16BB231	1057	10/31/16	4 : 06	185	22.5	East Slope
P - 45	16BB160	1063	10/31/16	4 : 21	182	22.5	East Slope
P - 46	16BB160	1063	10/31/16	4 : 29	144	22.5	East Slope
P - 47	16BB160	1063	10/31/16	4 : 37	373	22.5	East Slope
P - 48	16BB160	1060	10/31/16	4 : 54	100	22.5	East Slope
P - 49	16BB160	1060	11/1/16	12 : 15	427	22.5	East Slope
P - 50	16BB160	1060	11/1/16	12 : 30	165	22.5	East Slope
P - 51	16BB231	1053	11/1/16	12 : 50	233	22.5	East Slope
P - 52	16BB231	1053	11/1/16	1 : 05	370	22.5	East Slope
P - 53	16BB231	1053	11/1/16	1 : 20	21	22.5	East Slope
P - 54	16BB231	1053	11/1/16	1 : 25	96	22.5	East Slope
P - 55	16BB231	1051	11/1/16	1 : 35	190	22.5	East Slope
P - 56	16BB231	1051	11/1/16	1 : 50	300	22.5	East Slope
P - 57	16BB231	1051	11/1/16	2 : 05	209	22.5	East Slope
P - 58	16BB231	1044	11/1/16	2 : 19	52	22.5	East Slope
P - 59	16BB231	1044	11/1/16	2 : 24	230	22.5	East Slope
P - 60	16BB231	1044	11/1/16	2 : 39	172	22.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 40-mil textured LLDPE

Primary:

Secondary:

Other: _____

Panel No.	Bacth No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
P - 61	16BB231	1044	11/1/16	2 : 48	34	22.5	East Slope
P - 62	16BB231	1044	11/1/16	2 : 52	125	22.5	East Slope
P - 63	16BB231	1044	11/1/16	3 : 02	65	22.5	East Slope
P - 64	16BB231	1049	11/1/16	3 : 10	41	22.5	East Slope
P - 65	16BB231	1049	11/1/16	3 : 15	60	22.5	East Slope
P - 66	16BB231	1049	11/1/16	3 : 21	36	22.5	East Slope
P - 67	16BB231	1049	11/2/16	9 : 25	24	22.5	East Slope
P - 68	16BB231	1049	11/2/16	9 : 29	78	22.5	East Slope
P - 69	16BB231	1049	11/2/16	9 : 37	83	22.5	East Slope
P - 70	16BB231	1049	11/2/16	9 : 45	150	22.5	East Slope
P - 71	16BB231	1049	11/2/16	9 : 56	30	22.5	East Slope
P - 72	16BB231	1049	11/2/16	10 : 01	144	22.5	East Slope
P - 73	16BB231	1046	11/2/16	10 : 10	31	22.5	East Slope
P - 74	16BB231	1046	11/2/16	10 : 16	244	22.5	East Slope
P - 75	16BB231	1046	11/2/16	10 : 32	262	22.5	East Slope
P - 76	16BB231	1046	11/2/16	10 : 47	110	22.5	East Slope
P - 77	16BB231	1058	11/2/16	10 : 52	190	22.5	East Slope
P - 78	16BB231	1058	11/2/16	11 : 20	325	22.5	East Slope
P - 79	16BB231	1045	11/2/16	11 : 39	128	22.5	East Slope
P - 80	16BB231	1045	11/2/16	11 : 48	70	4.0	East Slope
P - 81	16BB231	1045	11/2/16	11 : 56	413	22.5	East Slope
P - 82	16BB160	1063	11/2/16	1 : 30	41	22.0	East Slope
P - 83	16BB231	1055	11/2/16	1 : 34	219	22.5	East Slope
P - 84	16BB231	1058	11/2/16	1 : 50	163	22.5	East Slope
P - 85	16BB231	1042	11/2/16	1 : 59	35	22.5	East Slope
P - 86	16BB231	1055	11/2/16	2 : 03	477	22.5	East Slope
P - 87	16BB160	1062	11/3/16	10 : 30	500	22.5	East Slope
P - 88	16BB160	1062	11/3/16	10 : 52	193	22.5	East Slope
P - 89	16BB231	1050	11/3/16	11 : 10	305	22.5	East Slope
P - 90	16BB231	1050	11/3/16	11 : 21	388	22.5	East Slope



PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas
Project Name: Phase 2 Final Cover

Project Number: 16038
CQA Monitor: Graham McCulloch
Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill
Location: Tontitown, AR

Product Type: 40-mil textured LLDPE

Primary: Secondary: Other: _____

Panel No.	Bacth No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
P - 91	16BB160	1061	11/3/16	11 : 35	102	22.5	East Slope
P - 92	16BB160	1061	11/3/16	11 : 43	485	22.5	East Slope
P - 93	16BB160	1061	11/3/16	12 : 00	102	22.5	East Slope
P - 94	16BB231	1047	11/3/16	1 : 26	383	22.5	East Slope
P - 95	16BB231	1047	11/3/16	1 : 39	316	22.5	East Slope
P - 96	16BB231	1059	11/3/16	1 : 53	160	22.5	East Slope
P - 97	16BB231	1059	11/3/16	2 : 00	470	22.5	East Slope
P - 98	16BB231	1043	11/3/16	2 : 18	470	22.5	East Slope
P - 99	16BB231	1048	11/3/16	2 : 35	128	22.0	East Slope
P - 100	16BB231	1048	11/3/16	2 : 42	117	18.0	East Slope
P - 101	16BB231	1048	11/3/16	2 : 50	103	22.0	East Slope
P - 102	16BB231	1045	11/3/16	3 : 00	103	10.0	East Slope, farthest north end of Ph2 FC
				:			
				:			
				:			
				:			
				:			
				:			
				:			
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APPENDIX H
LLDPE GEOMEMBRANE TRIAL SEAM LOGS

HDPE Trial Weld Summary



Client Name: Waste Management
 Project Name: Phase 2 Final Cover

Project Number: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Landfill
 Location: Tontitown, AR

SPECIFICATION FOR TRIAL WELDS	
Peel Extrusion =	<u>48</u>
Peel Fusion =	<u>50</u>
Shear Extrusion =	<u>60</u>
Shear Fusion =	<u>60</u>

Date	Time	Ambient Temp °F	Sample ID	QC Initials	Machine Number	Seamer Initials	Weld Type	Fusion Weld		Extrusion Weld		Test Values						Pass or Fail						
								Wedge Temp °F	Speed	Temp °F	Preheat °F	lbs/inch												
10/28/16	1 : 05	78	1	KM	4181	PT	F	860	7.0			P	82	80	81	75	79	76					Pass	
												S	84		76		86							
10/28/16	1 : 08	78	2	KM	4153	LN	F	860	7.0			P	85	72	78	70	84	83					Pass	
												S	88		82		85							
10/28/16	1 : 24	78	3	KM	4179	BV	F	860	7.0			P	84	77	69	81	87	76					Pass	
												S	88		75		85							
10/28/16	1 : 15	78	4	KM	5173	JT	E			550	550	P	72		69		71						Pass	
												S	76		74		79							
10/29/16	8 : 00	63	5	KM	5173	JT	E			550	550	P	92		78		87						Pass	
												S	93		83		82							
10/29/16	8 : 40	63	6	KM	4153	LN	F	860	5.0			P	64	83	78	67	83	75					Pass	
												S	96		81		95							
10/29/16	8 : 46	63	7	KM	4181	PT	F	860	6.0			P	76	79	73	77	67	86					Pass	
												S	102		87		99							
10/29/16	12 : 50	76	8	KM	5173	JT	E			550	550	P	78		80		82						Pass	
												S	84		88		86							
10/31/16	7 : 40	56	9	KM	5173	JT	E			550	550	P	79		69		77						Pass	
												S	93		80		91							
10/31/16	12 : 50	78	10	KM	5173	JT	E			550	550	P	75		72		65						Pass	
												S	87		85		80							
10/31/16	1 : 00	78	11	KM	4181	PT	F	860	7.0			P	74	72	69	63	71	72					Pass	
												S	88		79		81							
10/31/16	1 : 07	78	12	KM	4153	LN	F	860	5.0			P	75	62	72	64	75	79					Pass	
												S	85		76		75							
10/31/16	1 : 11	78	13	KM	4179	BV	F	860	5.0			P	76	65	84	63	84	82					Pass	
												S	87		78		87							
11/01/16	7 : 25	66	14	KM	5173	JT	E			550	550	P	80		82		87						Pass	
												S	83		87		90							
11/01/16	12 : 15	76	15	KM	5173	JT	E			550	550	P	77		63		80						Pass	
												S	77		71		78							

HDPE Trial Weld Summary



Client Name: Waste Management
 Project Name: Phase 2 Final Cover

Project Number: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Landfill
 Location: Tontitown, AR

SPECIFICATION FOR TRIAL WELDS	
Peel Extrusion =	<u>48</u>
Peel Fusion =	<u>50</u>
Sheer Extrusion =	<u>60</u>
Sheer Fusion =	<u>60</u>

Date	Time	Ambient Temp °F	Sample ID	QC Initials	Machine Number	Seamer Initials	Weld Type	Fusion Weld		Extrusion Weld		Test Values								Pass or Fail			
								Wedge Temp °F	Speed	Temp °F	Preheat °F	lbs/inch											
11/01/16	12 : 25	76	16	KM	4181	PT	F	860	7.0			P	79	81	75	70	72	83					Pass
												S	85			83		79					
11/01/16	12 : 20	76	17	KM	4153	LN	F	860	5.0			P	77	79	81	75	72	80					Pass
												S	83			85		89					
11/02/16	7 : 25	67	18	KM	5173	JT	E			550	550	P	89		75		85						Pass
												S	91			89		88					
11/02/16	10 : 50	70	19	KM	4181	PT	F	860	7.0			P	85	78	77	78	82	78					Pass
												S	83			79		87					
11/02/16	10 : 55	70	20	KM	4153	LN	F	860	5.0			P	73	72	72	68	77	73					Pass
												S	83			77		83					
11/02/16	1 : 00	76	21	KM	5173	JT	E			550	550	P	81		79		84						Pass
												S	88			89		83					
11/02/16	1 : 00	76	22	KM	4181	PT	F	860	7.0			P	72	75	69	81	73	80					Pass
												S	84			86		83					
11/02/16	1 : 05	76	23	KM	4153	LN	F	860	5.0			P	77	79	82	74	77	81					Pass
												S	85			87		82					
11/03/16	7 : 35	65	24	KM	5173	JT	E			550	550	P	87		75		83						Pass
												S	92			88		91					
11/03/16	12 : 55	76	25	KM	5173	JT	E			550	550	P	82		73		76						Pass
												S	85			79		87					
11/03/16	1 : 05	76	26	KM	4181	PT	F	860	7.0			P	72	64	67	63	84	61					Pass
												S	79			78		85					
11/03/16	1 : 05	76	27	KM	4153	LN	F	860	5.0			P	61	79	72	81	63	65					Pass
												S	89			80		81					
11/03/16	1 : 07	76	28	KM	4179	BV	F	860	5.0			P	74	75	65	73	76	70					Pass
												S	83			85		79					
11/04/16	7 : 35	55	29	KM	5173	JT	E			550	550	P	87		85		77						Pass
												S	99			87		90					
11/04/16	1 : 00	72	30	KM	5173	JT	E			550	550	P	72		69		75						Pass
												S	80			76		82					

APPENDIX I
40-MIL LLDPE GEOMEMBRANE PANEL SEAMING SUMMARY

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4153 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/28/16	1 : 59	LN	P- 5 / P- 7	80	GM	East Slope	50/30	DS-8	50' E OF BOS	Pass	Pass
10/28/16	2 : 07	LN	P- 6 / P- 7	68	GM	East Slope	98				
10/28/16	2 : 18	LN	P- 8 / P- 9	176	GM	East Slope	274				
10/28/16	2 : 40	LN	P- 9 / P- 10	59	GM	East Slope	333				
10/28/16	2 : 45	LN	P- 9 / P- 11	144	GM	East Slope	400/77	DS-2	67' E OF BOS	Pass	Pass
10/28/16	3 : 03	LN	P- 13 / P- 14	30	GM	East Slope	107				
10/28/16	3 : 12	LN	P- 14 / P- 15	91	GM	East Slope	198				
10/28/16	3 : 49	LN	P- 15 / P- 18	83	GM	East Slope	281				
10/28/16	3 : 57	LN	P- 15 / P- 19	46	GM	East Slope	327				
10/28/16	4 : 09	LN	P- 16 / P- 19	23	GM	East Slope	350				
10/28/16	4 : 10	LN	P- 20 / P- 22	222	GM	East Slope	367/205	DS-4	17' E OF BOS	Pass	Pass
10/28/16	4 : 31	LN	P- 21 / P- 22	27	GM	East Slope	232				
10/28/16	4 : 46	LN	P- 12 / P- 13	16	GM	East Slope	248				
10/28/16	4 : 49	LN	P- 12 / P- 14	33	GM	East Slope	281				
10/28/16	4 : 50	LN	P- 12 / P- 15	4	GM	East Slope	285				
10/28/16	4 : 52	LN	P- 12 / P- 16	30	GM	East Slope	315				
10/28/16	4 : 56	LN	P- 12 / P- 19	34	GM	East Slope	349				
10/28/16	4 : 59	LN	P- 12 / P- 21	33	GM	East Slope	382				

TOTAL = 1199 ft

Seam Length this Machine: _____ This Page: 1,199 ft

Accumulated: 1,199 ft

Note: _____

Carry Over: 382 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4153 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/28/16	5 : 02	LN	P- 12 / P- 22	28	GM	East Slope	410				
10/28/16	5 : 06	LN	P- 12 / WTI	5	GM	East Slope	415				
10/28/16	5 : 06	LN	P- 12 / P- 24	30	GM	East Slope	445				
10/29/16	8 : 55	LN	P- 25 / P- 26	141	GM	East Slope	586				
10/29/16	9 : 12	LN	P- 26 / P- 27	140	GM	East Slope	726				
10/29/16	9 : 28	LN	P- 28 / P- 29	109	GM	East Slope	835				
10/29/16	9 : 41	LN	P- 30 / P- 31	72	GM	East Slope	843/64	DS-10	8' E OF BOS	Pass	Pass
10/29/16	9 : 52	LN	P- 33 / P- 34	11	GM	East Slope	75				
10/31/16	1 : 44	LN	P- 23 / P- 25	19	GM	East Slope	94				
10/31/16	1 : 48	LN	P- 24 / P- 35	346	GM	East Slope	412/28	DS-12	28' W OF EOS	Pass	Pass
10/31/16	2 : 28	LN	P- 22 / P- 35	18	GM	East Slope	46				
10/31/16	3 : 09	LN	P- 38 / P- 41	18	GM	East Slope	64				
10/31/16	3 : 13	LN	P- 39 / P- 41	398	GM	East Slope	450/12	DS-14	12' W OF EOS	Pass	Pass
10/31/16	3 : 44	LN	P- 40 / P- 41	107	GM	East Slope	119				
10/31/16	4 : 41	LN	P- 44 / P- 47	140	GM	East Slope	259				
10/31/16	4 : 54	LN	P- 45 / P- 47	185	GM	East Slope	444				
10/31/16	5 : 07	LN	P- 47 / P- 48	22	GM	East Slope	466				
10/31/16	5 : 10	LN	P- 46 / P- 47	43	GM	East Slope	476/33	DS-18	10' E OF BOS	Pass	Pass

TOTAL = 1832 ft

Seam Length this Machine: _____ This Page: 1,832 ft

Accumulated: 3,031 ft

Note: _____

Carry Over: 33 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4153 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/31/16	5 : 25	LN	P- 46 / P- 48	100	GM	East Slope	133				
11/01/16	12 : 30	LN	P- 47 / P- 49	325	GM	East Slope	436/22	DS-19	303' E OF BOS	Pass	Pass
11/01/16	12 : 58	LN	P- 48 / P- 49	102	GM	East Slope	124				
11/01/16	1 : 17	LN	P- 50 / P- 52	130	GM	East Slope	254				
11/01/16	1 : 29	LN	P- 51 / P- 52	233	GM	East Slope	433/54	DS-21	54' W OF EOS	Pass	Pass
11/01/16	1 : 55	LN	P- 54 / P- 55	22	GM	East Slope	76				
11/01/16	2 : 04	LN	P- 54 / P- 56	96	GM	East Slope	172				
11/01/16	2 : 33	LN	P- 57 / P- 58	22	GM	East Slope	194				
11/01/16	2 : 41	LN	P- 59 / P- 60	193	GM	East Slope	387				
11/01/16	3 : 01	LN	P- 63 / P- 64	22	GM	East Slope	409				
11/01/16	3 : 10	LN	P- 61 / P- 62	22	GM	East Slope	431				
11/01/16	3 : 15	LN	P- 60 / P- 61	34	GM	East Slope	465				
11/01/16	3 : 22	LN	P- 60 / P- 62	126	GM	East Slope	516/75	DS-23	51' E OF BOS	Pass	Pass
11/01/16	3 : 36	LN	P- 63 / P- 65	48	GM	East Slope	123				
11/01/16	3 : 41	LN	P- 64 / P- 65	46	GM	East Slope	169				
11/01/16	3 : 46	LN	P- 65 / P- 66	36	GM	East Slope	205				
11/01/16	11 : 43	LN	P- 71 / P- 72	22	GM	East Slope	227				
11/02/16	11 : 48	LN	P- 70 / P- 72	144	GM	East Slope	371				

TOTAL = 1723 ft

Seam Length this Machine: _____ This Page: 1,723 ft

Accumulated: 4,754 ft

Note: _____

Carry Over: 371 ft

HDPE Panel Seaming Summary



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4153 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/02/16	12 : 00	LN	P- 70 / P- 73	31	GM	East Slope	402				
11/02/16	1 : 30	LN	P- 74 / P- 75	244	GM	East Slope	417/229	DS-25	15' E OF BOS	Pass	Pass
11/02/16	2 : 10	LN	P- 76 / P- 78	126	GM	East Slope	355				
11/02/16	2 : 20	LN	P- 77 / P- 78	186	GM	East Slope	541				
11/02/16	2 : 55	LN	P- 82 / P- 83	21	GM	East Slope	562				
11/02/16	3 : 08	LN	P- 82 / P- 86	41	GM	East Slope	576/27	DS-27	14' E OF BOS	Pass	Pass
11/02/16	3 : 13	LN	P- 83 / P- 86	219	GM	East Slope	246				
11/02/16	3 : 30	LN	P- 84 / P- 86	163	GM	East Slope	409				
11/02/16	3 : 46	LN	P- 84 / P- 85	22	GM	East Slope	431				
11/02/16	3 : 50	LN	P- 85 / P- 86	24	GM	East Slope	455				
11/02/16	4 : 04	LN	P- 78 / P- 79	110	GM	East Slope	565				
11/02/16	4 : 34	LN	P- 42 / P- 86	12	GM	East Slope	577				
11/02/16	4 : 37	LN	P- 44 / P- 86	24	GM	East Slope	601				
11/02/16	4 : 40	LN	P- 44 / P- 82	20	GM	East Slope	616/5	DS-29	15' E OF BOS	Pass	Pass
11/02/16	4 : 42	LN	P- 47 / P- 82	12	GM	East Slope	17				
11/02/16	4 : 44	LN	P- 47 / P- 81	30	GM	East Slope	47				
11/02/16	4 : 48	LN	P- 49 / P- 81	22	GM	East Slope	69				
11/02/16	4 : 51	LN	P- 49 / P- 79	11	GM	East Slope	80				

TOTAL = 1318 ft

Seam Length this Machine: _____ This Page: 1,318 ft

Accumulated: 6,072 ft

Note: _____

Carry Over: 80 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other:

MACHINE NO: 4153

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/02/16	4 : 52	LN	P- 50 / P- 79	19	GM	East Slope	99				
11/02/16	4 : 56	LN	P- 50 / P- 78	16	GM	East Slope	115				
11/02/16	4 : 57	LN	P- 52 / P- 78	17	GM	East Slope	132				
11/02/16	5 : 00	LN	P- 52 / P- 76	18	GM	East Slope	150				
11/02/16	5 : 02	LN	P- 53 / P- 76	22	GM	East Slope	172				
11/02/16	5 : 05	LN	P- 53 / P- 75	20	GM	East Slope	192				
11/02/16	5 : 07	LN	P- 56 / P- 75	22	GM	East Slope	214				
11/02/16	5 : 10	LN	P- 56 / P- 74	7	GM	East Slope	221				
11/02/16	5 : 11	LN	P- 57 / P- 74	32	GM	East Slope	253				
11/02/16	5 : 14	LN	P- 59 / P- 74	6	GM	East Slope	259				
11/02/16	5 : 15	LN	P- 59 / P- 71	28	GM	East Slope	287				
11/02/16	5 : 19	LN	P- 60 / P- 70	30	GM	East Slope	317				
11/02/16	5 : 22	LN	P- 61 / P- 70	14	GM	East Slope	331				
11/02/16	5 : 24	LN	P- 61 / P- 69	24	GM	East Slope	355				
11/02/16	5 : 27	LN	P- 63 / P- 69	18	GM	East Slope	373				
11/02/16	5 : 28	LN	P- 63 / P- 68	20	GM	East Slope	393				
11/02/16	5 : 30	LN	P- 65 / P- 68	27	GM	East Slope	420				
11/02/16	5 : 33	LN	P- 65 / P- 67	10	GM	East Slope	430				

TOTAL = 350 ft

Seam Length this Machine: _____ This Page: 350 ft

Accumulated: 6,422 ft

Note: _____

Carry Over: 430 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other:

MACHINE NO: 4153

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/02/16	5 : 35	LN	P- 66 / P- 67	30	GM	East Slope	444/16	DS-30	16' W OF EOS	Pass	Pass
11/03/16	1 : 24	LN	P- 87 / P- 88	193	GM	East Slope	209				
11/03/16	1 : 33	LN	P- 87 / P- 89	50	GM	East Slope	259				
11/03/16	1 : 45	LN	P- 87 / P- 89	256	GM	East Slope	515				
11/03/16	2 : 07	LN	P- 90 / P- 91	22	GM	East Slope	537				
11/03/16	2 : 17	LN	P- 92 / P- 93	102	GM	East Slope	639				
11/03/16	2 : 40	LN	P- 92 / P- 94	381	GM	East Slope	1020				
11/03/16	3 : 37	LN	P- 93 / P- 94	22	GM	East Slope	1042				
11/03/16	3 : 44	LN	P- 97 / P- 98	470	GM	East Slope	1260/252	DS-34	218' E OF BOS	Pass	Pass
11/03/16	4 : 25	LN	P- 98 / P- 99	404	GM	East Slope	526/130	DS-35	274' E OF BOS	Pass	Pass
11/03/16	5 : 01	LN	P- 101 / P- 102	103	GM	East Slope	150/83	DS-37	20' E OF BOS	Pass	Pass
	:		/								
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TOTAL = 2033 ft

Seam Length this Machine: _____ This Page: 2,033 ft

Accumulated: 8,455 ft

Note: _____

Carry Over: 83 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4179 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/28/16	2 : 30	BV	P- 10 / P- 11	22	GM	East Slope	22				
10/28/16	4 : 24	BV	P- 22 / WTI	4	GM	East Slope	26				
10/28/16	3 : 53	BV	P- 20 / P- 21	22	GM	East Slope	48				
10/28/16	3 : 11	BV	P- 15 / P- 16	20	GM	East Slope	68				
10/31/16	2 : 17	BV	P- 38 / P- 39	22	GM	East Slope	90				
10/31/16	2 : 22	BV	P- 37 / P- 39	288	GM	East Slope	378				
10/31/16	3 : 16	BV	P- 37 / P- 38	4	GM	East Slope	382				
10/31/16	3 : 18	BV	P- 39 / P- 40	22	GM	East Slope	404				
10/31/16	3 : 02	BV	P- 36 / P- 39	103	GM	East Slope	487/20	DS-15	83' E OF BOS	Pass	Pass
10/31/16	3 : 22	BV	P- 36 / P- 40	107	GM	East Slope	127				
10/31/16	4 : 14	BV	P- 43 / P- 44	184	GM	East Slope	311				
10/31/16	4 : 41	BV	P- 44 / P- 45	22	GM	East Slope	333				
10/31/16	4 : 44	BV	P- 43 / P- 45	181	GM	East Slope	450/64	DS-17	117' E OF BOS	Pass	Pass
10/31/16	5 : 09	BV	P- 45 / P- 46	22	GM	East Slope	86				
10/31/16	5 : 12	BV	P- 43 / P- 46	142	GM	East Slope	228				
11/03/16	1 : 37	BV	P- 88 / P- 89	22	GM	East Slope	239/11	DS-31	11' S OF BOS	Pass	Pass
11/03/16	1 : 47	BV	P- 88 / P- 90	193	GM	East Slope	204				
11/03/16	3 : 10	BV	P- 93 / P- 96	104	GM	East Slope	308				

TOTAL = 1484 ft

Seam Length this Machine: _____ This Page: 1,484 ft

Accumulated: 1,484 ft

Note: _____

Carry Over: 308 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other:

MACHINE NO: 4181

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/28/16	1 : 12	PT	P- 1 / P- 2	144	GM	East Slope	50/94	DS-7	50' E OF BOS	Pass	Pass
10/28/16	1 : 29	PT	P- 2 / P- 3	136	GM	East Slope	230				
10/28/16	1 : 45	PT	P- 3 / P- 4	136	GM	East Slope	366				
10/28/16	2 : 07	PT	P- 4 / P- 5	80	GM	East Slope	401/45	DS-1	35' E OF BOS	Pass	Pass
10/28/16	1 : 53	PT	P- 5 / P- 6	22	GM	East Slope	67				
10/28/16	2 : 31	PT	P- 7 / P- 8	165	GM	East Slope	232				
10/28/16	2 : 15	PT	P- 4 / P- 6	68	GM	East Slope	300				
10/28/16	2 : 59	PT	P- 10 / P- 12	59	GM	East Slope	359				
10/28/16	3 : 10	PT	P- 11 / P- 12	144	GM	East Slope	450/53	DS-3	53' W OF EOS	Pass	Pass
10/28/16	3 : 38	PT	P- 18 / P- 19	22	GM	East Slope	75				
10/28/16	3 : 40	PT	P- 17 / P- 18	22	GM	East Slope	97				
10/28/16	3 : 50	PT	P- 17 / P- 20	34	GM	East Slope	131				
10/28/16	3 : 52	PT	P- 18 / P- 20	83	GM	East Slope	214				
10/28/16	4 : 35	PT	P- 22 / P- 24	345	GM	East Slope	559				
10/28/16	4 : 05	PT	P- 19 / P- 20	93	GM	East Slope	652				
10/28/16	4 : 30	PT	P- 23 / P- 24	22	GM	East Slope	674				
10/29/16	8 : 55	PT	P- 1 / P- 25	142	GM	East Slope	816				
10/29/16	9 : 14	PT	P- 27 / P- 28	128	GM	East Slope	836/108	DS-9	20' E OF BOS	Pass	Pass

TOTAL = 1845 ft

Seam Length this Machine: _____ This Page: 1,845 ft

Accumulated: 1,845 ft

Note: _____

Carry Over: 108 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4181 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/29/16	9 : 35	PT	P- 29 / P- 30	91	GM	East Slope	199				
10/29/16	9 : 45	PT	P- 31 / P- 32	32	GM	East Slope	231				
10/29/16	9 : 56	PT	P- 32 / P- 33	32	GM	East Slope	263				
10/31/16	2 : 00	PT	P- 35 / P- 37	271	GM	East Slope	520/14	DS-13	257' E OF BOS	Pass	Pass
10/31/16	2 : 30	PT	P- 36 / P- 37	22	GM	East Slope	36				
10/31/16	2 : 33	PT	P- 35 / P- 36	213	GM	East Slope	249				
10/31/16	4 : 05	PT	P- 41 / P- 42	37	GM	East Slope	286				
10/31/16	3 : 50	PT	P- 42 / P- 43	22	GM	East Slope	308				
10/31/16	4 : 07	PT	P- 41 / P- 43	508	GM	East Slope	661/155	DS-16	353' E OF BOS	Pass	Pass
11/01/16	12 : 40	PT	P- 49 / P- 50	165	GM	East Slope	320				
11/01/16	1 : 00	PT	P- 50 / P- 51	22	GM	East Slope	342				
11/01/16	1 : 03	PT	P- 49 / P- 51	233	GM	East Slope	450/125	DS-20	108' E OF BOS	Pass	Pass
11/01/16	1 : 40	PT	P- 52 / P- 53	38	GM	East Slope	163				
11/01/16	1 : 48	PT	P- 53 / P- 54	22	GM	East Slope	185				
11/01/16	1 : 50	PT	P- 52 / P- 54	96	GM	East Slope	281				
11/01/16	2 : 03	PT	P- 52 / P- 55	78	GM	East Slope	359				
11/01/16	2 : 13	PT	P- 52 / P- 55	98	GM	East Slope	457				
11/01/16	2 : 22	PT	P- 52 / P- 55	15	GM	East Slope	472				

TOTAL = 1995 ft

Seam Length this Machine: _____ This Page: 1,995 ft

Accumulated: 3,840 ft

Note: _____

Carry Over: 472 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other:

MACHINE NO: 4181

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/01/16	2 : 28	PT	P- 56 / P- 57	209	GM	East Slope	641/40	DS-22	169' E OF BOS	Pass	Pass
11/01/16	2 : 52	PT	P- 56 / P- 58	53	GM	East Slope	93				
11/01/16	3 : 05	PT	P- 57 / P- 59	178	GM	East Slope	271				
11/01/16	3 : 26	PT	P- 58 / P- 59	52	GM	East Slope	323				
11/01/16	3 : 37	PT	P- 62 / P- 63	65	GM	East Slope	388				
11/01/16	3 : 46	PT	P- 62 / P- 64	41	GM	East Slope	429				
11/02/16	10 : 56	PT	P- 67 / P- 68	46	GM	East Slope	475				
11/02/16	11 : 00	PT	P- 68 / P- 69	100	GM	East Slope	505/70	DS-24	30' E OF BOS	Pass	Pass
11/02/16	11 : 05	PT	P- 69 / P- 70	135	GM	East Slope	205				
11/02/16	11 : 45	PT	P- 72 / P- 73	22	GM	East Slope	227				
11/02/16	1 : 02	PT	P- 71 / P- 74	33	GM	East Slope	260				
11/02/16	1 : 06	PT	P- 72 / P- 74	144	GM	East Slope	404				
11/02/16	1 : 24	PT	P- 73 / P- 74	26	GM	East Slope	430				
11/02/16	1 : 42	PT	P- 75 / P- 76	85	GM	East Slope	476/39	DS-26	46' E OF BOS	Pass	Pass
11/02/16	1 : 55	PT	P- 76 / P- 77	22	GM	East Slope	61				
11/02/16	1 : 58	PT	P- 75 / P- 77	194	GM	East Slope	255				
11/02/16	3 : 10	PT	P- 83 / P- 84	22	GM	East Slope	277				
11/02/16	3 : 34	PT	P- 81 / P- 83	212	GM	East Slope	489				

TOTAL = 1639 ft

Seam Length this Machine: _____ This Page: 1,639 ft

Accumulated: 5,479 ft

Note: _____

Carry Over: 489 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 4181 Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/02/16	3 : 52	PT	P- 81 / P- 84	163	GM	East Slope	652				
11/02/16	4 : 12	PT	P- 81 / P- 85	30	GM	East Slope	682				
11/02/16	4 : 24	PT	P- 79 / P- 81	136	GM	East Slope	697/121	DS-28	15' E OF BOS	Pass	Pass
11/02/16	4 : 42	PT	P- 79 / P- 80	4	GM	East Slope	125				
11/02/16	4 : 46	PT	P- 80 / P- 81	70	GM	East Slope	195				
11/02/16	4 : 55	PT	P- 78 / P- 80	70	GM	East Slope	265				
11/02/16	5 : 05	PT	P- 78 / P- 81	153	GM	East Slope	418				
11/03/16	1 : 06	PT	P- 41 / P- 87	10	GM	East Slope	428				
11/03/16	1 : 07	PT	P- 42 / P- 87	27	GM	East Slope	455				
11/03/16	1 : 09	PT	P- 86 / P- 87	440	GM	East Slope	475/420	DS-32	20' E OF BOS	Pass	Pass
11/03/16	2 : 10	PT	P- 91 / P- 92	102	GM	East Slope	462/60	DS-33	60' W OF EOS	Pass	Pass
11/03/16	2 : 24	PT	P- 90 / P- 92	388	GM	East Slope	448				
11/03/16	4 : 40	PT	P- 99 / P- 101	151	GM	East Slope	463/136	DS-36	15' E OF BOS	Pass	Pass
11/03/16	4 : 55	PT	P- 99 / P- 100	118	GM	East Slope	254				
11/03/16	4 : 34	PT	P- 100 / P- 101	18	GM	East Slope	264/8	DS-38	10' S OF BOS	Pass	Pass
	:		/								
	:		/								
	:		/								

TOTAL = 1880 ft

Seam Length this Machine: _____ This Page: 1,880 ft

Accumulated: 7,359 ft

Note: _____

Carry Over: 8 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other:

MACHINE NO: 5173 extrusion

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/28/16	1 : 25	JT	P- 1 / WTI	20	GM	Tie-In Phase 1	20				
10/28/16	1 : 35	JT	P- 2 / WTI	22	GM	Tie-In Phase 1	42				
10/28/16	1 : 55	JT	P- 3 / WTI	22	GM	Tie-In Phase 1	51/13	DS-5	9' N OF BOS	Pass	Pass
10/28/16	1 : 55	JT	P- 4 / WTI	22	GM	Tie-In Phase 1	35				
10/28/16	2 : 00	JT	P- 5 / WTI	22	GM	Tie-In Phase 1	57				
10/28/16	2 : 10	JT	P- 7 / WTI	23	GM	Tie-In Phase 1	80				
10/28/16	2 : 35	JT	P- 8 / WTI	23	GM	Tie-In Phase 1	103				
10/28/16	2 : 45	JT	P- 9 / WTI	22	GM	Tie-In Phase 1	125				
10/28/16	2 : 55	JT	P- 10 / WTI	23	GM	Tie-In Phase 1	148				
10/28/16	3 : 05	JT	P- 12 / WTI	20	GM	Tie-In Phase 1	168				
10/28/16	3 : 15	JT	P- 13 / WTI	20	GM	Tie-In Phase 1	188				
10/28/16	3 : 20	JT	P- 14 / WTI	43	GM	Tie-In Phase 1	231				
10/28/16	3 : 35	JT	P- 15 / WTI	40	GM	Tie-In Phase 1	271				
10/28/16	4 : 00	JT	P- 17 / WTI	38	GM	Tie-In Phase 1	309				
10/28/16	4 : 20	JT	P- 20 / WTI	40	GM	Tie-In Phase 1	349				
10/28/16	4 : 40	JT	P- 22 / WTI	58	GM	Tie-In Phase 1	389/18	DS-6	40' N OF BOS	Pass	Pass
10/28/16	5 : 16	JT	P- 23 / WTI	24	GM	Tie-In Phase 1	42				
10/28/16	4 : 59	JT	P- 12 / P- 21	33	GM	Tie-In Phase 1	75				

TOTAL = 515 ft

Seam Length this Machine: _____ This Page: 515 ft

Accumulated: 515 ft

Note: _____

Carry Over: 75 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 5173 extrusion Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/29/16	1 : 20	JT	P- 34 / WTI	17.0	GM	Tie-In Phase 1	92				
10/29/16	1 : 30	JT	P- 33 / WTI	23.0	GM	Tie-In Phase 1	115				
10/29/16	1 : 40	JT	P- 32 / WTI	22.5	GM	Tie-In Phase 1	131.5/6	DS-11	6' S of Seam 31	Pass	Pass
10/29/16	1 : 50	JT	P- 31 / WTI	22.5	GM	Tie-In Phase 1	28.5				
10/29/16	2 : 00	JT	P- 30 / WTI	22.5	GM	Tie-In Phase 1	51.0				
10/29/16	2 : 10	JT	P- 29 / WTI	22.5	GM	Tie-In Phase 1	73.5				
10/29/16	2 : 20	JT	P- 28 / WTI	22.5	GM	Tie-In Phase 1	96.0				
10/29/16	2 : 30	JT	P- 27 / WTI	22.5	GM	Tie-In Phase 1	118.5				
10/29/16	2 : 55	JT	P- 26 / WTI	22.5	GM	Tie-In Phase 1	141.0				
10/29/16	3 : 00	JT	P- 25 / WTI	22.5	GM	Tie-In Phase 1	163.5				
11/01/16	8 : 05	JT	P- 23 / WTI	24.0	GM	Tie-In Phase 1	187.5				
11/01/16	8 : 15	JT	P- 35 / WTI	49.0	GM	Tie-In Phase 1	236.5				
11/01/16	8 : 40	JT	P- 37 / WTI	31.0	GM	Tie-In Phase 1	267.5				
11/01/16	9 : 00	JT	P- 38 / WTI	31.0	GM	Tie-In Phase 1	298.5				
11/01/16	9 : 15	JT	P- 41 / WTI	26.0	GM	Tie-In Phase 1	324.5				
11/03/16	4 : 35	JT	P- 87 / WTI	22.0	GM	Tie-In Phase 1	346.5				
11/03/16	4 : 45	JT	P- 88 / WTI	22.0	GM	Tie-In Phase 1	368.5				
11/03/16	4 : 50	JT	P- 90 / WTI	22.5	GM	Tie-In Phase 1	391.0				

TOTAL = 447.5 ft

Seam Length this Machine: _____ This Page: 447.5 ft

Accumulated: 963 ft

Note: _____

Carry Over: 391.0 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

Project No.: 16038
 CQA Monitor: Graham McCulloch
 Reviewed By: Bryan Bailey, P.E.

Primary: Secondary: Other:

MACHINE NO: 5173 extrusion Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/29/16	1 : 15	JT	P- 33 / NTI	12	GM	Tie-In Phase 1	403.0				
11/03/16	5 : 00	JT	P- 92 / WTI	22.5	GM	Tie-In Phase 1	425.5				
11/04/16	8 : 00	JT	P- 94 / WTI	23	GM	Tie-In Phase 1	448.5				
11/04/16	8 : 10	JT	P- 95 / WTI	23	GM	Tie-In Phase 1	471.5				
11/04/16	8 : 20	JT	P- 97 / WTI	23	GM	Tie-In Phase 1	494.5				
11/04/16	8 : 30	JT	P- 98 / WTI	23	GM	Tie-In Phase 1	517.5				
11/04/16	8 : 40	JT	P- 99 / WTI	23	GM	Tie-In Phase 1	540.5				
11/04/16	9 : 45	JT	P- 101 / WTI	23	GM	Tie-In Phase 1	563.5				
11/04/16	9 : 50	JT	P- 102 / WTI	7	GM	Tie-In Phase 1	570.5				
	:		/								
	:		/								
	:		/								
	:		/								
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	:		/								
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	:		/								
	:		/								
			TOTAL = 179.5 ft								

Seam Length this Machine: _____ This Page: 179.5 ft Accumulated: 1,142 ft
 Note: _____ Carry Over: 570.5 ft

APPENDIX J
40-MIL LLDPE GEOMEMBRANE NON-DESTRUCTIVE TEST LOGS

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/28/16	P- 1 / P- 2	144	RC	30	30	0	1 : 35	1 : 40	P	East Slope	
10/28/16	P- 2 / P- 3	136	RC	30	30	0	1 : 50	1 : 55	P	East Slope	
10/28/16	P- 3 / P- 4	130	RC	30	30	0	2 : 26	2 : 31	P	East Slope	
10/28/16	P- 4 / P- 5	80	RC	30	30	0	2 : 17	2 : 22	P	East Slope	
10/28/16	P- 4 / P- 6	68	RC	30	29	1	2 : 29	2 : 34	P	East Slope	
10/28/16	P- 5 / P- 7	80	RC	30	30	0	2 : 21	2 : 26	P	East Slope	
10/28/16	P- 6 / P- 7	68	RC	30	30	0	2 : 30	2 : 35	P	East Slope	
10/28/16	P- 5 / P- 6	10	RC	30	30	0	2 : 10	2 : 15	P	East Slope	
10/28/16	P- 5 / P- 6	10	RC	30	30	0	2 : 12	2 : 17	P	East Slope	
10/28/16	P- 7 / P- 8	165	RC	30	30	0	2 : 48	2 : 53	P	East Slope	
10/28/16	P- 8 / P- 9	178	RC	30	29	1	2 : 50	2 : 55	P	East Slope	
10/28/16	P- 9 / P- 10	59	RC	30	28	2	3 : 05	3 : 10	P	East Slope	
10/28/16	P- 10 / P- 11	22	RC	30	30	0	3 : 00	3 : 05	P	East Slope	
10/28/16	P- 9 / P- 11	144	RC	30	29	1	3 : 03	3 : 08	P	East Slope	
10/28/16	P- 10 / P- 12	65	RC	30	30	0	3 : 11	3 : 16	P	East Slope	
10/28/16	P- 11 / P- 12	144	RC	30	29	1	3 : 29	3 : 34	P	East Slope	
10/28/16	P- 12 / P- 13	16	RC	30	30	0	4 : 51	4 : 56	P	East Slope	
10/28/16	P- 12 / P- 14	33	RC	30	30	0	4 : 55	5 : 00	P	East Slope	
10/28/16	P- 12 / P- 15	4	RC	-	-	-	-	-		P	East Slope, Capped
10/28/16	P- 12 / P- 16	30	RC	30	29	1	4 : 58	5 : 03	P	East Slope	
10/28/16	P- 12 / P- 19	34	RC	30	30	0	5 : 02	5 : 07	P	East Slope	
10/28/16	P- 12 / P- 21	33	RC	30	29	1	5 : 06	5 : 11	P	East Slope	
10/28/16	P- 13 / P- 14	30	RC	30	29	1	3 : 27	3 : 32	P	East Slope	

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/28/16	P- 14 / P- 15	91	RC	30	30	0	3 : 23	3 : 28	P		East Slope
10/28/16	P- 15 / P- 18	83	RC	30	30	0	4 : 05	4 : 10	P		East Slope
10/28/16	P- 18 / P- 19	22	RC	30	29	1	3 : 50	3 : 55	P		East Slope
10/28/16	P- 17 / P- 18	22	RC	30	30	0	4 : 03	4 : 08	P		East Slope
10/28/16	P- 17 / P- 20	34	RC	30	29	1	4 : 00	4 : 05	P		East Slope
10/28/16	P- 20 / P- 22	222	RC	30	29	1	4 : 32	4 : 37	P		East Slope
10/28/16	P- 12 / P- 22	27	RC	30	30	0	5 : 08	5 : 13	P		East Slope
10/28/16	P- 22 / Tie In	4	RC	30	30	0	5 : 09	5 : 14	P		East Slope
10/28/16	P- 12 / Tie In	5	RC	30	30	0	5 : 11	5 : 16	P		East Slope
10/28/16	P- 12 / P- 24	30	RC	30	30	0	5 : 17	5 : 22	P		East Slope
10/28/16	P- 22 / P- 24	345	RC	30	30	0	5 : 20	5 : 25	P		East Slope
10/28/16	P- 23 / P- 24	17	RC	30	30	0	4 : 49	4 : 54	P		East Slope
10/28/16	P- 18 / P- 20	83	RC	30	29	1	4 : 15	4 : 20	P		East Slope
10/28/16	P- 19 / P- 20	93	RC	30	29	1	4 : 26	4 : 31	P		East Slope
10/28/16	P- 20 / P- 21	22	RC	30	30	0	4 : 34	4 : 39	P		East Slope
10/28/16	P- 12 / P- 21	33	RC	30	29	1	5 : 06	5 : 11	P		East Slope
10/28/16	P- 24 / Tie In	5	RC	-	-	0	-	-		P	East Slope, Capped
10/29/16	P- 1 / P- 25	141	RC	30	30	0	9 : 07	9 : 12	P		East Slope
10/29/16	P- 25 / P- 26	140	RC	30	30	0	9 : 00	9 : 05	P		East Slope
10/29/16	P- 26 / P- 27	14	RC	30	29	1	9 : 25	9 : 30	P		East Slope
10/29/16	P- 27 / P- 28	128	RC	30	30	0	9 : 29	9 : 34	P		East Slope
10/29/16	P- 28 / P- 29	109	RC	30	30	0	9 : 35	9 : 40	P		East Slope
10/29/16	P- 29 / P- 30	91	RC	30	29	1	9 : 45	9 : 50	P		East Slope

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/29/16	P- 30 / P- 31	72	RC	30	30	0	9 : 51	9 : 56	P	East Slope	
10/29/16	P- 31 / P- 32	54	RC	30	29	1	9 : 55	10 : 00	P	East Slope	
10/29/16	P- 32 / P- 33	32	RC	30	30	0	10 : 01	10 : 06	P	East Slope	
10/29/16	P- 33 / P- 34	11	RC	30	30	0	10 : 10	10 : 15	P	East Slope	
10/31/16	P- 23 / P- 35	19	RC	30	30	0	1 : 50	1 : 55	P	East Slope	
10/31/16	P- 24 / P- 35	346	RC	30	29	1	3 : 26	3 : 31	P	East Slope	
10/31/16	P- 35 / P- 36	212	RC	30	29	1	3 : 36	3 : 61	P	East Slope	
10/31/16	P- 35 / P- 37	255	RC	30	29	1	2 : 35	2 : 40	P	East Slope	
10/31/16	P- 36 / P- 40	107	RC	30	30	0	3 : 40	3 : 45	P	East Slope	
10/31/16	P- 39 / P- 40	22	RC	30	30	0	3 : 22	2 : 27	P	East Slope	
10/31/16	P- 36 / P- 39	103	RC	30	30	0	3 : 14	3 : 19	P	East Slope	
10/31/16	P- 36 / P- 37	22	RC	30	30	0	2 : 38	2 : 43	P	East Slope	
10/31/16	P- 37 / P- 39	288	RC	30	29	1	3 : 07	3 : 12	P	East Slope	
10/31/16	P- 37 / P- 38	4	RC	30	30	0	2 : 23	2 : 28	P	East Slope	
10/31/16	P- 38 / P- 39	22	RC	30	29	1	2 : 20	2 : 25	P	East Slope	
10/31/16	P- 40 / P- 41	107	RC	30	29	1	3 : 55	4 : 00	P	East Slope	
10/31/16	P- 39 / P- 41	394	RC	30	29	1	4 : 08	4 : 13	P	East Slope	
10/31/16	P- 41 / P- 42	37	RC	30	29	1	4 : 14	4 : 19	P	East Slope	
10/31/16	P- 38 / P- 41	16	RC	30	30	0	4 : 11	4 : 16	P	East Slope	
10/31/16	P- 42 / P- 43	22	RC	30	30	0	4 : 16	4 : 21	P	East Slope	
11/01/16	P- 43 / P- 44	184	RC	30	29	1	7 : 30	7 : 36	P	East Slope	
10/31/16	P- 41 / P- 43	22	RC	30	29	1	4 : 25	4 : 30	P	East Slope	
10/31/16	P- 44 / P- 45	22	RC	30	30	0	4 : 53	4 : 58	P	East Slope	

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/31/16	P- 43 / P- 45	181	RC	30	29	1	5 : 14	5 : 19	P	East Slope	
10/31/16	P- 12 / P- 35	18	RC	30	30	0	3 : 30	3 : 35	P	East Slope	
11/01/16	P- 43 / P- 46	142	RC	30	30	0	7 : 40	7 : 45	P	East Slope	
11/01/16	P- 46 / P- 48	100	RC	30	30	0	7 : 43	7 : 48	P	East Slope	
10/31/16	P- 44 / P- 47	185	RC	30	30	0	5 : 07	5 : 12	P	East Slope	
10/31/16	P- 45 / P- 47	328	RC	30	29	1	5 : 25	5 : 30	P	East Slope	
10/31/16	P- 48 / P- 49	102	RC	30	29	1	1 : 25	1 : 30	P	East Slope	
11/01/16	P- 47 / P- 49	325	RC	30	30	0	1 : 08	1 : 13	P	East Slope	
11/01/16	P- 49 / P- 50	165	RC	30	29	1	12 : 58	1 : 03	P	East Slope	
11/01/16	P- 49 / P- 51	233	RC	30	30	0	1 : 30	1 : 38	P	East Slope	
11/01/16	P- 50 / P- 51	22	RC	30	30	0	1 : 05	1 : 10	P	East Slope	
11/01/16	P- 50 / P- 52	130	RC	30	30	0	1 : 40	1 : 45	P	East Slope	
11/01/16	P- 51 / P- 52	137	RC	30	30	0	2 : 19	2 : 24	P	East Slope	
11/01/16	P- 52 / P- 53	38	RC	30	29	1	1 : 55	2 : 00	P	East Slope	
11/01/16	P- 53 / P- 55	22	RC	30	30	0	1 : 51	1 : 56	P	East Slope	
11/01/16	P- 52 / P- 54	96	RC	30	30	0	2 : 06	2 : 11	P	East Slope	
11/01/16	P- 52 / P- 55	190	RC	30	29	1	2 : 25	2 : 30	P	East Slope	
11/01/16	P- 54 / P- 55	22	RC	30	30	0	2 : 12	2 : 17	P	East Slope	
11/01/16	P- 53 / P- 56	6	RC	-	-	-	-	-	-	P	East Slope, Capped
11/01/16	P- 54 / P- 56	96	RC	30	29	1	2 : 13	2 : 18	P	East Slope	
11/01/16	P- 55 / P- 56	194	RC	30	29	1	2 : 30	2 : 35	P	East Slope	
11/01/16	P- 56 / P- 57	209	RC	30	29	1	2 : 55	3 : 00	P	East Slope	
11/01/16	P- 51 / P- 58	22	RC	30	30	0	2 : 40	2 : 45	P	East Slope	

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/01/16	P- 56 / P- 58	52	RC	30	30	0	2 : 58	3 : 03	P		East Slope
11/01/16	P- 57 / P- 59	178	RC	30	30	0	3 : 28	3 : 23	P		East Slope
11/01/16	P- 58 / P- 59	52	RC	30	29	1	3 : 32	3 : 37	P		East Slope
11/01/16	P- 59 / P- 60	193	RC	30	29	1	3 : 01	3 : 06	P		East Slope
11/01/16	P- 60 / P- 61	34	RC	30	30	0	3 : 21	3 : 26	P		East Slope
11/01/16	P- 60 / P- 62	126	RC	30	29	1	3 : 35	3 : 40	P		East Slope
11/01/16	P- 60 / P- 62	22	RC	30	30	0	33 : 15	3 : 20	P		East Slope
11/01/16	P- 62 / P- 63	84	RC	30	29	1	3 : 52	3 : 57	P		East Slope
11/01/16	P- 63 / P- 64	22	RC	30	30	0	3 : 50	3 : 56	P		East Slope
11/01/16	P- 62 / P- 64	60	RC	30	30	0	3 : 44	3 : 49	P		East Slope
11/01/16	P- 63 / P- 65	49	RC	30	29	1	4 : 00	4 : 05	P		East Slope
11/01/16	P- 64 / P- 65	41	RC	30	30	0	3 : 45	3 : 50	P		East Slope
11/01/16	P- 65 / P- 66	36	RC	30	30	0	3 : 57	4 : 02	P		East Slope
11/02/16	P- 71 / P- 72	22	RC	30	30	0	11 : 46	4 : 51	P		East Slope
11/02/16	P- 70 / P- 72	146	RC	30	29	1	12 : 55	1 : 00	P		East Slope
11/02/16	P- 42 / P- 86	12	RC	30	30	0	4 : 39	4 : 44	P		East Slope
11/02/16	P- 44 / P- 86	24	RC	30	30	0	4 : 42	4 : 47	P		East Slope
11/02/16	P- 44 / P- 82	20	RC	30	29	1	4 : 45	4 : 50	P		East Slope
11/02/16	P- 47 / P- 82	12	RC	30	30	0	4 : 47	4 : 50	P		East Slope
11/02/16	P- 47 / P- 83	4	RC	-	-	-	-	-	-	P	East Slope, Capped
11/02/16	P- 47 / P- 81	30	RC	30	30	0	4 : 49	4 : 54	P		East Slope
11/02/16	P- 49 / P- 81	22	RC	30	29	1	4 : 53	4 : 58	P		East Slope
11/02/16	P- 49 / P- 79	11	RC	30	30	0	4 : 55	5 : 00	P		East Slope

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Project Number: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/02/16	P- 50 / P- 79	19	RC	30	30	0	4 : 58	5 : 03	P		East Slope
11/02/16	P- 50 / P- 78	16	RC	30	29	1	5 : 02	5 : 07	P		East Slope
11/02/16	P- 52 / P- 78	17	RC	30	30	0	5 : 15	5 : 10	P		East Slope
11/02/16	P- 52 / P- 76	18	RC	30	30	0	5 : 08	5 : 13	P		East Slope
11/02/16	P- 53 / P- 76	22	RC	30	30	0	5 : 17	5 : 17	P		East Slope
11/02/16	P- 53 / P- 75	20	RC	30	29	1	5 : 16	5 : 21	P		East Slope
11/03/16	P- 56 / P- 75	22	RC	30	30	0	7 : 12	7 : 17	P		East Slope
11/03/16	P- 56 / P- 74	7	RC	30	30	0	7 : 15	7 : 20	P		East Slope
11/03/16	P- 51 / P- 74	32	RC	30	29	1	7 : 16	7 : 21	P		East Slope
11/03/16	P- 59 / P- 74	6	RC	30	30	0	7 : 20	7 : 25	P		East Slope
11/03/16	P- 59 / P- 72	28	RC	30	29	1	7 : 26	7 : 36	P		East Slope
11/03/16	P- 60 / P- 72	11	RC	-	-	-	-	-	-	P	East Slope, Capped
11/03/16	P- 60 / P- 70	30	RC	30	29	1	7 : 30	7 : 35	P		East Slope
11/03/16	P- 61 / P- 70	14	RC	30	30	0	7 : 33	7 : 38	P		East Slope
11/03/16	P- 61 / P- 69	24	RC	30	29	1	7 : 37	7 : 44	P		East Slope
11/03/16	P- 94 / P- 95	316	RC	30	29	1	2 : 26	2 : 31	P		East Slope
11/03/16	P- 95 / P- 96	22	RC	30	30	0	2 : 40	3 : 45	P		East Slope
11/03/16	P- 94 / P- 96	56	RC	30	30	0	3 : 55	4 : 00	P		East Slope
11/03/16	P- 93 / P- 96	104	RC	30	29	1	4 : 05	4 : 10	P		East Slope
11/03/16	P- 96 / P- 97	160	RC	30	30	0	4 : 15	4 : 20	P		East Slope
11/03/16	P- 95 / P- 97	311	RC	30	30	0	3 : 54	3 : 59	P		East Slope
11/03/16	P- 97 / P- 98	74	RC	30	29	1	4 : 33	4 : 38	P		East Slope
11/03/16	P- 98 / P- 99	404	RC	30	29	1	5 : 00	5 : 06	P		East Slope

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/03/16	P- 99 / P- 101	117	RC	30	29	1	5 : 10	5 : 05	P		East Slope
11/03/16	P- 99 / P- 100	103	RC	30	30	0	4 : 58	5 : 03	P		East Slope
11/03/16	P- 100 / P- 101	18	RC	30	30	0	4 : 47	4 : 47	P		East Slope
11/03/16	P- 101 / P- 102	103	RC	30	30	0	5 : 10	5 : 15	P		East Slope
11/03/16	P- 97 / P- 98	390	RC	30	29	1	4 : 36	4 : 41	P		East Slope
11/03/16	P- 63 / P- 69	18	RC	30	30	0	7 : 41	7 : 46	P		East Slope
11/03/16	P- 63 / P- 68	20	RC	30	30	0	7 : 46	7 : 51	P		East Slope
11/03/16	P- 65 / P- 68	27	RC	30	29	1	7 : 53	7 : 58	P		East Slope
11/03/16	P- 65 / P- 67	10	RC	30	30	0	7 : 00	8 : 05	P		East Slope
11/03/16	P- 66 / P- 67	30	RC	30	30	0	8 : 15	8 : 20	P		East Slope
11/03/16	P- 67 / P- 67	46	RC	30	30	0	8 : 05	41 : 10	P		East Slope
11/03/16	P- 80 / P- 81	70	RC	30	30	0	11 : 33	5 : 38	P		East Slope
11/03/16	P- 62 / P- 69	-	RC	-	-	-	-	-		P	East Slope, Capped
11/03/16	P- 86 / P- 87	477	RC	30	30	0	2 : 15	2 : 20	P		East Slope
11/03/16	P- 87 / P- 88	193	RC	30	29	1	1 : 36	1 : 41	P		East Slope
11/03/16	P- 87 / P- 89	307	RC	30	30	0	2 : 15	2 : 20	P		East Slope
11/03/16	P- 88 / P- 89	22	RC	30	30	0	1 : 42	1 : 47	P		East Slope
11/03/16	P- 91 / P- 87	9	RC	30	30	0	1 : 10	1 : 15	P		East Slope
11/03/16	P- 92 / P- 87	27	RC	30	30	0	1 : 15	1 : 20	P		East Slope
11/03/16	P- 91 / P- 92	102	RC	30	30	0	2 : 30	2 : 35	P		East Slope
11/03/16	P- 90 / P- 91	122	RC	30	30	0	2 : 28	2 : 33	P		East Slope
11/03/16	P- 89 / P- 90	305	RC	30	30	0	2 : 38	2 : 43	P		East Slope
11/03/16	P- 89 / P- 91	102	RC	30	30	0	2 : 50	2 : 55	P		East Slope

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/03/16	P- 90 / P- 92	388	RC	30	30	0	3 : 12	3 : 17	P	East Slope	
11/03/16	P- 92 / P- 93	102	RC	30	29	1	2 : 40	2 : 45	P	East Slope	
11/03/16	P- 92 / P- 94	383	RC	30	29	1	3 : 15	3 : 20	P	East Slope	
11/03/16	P- 93 / P- 94	22	RC	30	30	0	2 : 46	2 : 51	P	East Slope	
11/03/16	P- 88 / P- 90	193	RC	30	29	1	2 : 12	2 : 17	P	East Slope	
11/03/16	P- 59 / P- 71	30	RC	30	29	1	7 : 26	7 : 31	P	East Slope	
11/02/16	P- 72 / P- 73	22	RC	30	29	1	11 : 49	11 : 54	P	East Slope	
11/02/16	P- 68 / P- 69	100	RC	30	29	1	11 : 13	11 : 18	P	East Slope	
11/02/16	P- 69 / P- 70	133	RC	30	29	1	11 : 35	11 : 40	P	East Slope	
11/02/16	P- 70 / P- 73	31	RC	30	30	0	1 : 00	1 : 05	P	East Slope	
11/02/16	P- 72 / P- 74	144	RC	30	29	1	1 : 36	1 : 41	P	East Slope	
11/02/16	P- 73 / P- 74	22	RC	30	29	1	11 : 49	11 : 54	P	East Slope	
11/02/16	P- 74 / P- 75	244	RC	30	29	1	1 : 48	1 : 53	P	East Slope	
11/02/16	P- 71 / P- 74	33	RC	30	30	0	1 : 15	1 : 20	P	East Slope	
11/02/16	P- 75 / P- 76	85	RC	30	30	0	2 : 00	2 : 05	P	East Slope	
11/02/16	P- 75 / P- 77	194	RC	30	30	0	2 : 28	2 : 33	P	East Slope	
11/02/16	P- 76 / P- 77	22	RC	30	30	0	2 : 07	2 : 12	P	East Slope	
11/02/16	P- 76 / P- 78	126	RC	30	29	1	2 : 22	2 : 27	P	East Slope	
11/02/16	P- 77 / P- 78	186	RC	30	29	1	2 : 36	2 : 41	P	East Slope	
11/02/16	P- 81 / P- 83	212	RC	30	30	0	3 : 55	4 : 00	P	East Slope	
11/02/16	P- 78 / P- 79	110	RC	30	30	0	7 : 00	7 : 05	P	East Slope	
11/02/16	P- 79 / P- 81	136	RC	30	29	1	7 : 01	7 : 06	P	East Slope	
11/02/16	P- 82 / P- 83	22	RC	30	30	0	2 : 58	3 : 03	P	East Slope	

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/02/16	P- 82 / P- 86	41	RC	30	30	0	3 : 15	3 : 20	P	East Slope	
11/02/16	P- 83 / P- 86	219	RC	30	30	0	3 : 33	3 : 38	P	East Slope	
11/02/16	P- 79 / P- 80	5	RC	-	-	-	-	-		P	East Slope, Extrusion Welded
11/02/16	P- 83 / P- 84	22	RC	30	30	0	3 : 20	3 : 25	P	East Slope	
11/02/16	P- 78 / P- 80	70	RC	30	29	1	5 : 30	5 : 35	P	East Slope	
10/29/16	P- 1 / Tie-In	20	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 2 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 3 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 4 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 5 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 7 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 8 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 9 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 10 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 12 / Tie-In	20	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 13 / Tie-In	20	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 14 / Tie-In	43	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 15 / Tie-In	40	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 17 / Tie-In	38	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 20 / Tie-In	46	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 22 / Tie-In	58	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 23 / Tie-In	24	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 12 / Tie-In	33	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/29/16	P- 34 / Tie-In	17	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 33 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 32 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 31 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 30 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 29 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 28 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 27 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 26 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
10/29/16	P- 25 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/01/16	P- 23 / Tie-In	24	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/01/16	P- 35 / Tie-In	49	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/01/16	P- 37 / Tie-In	31	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/01/16	P- 38 / Tie-In	31	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/01/16	P- 41 / Tie-In	26	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/03/16	P- 87 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/03/16	P- 88 / Tie-In	22	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/03/16	P- 90 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/03/16	P- 92 / Tie-In	22.5	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 94 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 95 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 97 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 98 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Project Number: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/04/16	P- 99 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 101 / Tie-In	23	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded
11/04/16	P- 102 / Tie-In	7	RC	-	-	-	-	-		P	Phase 1 TI, Extrusion Welded

APPENDIX K
40-MIL LLDPE GEOMEMBRANE DESTRUCTIVE SEAM SAMPLE
LABORATORY TEST RESULTS

HDPE Destructive Test Log Summary



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Project Number: 16038
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

SPECIFICATION FOR DESTRUCTIVE TESTING

Peel Extrusion = 48 lb/in
 Peel Fusion = 50 lb/in
 Shear Extrusion = 60 lb/in
 Shear Fusion = 60 lb/in

Date	Sample ID	Seam Number	Machine Number	Seamer Initials	Test Values										Field Pass/Fail	Lab Pass/Fail	Comments	
					lbs/inch													
10/28/16	DS- 1	P- 4 / P- 5	4181	PT	P	88	87	91	102	88	75	85	70	89	85	PASS	PASS	35' E OF BOS
					S	106		101	107		88		99					
10/28/16	DS- 2	P- 9 / P- 11	4153	LV	P	98	91	93	80	86	77	96	80	83	97	PASS	PASS	67' E OF BOS
					S	107		94	104		98		104					
10/28/16	DS- 3	P- 11 / P- 12	4181	PT	P	104	72	85	97	103	87	91	77	92	89	PASS	PASS	53' W OF EOS
					S	106		96	104		95		103					
10/28/16	DS- 4	P- 20 / P- 22	4153	LV	P	84	93	87	86	88	73	78	70	80	88	PASS	PASS	17' E OF BOS
					S	91		86	94		99		101					
10/28/16	DS- 5	P- 3 / Tie-In	5173	JT	P	75		60		84		75		71		PASS	PASS	9' N OF BOS
					S	814		85	87		77		79					
10/28/16	DS- 6	P- 22 / Tie In	5173	JT	P	63		71		65		62		77		PASS	PASS	40' N OF BOS
					S	74		74	80		82		86					
10/28/16	DS- 7	P- 1 / P- 2	4181	PT	P	83	85	79	95	83	90	89	91	82	84	PASS	PASS	50' E OF BOS
					S	103		83	99		96		89					
10/28/16	DS- 8	P- 5 / P- 7	4153	LN	P	86	95	70	85	100	81	74	70	89	100	PASS	PASS	50' E OF BOS
					S	111		85	105		89		117					
10/29/16	DS- 9	P- 27 / P- 28	4181	PT	P	100	85	78	91	98	93	91	72	96	90	PASS	PASS	20' E OF BOS
					S	102		96	100		95		99					
10/29/16	DS- 10	P- 30 / P- 31	4153	LN	P	90	92	88	86	94	85	77	92	111	93	PASS	PASS	8' E OF BOS
					S	106		102	104		114		117					
10/29/16	DS- 11	P- 32 / Tie-In	5173	JT	P	99		78		86		89		84		PASS	PASS	6' S OF EOS
					S	102		86	95		97		95					
10/31/16	DS- 12	P- 24 / P- 35	4153	LN	P	93	93	98	87	90	93	99	75	99	85	PASS	PASS	28' W OF EOS
					S	108		98	108		103		107					
10/31/16	DS- 13	P- 35 / P- 37	4181	PT	P	87	73	73	93	88	91	73	80	87	89	PASS	PASS	257' E OF BOS
					S	104		100	103		95		85					

HDPE Destructive Test Log Summary



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Project Number: 16038
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

SPECIFICATION FOR DESTRUCTIVE TESTING

Peel Extrusion = 48 lb/in
 Peel Fusion = 50 lb/in
 Shear Extrusion = 60 lb/in
 Shear Fusion = 60 lb/in

Date	Sample ID	Seam Number	Machine Number	Seamer Initials	Test Values										Field Pass/Fail	Lab Pass/Fail	Comments	
					lbs/inch													
10/31/16	DS- 14	P- 39 / P- 41	4153	LN	P	102	79	87	86	98	74	87	78	91	86	PASS	PASS	12' W OF EOS
					S	107		87	100		97		108					
10/31/16	DS- 15	P- 36 / P- 39	4179	BV	P	88	91	79	73	91	95	69	74	96	88	PASS	PASS	83' E OF BOS
					S	104		85	102		91		97					
10/31/16	DS- 16	P- 41 / P- 43	4181	PT	P	93	84	87	91	87	76	74	79	88	92	PASS	PASS	353' E OF BOS
					S	105		89	105		99		102					
10/31/16	DS- 17	P- 43 / P- 45	4179	BV	P	91	94	74	70	88	88	77	78	93	70	PASS	PASS	117' E OF BOS
					S	113		86	109		95		107					
10/31/16	DS- 18	P- 46 / P- 47	4153	LN	P	92	91	82	82	90	86	78	75	85	90	PASS	PASS	10' E OF BOS
					S	99		92	101		85		98					
11/01/16	DS- 19	P- 47 / P- 49	4153	LN	P	95	86	82	81	79	80	92	77	97	81	PASS	PASS	303' E OF BOS
					S	103		87	88		97		101					
11/01/16	DS- 20	P- 49 / P- 51	4181	PT	P	88	89	84	82	81	80	80	67	84	84	PASS	PASS	108' E OF BOS
					S	92		90	102		98		97					
11/01/16	DS- 21	P- 51 / P- 52	4153	LN	P	88	85	90	91	88	95	73	93	97	91	PASS	PASS	54' W OF EOS
					S	88		106	97		103		90					
11/01/16	DS- 22	P- 56 / P- 57	4181	PT	P	87	86	91	81	93	84	73	87	102	87	PASS	PASS	169' E OF BOS
					S	98		94	96		94		104					
11/01/16	DS- 23	P- 60 / P- 62	4153	LN	P	100	95	81	89	100	86	94	76	96	91	PASS	PASS	51' E OF BOS
					S	106		95	99		90		103					
11/02/16	DS- 24	P- 68 / P- 69	4181	PT	P	86	88	75	65	90	94	71	95	95	79	PASS	PASS	30' E OF BOS
					S	104		89	106		94		102					
11/02/16	DS- 25	P- 74 / P- 75	4153	LN	P	101	94	79	80	87	90	83	79	98	78	PASS	PASS	15' E OF BOS
					S	108		82	109		85		102					
11/02/16	DS- 26	P- 75 / P- 76	4181	PT	P	104	84	88	75	97	103	83	68	82	81	PASS	PASS	46' E OF BOS
					S	99		86	104		103		89					

HDPE Destructive Test Log Summary



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

Project Number: 16038
 Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

SPECIFICATION FOR DESTRUCTIVE TESTING

Peel Extrusion = 48 lb/in
 Peel Fusion = 50 lb/in
 Sheer Extrusion = 60 lb/in
 Sheer Fusion = 60 lb/in

Date	Sample ID	Seam Number	Machine Number	Seamer Initials	Test Values										Field Pass/Fail	Lab Pass/Fail	Comments	
					lbs/inch													
11/02/16	DS- 27	P- 82 / P- 86	4153	LN	P	93	85	81	84	85	94	94	79	93	86	PASS	PASS	14' E OF BOS
					S	98		87		101		101		86				
11/02/16	DS- 28	P- 79 / P- 81	4181	PT	P	90	93	78	77	94	78	75	89	92	90	PASS	PASS	15' E OF BOS
					S	107		94		105		97		95				
11/02/16	DS- 29	P- 44 / P- 82	4153	LN	P	68	70	66	75	72	79	66	63	76	68	PASS	PASS	15' E OF BOS
					S	81		82		83		77		79				
11/02/16	DS- 30	P- 66 / P- 67	4154	LN	P	71	74	71	69	83	73	67	66	79	81	PASS	PASS	16' W OF EOS
					S	94		79		91		82		85				
11/03/16	DS- 31	P- 88 / P- 89	4179	BV	P	100	99	101	95	92	104	92	98	101	89	PASS	PASS	11' S OF BOS
					S	114		97		110		112		91				
11/03/16	DS- 32	P- 86 / P- 87	4181	PT	P	107	101	73	81	100	88	89	85	86	96	PASS	PASS	20' E OF BOS
					S	116		94		115		98		109				
11/03/16	DS- 33	P- 91 / P- 92	4181	PT	P	104	105	99	79	91	98	84	106	104	96	PASS	PASS	60' W OF EOS
					S	117		100		105		99		116				
11/03/16	DS- 34	P- 97 / P- 98	4153	LN	P	105	98	99	91	97	102	93	103	91	96	PASS	PASS	218' E OF BOS
					S	117		110		119		118		114				
11/03/16	DS- 35	P- 98 / P- 99	4153	LN	P	102	97	91	79	99	108	90	94	95	92	PASS	PASS	274' E OF BOS
					S	117		113		114		99		115				
11/03/16	DS- 36	P- 99 / P- 101	4181	PT	P	97	101	92	76	84	98	79	82	88	88	PASS	PASS	15' E OF BOS
					S	117		97		117		101		113				
11/03/16	DS- 37	P- 101 / P- 102	4153	LN	P	92	100	88	78	86	86	79	93	91	107	PASS	PASS	20' E OF BOS
					S	111		94		96		113		112				
11/03/16	DS- 38	P- 100 / P- 101	4181	PT	P	86	91	96	98	92	93	87	93	104	97	PASS	PASS	10' S OF BOS
					S	105		92		98		103		107				



Date: 2016-11-01

Mail To:
David Conrad
Waste Management Inc

Bill To:
Waste Management Inc

, ,

e-mail:
dconrad@wm.com jashepherd@sedcousa.net bwbailey@sedcousa.net

Dear Mr. Conrad,

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: Eco Vista Landfill Phase 2 Final Cover

TRI Job Reference Number: **25193**

Material(s) Tested: (8) Heat Fusion Weld Seam(s)
(3) 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,

James Burgess

Geosynthetic Services Division
<http://www.geosyntheticstestinc.com>

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25193

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-1 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-2 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25193

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-3 | Weld: Heat Fusion, Side: A (Peel A), Side: B (Peel B), and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-4 | Weld: Heat Fusion, Side: A (Peel A), Side: B (Peel B), and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25193

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-7 | Weld: Heat Fusion, Side: A (Peel A: 98), Side: B (Peel B: 99), and Shear (Shear: 108).

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-8 | Weld: Heat Fusion, Side: A (Peel A: 102), Side: B (Peel B: 102), and Shear (Shear: 111).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25193

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-9 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-10 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25193

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Rows include Sample ID (DS-5, DS-6, DS-11), Side (Peel, Shear), and various test parameters like Peel Strength, Incursion, Locus Of Failure Code, NSF Failure Code, Shear Strength, and Elongation @ Break (%).

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.



Date: 2016-11-03

Mail To:
David Conrad
Waste Management Inc

Bill To:
Waste Management Inc

, ,

e-mail:
dconrad@wm.com jashepherd@sedcousa.net bwbailey@sedcousa.net

Dear Mr. Conrad,

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: Eco Vista Landfill Phase 2 Final Cover

TRI Job Reference Number: 25261

Material(s) Tested: (12) 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,

James Burgess

Geosynthetic Services Division
<http://www.geosyntheticstestinc.com>

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25261

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes data for Sample ID: DS-12 | Weld: Heat Fusion, Side: A (Peel Strength 98), Side: B (Peel Strength 103), and Shear (Shear Strength 109).

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes data for Sample ID: DS-13 | Weld: Heat Fusion, Side: A (Peel Strength 98), Side: B (Peel Strength 101), and Shear (Shear Strength 107).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25261

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Sample ID: DS-14 and DS-15, with sub-sections for Side: A, Side: B, and Shear. Values include Peel Strength (ppi), Peel Incursion (%), Peel Locus Of Failure Code, Peel NSF Failure Code, Shear Strength (ppi), and Shear Elongation @ Break (%).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc

Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 25261

TEST REPLICATE NUMBER

Table with 7 columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-16 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Sample ID: DS-17 | Weld: Heat Fusion

Table with 7 columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25261

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side: A (Peel A), Side: B (Peel B), and Shear (Shear).

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side: A (Peel A), Side: B (Peel B), and Shear (Shear).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25261

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Sample ID: DS-20 and DS-21, with sub-sections for Side: A, Side: B, and Shear. Values include Peel Strength (ppi), Peel Incursion (%), Peel Locus Of Failure Code, Peel NSF Failure Code, Shear Strength (ppi), and Shear Elongation @ Break (%).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25261

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-22 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-23 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



Date: 2016-11-04

Mail To:
David Conrad
Waste Management Inc

Bill To:
Waste Management Inc

, ,

e-mail:
dconrad@wm.com jashepherd@sedcousa.net bwbailey@sedcousa.net

Dear Mr. Conrad,

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: Eco Vista Landfill Phase 2 Final Cover

TRI Job Reference Number: 25279

Material(s) Tested: (7) 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,

James Burgess

Geosynthetic Services Division
<http://www.geosyntheticstestinc.com>

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25279

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes sections for Sample ID: DS-24 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes sections for Sample ID: DS-25 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc

Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 25279

TEST REPLICATE NUMBER

Table with 7 columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-26 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with 7 columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-27 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25279

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side: A (Peel A), Side: B (Peel B), and Shear (Shear).

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side: A (Peel A), Side: B (Peel B), and Shear (Shear).

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc

Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 25279

PARAMETER	TEST REPLICATE NUMBER					MEAN
	1	2	3	4	5	
Sample ID: DS-30 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	94	92	96	96	95	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)	98	96	99	96	99	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)	102	104	102	107	108	105
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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.



Date: 2016-11-05

Mail To:
David Conrad
Waste Management Inc

Bill To:
Waste Management Inc

, ,

e-mail:
dconrad@wm.com jashepherd@sedcousa.net bwbailey@sedcousa.net

Dear Mr. Conrad,

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: Eco Vista Landfill Phase 2 Final Cover

TRI Job Reference Number: **25305**

Material(s) Tested: (8) 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,

James Burgess

Geosynthetic Services Division
<http://www.geosyntheticstestinc.com>

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc

Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 25305

TEST REPLICATE NUMBER

Table with 7 columns: PARAMETER, 1, 2, 3, 4, 5, MEAN

Sample ID: DS-31 | Weld: Heat Fusion

Main data table for Sample DS-31, including Side A, Side B, and Shear results with mean values in boxes.

Sample ID: DS-32 | Weld: Heat Fusion

Main data table for Sample DS-32, including Side A, Side B, and Shear results with mean values in boxes.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc

Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 25305

TEST REPLICATE NUMBER

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Sample ID: DS-33 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Sample ID: DS-34 | Weld: Heat Fusion

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes data for Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25305

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes sub-sections for Sample ID: DS-35 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

Table with columns: PARAMETER, 1, 2, 3, 4, 5, MEAN. Includes sub-sections for Sample ID: DS-36 | Weld: Heat Fusion, Side: A, Side: B, and Shear.

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Waste Management Inc
Project: Eco Vista Landfill Phase 2 Final Cover

Material: 40 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 25305

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side A, Side B, and Shear with various test parameters like Peel Strength, Incursion, Locus Of Failure Code, NSF Failure Code, and Shear Strength/Elongation.

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Side A, Side B, and Shear with various test parameters like Peel Strength, Incursion, Locus Of Failure Code, NSF Failure Code, and Shear Strength/Elongation.

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

APPENDIX L
40-MIL LLDPE GEOMEMBRANE REPAIR SUMMARY LOG

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 1

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE (3)	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM / PANEL	LOCATION	(1)	(2)		LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
10/29/16	1/2	50' n of south tie-in	A	DS-7	E	5.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	2/3/TI	T-INT	B	C	E	3.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	3/TI	6' w of p2	C	DS-5	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	4/5/TI	T-INT	D	C	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	4/5	50' n of south tie-in	E	DS-1	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	4/5/6	T-INT	F	C	E	3.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	5/6/7	T-INT	G	C	E	3.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	5/7	50' N OF S END TI	H	DS-8	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	9/11	144' n of tie-in	I	DS-2	E	5.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	11/12	144' n of tie-in	J	DS-3	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	5/6/7	T-INT	K	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	6	4' n of p5, 5' e of p7	L	P	E	1.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/13/14	T-INT	M	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/14/15	T-INT	N	C	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/16/19	T-INT	O	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	15/16/19	T-INT	P	C	E	2.0	1.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/19/20/21	X-INT	Q	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	20/21/22	T-INT	R	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/21/22	T-INT	S	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/22/CAP1	T-INT	T	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	22/24/CAP1	T-INT	U	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	12/24/CAP1	T-INT	V	C	E	3.0	3.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	9/10/11	T-INT	W	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 2

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE (3)	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM / PANEL	LOCATION	(1)	(2)		LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
10/29/16	10/11/12	T-INT	A	P	E	2.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	19	47' n of p12, 7' w of 15	B	P	E	1.0	1.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	19	54' n of p12, 7' w of 15	C	P	E	1.0	1.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	19	61' n of p12, 7' w of 15	D	P	E	1.0	1.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	19	4' n of 18, 7' w of 15	E	P	E	2.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	19	21' n o 18, 7' e of 20	F	P	E	1.0	1.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	18/19/20	T-INT	G	P	E	4.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	18/19	11' W OF E END 15/18	H	BO	E	1.0	1.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	15/18/19	T-INT	I	P	E	6.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	17/18/20	T-INT	J	P	E	2.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	20/22	10' n of sti	K	DS-4	E	4.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	22/STI	17' e of p24	L	DS-6	E	4.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/29/16	22/24	4' n of ti	M	BO	E	2.0	2.0	5173	JT	GM	11/04/16	ST	P	VT	GM
10/28/16	17/STI	7' W OF E END S-15	N	P	E	10.0	4.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/28/16	15/STI	10' e of p18	O	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	12/NTI	2' W OF E END S-11	P	P	E	1.0	1.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	11/NTI	2' W OF E END S-12	Q	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	6/NTI	10' e of p7	R	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	4/NTI	6' w of p3	S	P	E	3.0	3.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	32/NTI	5' e of 31	T	DS-11	E	4.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	32/33/NTI	T-INT	U	P	E	3.0	1.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	32/STI	3' w of p32	V	P	E	6.0	1.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	30/31	8' n of sti	W	DS-10	E	5.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 3

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE (3)	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM / PANEL	LOCATION	(1)	(2)		LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
10/29/16	27/28	15' n of sti	A	DS-9	E	5.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	5	at gas pipe	B	P	E	7.0	5.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/29/16	3	58' N OF S E OF TN	C	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	3	64' N OF S E OF TN	D	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	3	69' N OF S E OF TN	E	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	3	74' N OF S E OF TN	F	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/29/16	3	79' N OF S E OF TN	G	P	E	2.0	2.0	5173	JT	GM	10/29/16	RR	P	VT	GM
10/31/16	3	53' N OF S E OF TN	H	P	E	6.0	6.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	25/26	8' N OF S END OF TI	I	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	25	10' N OF S E OF TN	J	P	E	7.0	6.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	12	72' N OF S E OF TN	K	P	E	8.0	7.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	2/3	6' S OF N END TI	L	BOOT	E	6.0	5.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	28	74' N OF S E OF TN	M	P	E	7.0	6.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	33	3' S OF N E OF TN	N	BOOT	E	6.0	4.0	5173	JT	GM	11/04/16	RR	P	VT	GM
10/31/16	33	10' N OF S E OF TN	O	P	E	4.0	3.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	23/24/35	T-INT	P	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	38/39/37	T-INT	Q	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	38/39/41	T-INT	R	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	38/41	17' S OF N END S-39	S	P	E	6.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	42/43/41	T-INT	T	C	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	43/41	25' N of p42	U	BO	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	44/45/43	T-INT	V	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	44/45/47	T-INT	W	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 4

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE (3)	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
	SEAM / PANEL	LOCATION	(1)	(2)		LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
11/01/16	45/47	25' N OF P44	A	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	44/47	AT GAS PIPE	B	P	E	4.0	3.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	45/46/47	T-INT	C	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	46/47	5' N OF P45	D	DS-18	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	43/45	64' S OF P46	E	DS-17	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	24/35/12	T-INT	F	P	E	4.0	3.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	24/35	5' S OF R4F	G	DS-12	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	36	AT GAS PIPE 30' s of ti	H	P	E	5.0	4.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	36	boots on pipes at nti	I	boots	E	5.0	4.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	40/TI	5' w of p36	J	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	TIE IN	1' n of nti, 10'w	K	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	TIE IN	1' n of nti, 12' w of p35	L	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	40	35' s of nti at pipes	M	P	E	12.0	4.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	36/37/35	T-INT	N	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	37/39/36	T-INT	O	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	35/37	13' s of p46	P	DS-13	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	37/39	63' s of p36	Q	BO	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	37/39	at gas pipes 75' s of p36	R	P	E	9.0	5.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	41/43	155' S OF N END TI	S	DS-16	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	45/46/43	T-INT	T	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	45/46	at gas pipes 75' s of p36	U	P	E	5.0	4.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	47/49	22' S OF N END S-48	V	DS-19	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	47/48/46	T-INT	W	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 5

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
						LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	SEAM / PANEL	LOCATION	(1)	(2)	(3)										
11/02/16	47/48/49	T-INT	A	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	49/51	125' S OF N END TI	B	DS	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	49/50/51	T-INT	C	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	50/51/52	T-INT	D	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	52/54/55	T-INT	E	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	54/55/56	T-INT	F	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	36/39	10' S OF P40	G	DS-15	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	36/39/40	T-INT	H	P	E	2.0	1.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	39/40/41	T-INT	I	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/01/16	39/41	16' S OF N END S-40	J	DS-14	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	51/52	54' S OF EOS	K	DS-21	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	52/55	12' S OF EOS	L	BO	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	52/55	108' S OF EOS	M	BO	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	56/57	30' S OF P58	N	DS-22	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	56/57/58	T-INT	O	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	57/58/59	T-INT	P	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	60/62	35' S OF EOS	Q	BO	E	6.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	60/NTI	AT GAS PIPES	R	BOOT	E	6.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	60/62	51' N OF P61	S	DS-23	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	60/61/62	T-INT	T	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	60/61	AT GAS PIPES	U	P	E	6.0	5.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	62/63/64	T-INT	V	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/02/16	63/64/65	T-INT	W	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 6

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
						LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	SEAM / PANEL	LOCATION	(1)	(2)	(3)										
11/01/16	65/66/NTI	T-INT	A	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	66/67	16' s of nti	B	DS-30	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	65/66/67	T-INT	C	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	65/67/68	T-INT	D	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	63/65/68	T-INT	E	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	68/69	15' n of p63	F	DS-24	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	63/68/69	T-INT	G	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	61/62/63/69	X-INT	H	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	61/69/70	T-INT	I	P	E	7.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	60/61/70	T-INT	J	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	70/72	8' n of p71	K	BO	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	59/60/70/71/72	X-INT	L	P	E	10.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	71/72/74	T-INT	M	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	59/71/74	T-INT	N	P	E	7.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	57/59/74	T-INT	O	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	56/57/74	T-INT	P	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	74/75	15' n of p56	Q	DS-25	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	56/74/75	T-INT	R	P	E	9.0	5.0	5173	JT	GM	see repair 4R		-	-	-
11/03/16	53/54/56/75	X-INT	S	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	53/54	5' w of p52	T	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	52/53/54	T-INT	U	P	E	4.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	53	at gas pipes	V	P	E	4.0	3.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	53/75/76	T-INT	W	P	E	2.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 7

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
						LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	SEAM / PANEL	LOCATION	(1)	(2)	(3)										
11/03/16	52/53/76	T-INT	A	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	52/76/78	T-INT	B	P	E	5.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	50/52/78	T-INT	C	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	50/78/79	T-INT	D	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	50/79	4' n of p49	E	BO	E	2.0	2.0	5173	JT	GM	11/05/16	JT	P	VT	GM
11/03/16	49/50/79	T-INT	F	P	E	3.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	79/81	10' n of p49	G	DS-28	E	5.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	49/79/81	T-INT	H	P	E	5.0	3.0	5173	JT	GM	11/05/16	JT	P	VT	GM
11/03/16	47/49/81	T-INT	I	P	E	3.0	2.0	5173	JT	GM	11/05/16	JT	P	VT	GM
11/03/16	47/81/83/82	X-INT	J	P	E	6.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	82/83/86	T-INT	K	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	44/47/83	T-INT	L	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	44/82	4' s of p47	M	BO	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	44/82	10' n of p86	N	DS-29	E	5.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	82/86	6' n of p44	O	DS-27	E	5.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	44/82/86	T-INT	P	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	42/43/44/86	X-INT	Q	P	E	4.0	3.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	86/87	15' n of p42	R	DS-32	E	5.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	42/86/87	T-INT	S	P	E	3.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	41/42/87	T-INT	T	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	87	6' n of sti, 8' w of p41	U	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	41/87/STI	T-INT	V	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM
11/03/16	90/92/STI	T-INT	W	P	E	2.0	2.0	5173	JT	GM	11/04/16	JT	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 8

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
						LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	SEAM / PANEL	LOCATION	(1)	(2)	(3)										
11/04/16	95	at gas pipes	A	P	E	7.0	5.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	98	4' n of sti, 6' w of p97	B	P	E	2.0	1.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	98	8' e of p99, 2' n of sti	C	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	99/101	12' n of sti	D	DS-36	E	5.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	101/102	20' n of sti	E	DS-37	E	5.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	97/98	74' n of sti	F	BO	E	5.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	98/99	at gas pipes	G	P	E	7.0	6.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	99/100/101	T-INT	H	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	100/101	center of seam	I	DS-38	E	4.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	97/98	252' s of nti	J	DS-34	E	5.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	89	6' w of p87, 20' n of p88	K	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	89	6' w of p 87, 12' n of p88	L	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	89	6' w of p87, 4' n of p88	M	P	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	89	seam center, 2' n of p88	N	P	E	5.0	3.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	88/89	1' e of p90	O	BO	E	4.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	88/89/90	T-INT	P	P	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	88/89	center of seam	Q	DS-31	E	4.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	87/88/89	T-INT	R	P	E	3.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/04/16	87/89	at gas pipes	S	P	E	6.0	4.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	75/76	20' n of p53	T	DS-26	E	5.0	2.0	5173	JT	GM	11/04/16	RR	P	VT	GM
11/03/16	78/79/80	T-INT	U	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	79/80/81	T-INT	V	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	79/81	5' s of p80	W	BO	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG

Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038



Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 9

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE	SIZE		WELDER ID		QA ID	NON-DESTRUCTIVE TESTING				
						LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID		DATE (day/mo)	OPER ID	PASS/ FAIL	ACTION	QA ID
	SEAM / PANEL	LOCATION	(1)	(2)	(3)										
11/03/16	81/83/84	T-INT	A	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	83/84/86	T-INT	B	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	94/95/96	T-INT	C	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	95/96/97	T-INT	D	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	98/99	130' s of eos	E	DS-35	E	6.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	93/94/96	T-INT	F	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	92/93/94	T-INT	G	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	90/91/92	T-INT	H	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	89/90/91	T-INT	I	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	91/92	60' s of nti	J	DS-33	E	5.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	93/96	62' s of nti	K	BO	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	84/85/86	T-INT	L	P	E	4.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	85/86	4' n of p84	M	BO	E	4.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	85	10' s of nti, 5' w of p81	N	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	81/84/85	T-INT	O	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	72/73/74	T-INT	P	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	70/72/73	T-INT	Q	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	78/71	78/80/81	R	P	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	76/77/78	T-INT	S	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	77	2' n of p76, 6' e of p78	T	P	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	76/77	5' e of p78	U	BO	E	2.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	76/77	5' w of p75	V	BO	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/03/16	75/76/77	T-INT	W	P	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.

(2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

HDPE REPAIR SUMMARY LOG



Client Name: Waste Management of Arkansas
 Project Name: Phase 2 Final Cover

PROJECT NO.: 16038

Address: Eco Vista Class I Landfill
 Location: Tontitown, Arkansas

PRIMARY:
 SECONDARY:
 OTHER:

FORM NO.: 10

DATE (day/mo)	DESCRIPTION		REPAIR NO. AND CODE		REPAIR TYPE (3)	SIZE		WELDER ID			NON-DESTRUCTIVE TESTING				
	SEAM / PANEL	LOCATION	(1)	(2)		LENGTH (ft)	WIDTH (ft)	MACH NO	OPER ID	QA ID	DATE (day/mo)	OPER ID	PASS/FAIL	ACTION	QA ID
11/03/16	78/71	41' n of p80	A	BO	E	2.0	1.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	86	at gas pipes	B	P	E	6.0	5.0	5173	JT	GM	11/05/16	ST	P	VT	GM
11/04/16	93/96	20' s of nti	C	BO	E	3.0	2.0	5173	JT	GM	11/05/16	ST	P	VT	GM

(1) Repair No.: Repairs should be numbered sequentially using the FORM NUMBER which is going to be 1, 2, 3 etc.
 (2) Repair Codes.: P = Patch, C = Cap, S = Anchor Trench Ext., DS = Destructive Sample, G = Grind and Weld, T = Topping along Fusion Seam, BO = Burn Out

APPENDIX M
WELDING 40-MIL LLDPE GEOMEMBRANE TO 60-MIL HDPE
GEOMEMBRANE

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other: 40mil to 60mil

MACHINE NO: 5173 extrusion

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/29/16	8 : 20	JT	P- 11 / 60-mil	25	GM	East Tie-In	25.0				
10/29/16	9 : 00	JT	P- 9 / 60-mil	24	GM	East Tie-In	49.0				
10/29/16	9 : 10	JT	P- 8 / 60-mil	23	GM	East Tie-In	72.0				
10/29/16	9 : 30	JT	P- 7 / 60-mil	23	GM	East Tie-In	95.0				
10/29/16	9 : 40	JT	P- 6 / 60-mil	23	GM	East Tie-In	118.0				
10/29/16	9 : 50	JT	P- 4 / 60-mil	22	GM	East Tie-In	140.0				
10/29/16	10 : 05	JT	P- 3 / 60-mil	7	GM	East Tie-In	147.0				
10/29/16	10 : 20	JT	P- 2 / 60-mil	10	GM	East Tie-In	157.0				
10/29/16	10 : 25	JT	P- 1 / 60-mil	22	GM	East Tie-In	179.0				
10/29/16	10 : 35	JT	P- 25 / 60-mil	22	GM	East Tie-In	201.0				
10/29/16	10 : 45	JT	P- 26 / 60-mil	22.5	GM	East Tie-In	223.5				
10/29/16	10 : 55	JT	P- 27 / 60-mil	24	GM	East Tie-In	247.5				
10/29/16	11 : 05	JT	P- 28 / 60-mil	27	GM	East Tie-In	274.5				
10/29/16	11 : 20	JT	P- 29 / 60-mil	27	GM	East Tie-In	301.5				
10/29/16	11 : 30	JT	P- 30 / 60-mil	27	GM	East Tie-In	328.5				
10/29/16	11 : 45	JT	P- 31 / 60-mil	29	GM	East Tie-In	357.5				
10/29/16	11 : 50	JT	P- 32 / 60-mil	30	GM	East Tie-In	387.5				
10/29/16	1 : 10	JT	P- 33 / 60-mil	12	GM	East Tie-In	399.5				

TOTAL = 399.5 ft

Seam Length this Machine: This Page: 399.5 ft

Accumulated: 399.5 ft

Note: This is welding the 40-mil textured Geomembrane to the 60-mil textured Geomembrane at the perimeter of the Final Cover Area

Carry Over: 399.5 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other: 40mil to 60mil

MACHINE NO: 5173 extrusion

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
10/31/16	2 : 45	JT	P- 3 / 60-mil	16.0	GM	East Tie-In	415.5				
10/31/16	2 : 20	JT	P- 2 / 60-mil	12.0	GM	East Tie-In	427.5				
10/31/16	5 : 15	JT	P- 33 / 60-mil	13.0	GM	East Tie-In	440.5				
11/01/16	2 : 10	JT	P- 12 / 60-mil	15.0	GM	East Tie-In	455.5				
11/01/16	2 : 15	JT	P- 35 / 60-mil	22.0	GM	East Tie-In	477.5				
11/01/16	2 : 20	JT	P- 41 / 60-mil	22.0	GM	East Tie-In	499.5				
11/01/16	2 : 30	JT	P- 43 / 60-mil	22.0	GM	East Tie-In	521.5				
11/01/16	2 : 40	JT	P- 46 / 60-mil	22.0	GM	East Tie-In	543.5				
11/01/16	2 : 50	JT	P- 48 / 60-mil	22.0	GM	East Tie-In	565.5				
11/01/16	3 : 00	JT	P- 49 / 60-mil	22.0	GM	East Tie-In	587.5				
11/01/16	3 : 10	JT	P- 51 / 60-mil	22.0	GM	East Tie-In	609.5				
11/01/16	3 : 15	JT	P- 52 / 60-mil	22.0	GM	East Tie-In	631.5				
11/01/16	3 : 25	JT	P- 55 / 60-mil	22.0	GM	East Tie-In	653.5				
11/01/16	3 : 40	JT	P- 56 / 60-mil	22.0	GM	East Tie-In	675.5				
11/01/16	3 : 45	JT	P- 58 / 60-mil	22.0	GM	East Tie-In	697.5				
11/01/16	3 : 55	JT	P- 59 / 60-mil	22.0	GM	East Tie-In	719.5				
11/01/16	4 : 00	JT	P- 60 / 60-mil	22.0	GM	East Tie-In	741.5				
11/01/16	4 : 10	JT	P- 62 / 60-mil	22.0	GM	East Tie-In	763.5				

TOTAL = 364.0 ft

Seam Length this Machine: _____ This Page: 364.0 ft

Accumulated: 763.5 ft

Note: This is welding the 40-mil textured Geomembrane to the 60-mil textured Geomembrane at the perimeter of the Final Cover Area

Carry Over: 763.5 ft

HDPE Panel Seaming Summary



DESIGN COMPANY INCORPORATED

Client Name: Waste Management of Arkansas

Project Name: Phase 2 Final Cover

Address: Eco Vista Class I Landfill

Location: Tontitown, Arkansas

Project No.: 16038

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Primary: Secondary:

Other: 40mil to 60mil

MACHINE NO: 5173 extrusion

Carry Over: _____ ft

PRODUCTION SEAM			LOCATION AND DISTANCE					DESTRUCTIVE TESTING			
Date (day/mo)	Time	Seamer Initials	Seam Number	Seam Length (ft)	QA ID	Location	Accum. Seam Length (ft)	Destruct No.	Location	Field Test Pass/Fail	Lab Test Pass/Fail
11/04/16	4 : 10	JT	P- 62 / 60-mil	22.0	GM	East Tie-In	785.5				
11/04/16	4 : 15	JT	P- 64 / 60-mil	23.0	GM	East Tie-In	808.5				
11/04/16	4 : 25	JT	P- 65 / 60-mil	25.0	GM	East Tie-In	833.5				
11/04/16	4 : 35	JT	P- 66 / 60-mil	20.0	GM	East Tie-In	853.5				
11/04/16	5 : 00	JT	P- 36 / 60-mil	22.0	GM	East Tie-In	875.5				
11/04/16	8 : 20	JT	P- 86 / 60-mil	22.0	GM	East Tie-In	897.5				
11/04/16	8 : 30	JT	P- 85 / 60-mil	23.0	GM	East Tie-In	920.5				
11/04/16	8 : 40	JT	P- 81 / 60-mil	18.0	GM	East Tie-In	938.5				
11/04/16	8 : 50	JT	P- 78 / 60-mil	24.0	GM	East Tie-In	962.5				
11/04/16	9 : 00	JT	P- 77 / 60-mil	24.5	GM	East Tie-In	987.0				
11/04/16	9 : 25	JT	P- 75 / 60-mil	24.5	GM	East Tie-In	1011.5				
11/04/16	9 : 35	JT	P- 74 / 60-mil	23.0	GM	East Tie-In	1034.5				
11/04/16	9 : 40	JT	P- 73 / 60-mil	23.0	GM	East Tie-In	1057.5				
11/04/16	10 : 00	JT	P- 70 / 60-mil	23.0	GM	East Tie-In	1080.5				
11/04/16	10 : 10	JT	P- 69 / 60-mil	22.0	GM	East Tie-In	1102.5				
11/04/16	10 : 15	JT	P- 68 / 60-mil	22.0	GM	East Tie-In	1124.5				
11/04/16	10 : 20	JT	P- 67 / 60-mil	19.0	GM	East Tie-In	1143.5				
11/05/16	3 : 45	JT	P- 87 / 60-mil	22.0	GM	East Tie-In	1165.5				

TOTAL = 402.0 ft

Seam Length this Machine: This Page: 402.0 ft

Accumulated: 1,165.5 ft

Note: This is welding the 40-mil textured Geomembrane to the 60-mil textured Geomembrane at the perimeter of the Final Cover Area

Carry Over: 1,165.5 ft

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

40mil to 60mil

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
10/29/16	P- 11 / 60-mil	25	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 9 / 60-mil	24	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 8 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 7 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 6 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 4 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 3 / 60-mil	7	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 2 / 60-mil	10	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 1 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 25 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 26 / 60-mil	22.5	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 27 / 60-mil	24	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 28 / 60-mil	27	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 29 / 60-mil	27	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 30 / 60-mil	27	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 31 / 60-mil	29	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 32 / 60-mil	30	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
10/29/16	P- 33 / 60-mil	12	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 3 / 60-mil	16	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 2 / 60-mil	12	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 33 / 60-mil	13	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 12 / 60-mil	15	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 35 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

40mil to 60mil

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/04/16	P- 41 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 43 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 46 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 48 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 49 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 51 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 52 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 55 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 56 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 58 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 59 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 60 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 62 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 62 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 64 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 65 / 60-mil	25	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 66 / 60-mil	20	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 36 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 86 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 85 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 81 / 60-mil	18	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 78 / 60-mil	24	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 77 / 60-mil	24.5	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil

HDPE Non-Destructive Test Log



Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

40mil to 60mil

Location: Tontitown, Arkansas

Date	Seam Number	Tested Seam Length (ft)	Tester Initials	Air Testing						Vacuum Box P/F	Location/Comments
				Pressure			Time		P/F		
				Start	End	+/-	Start	End			
11/04/16	P- 75 / 60-mil	24.5	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 74 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 73 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 70 / 60-mil	23	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 69 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 68 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/04/16	P- 67 / 60-mil	19	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 87 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 98 / 60-mil	14	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 97 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 96 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 93 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 92 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 91 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil
11/05/17	P- 89 / 60-mil	22	RC	-	-	-	-	-	-	P	East Slope 40mil to 60mil

APPENDIX N
DOUBLE-SIDED GEOCOMPOSITE DEPLOYMENT LOG



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 6 oz/yd2 DS 200-mil Geocomposite

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GC- 1	16G1038	1775	11/4/16	7 : 00	230	14.5	East Slope
GC- 2	16G1038	1784	11/4/16	7 : 10	230	14.5	East Slope
GC- 3	16G1038	1827	11/4/16	7 : 20	230	14.5	East Slope
GC- 4	16G1038	1840	11/4/16	7 : 30	230	14.5	East Slope
GC- 5	16G1038	1772	11/4/16	7 : 40	230	14.5	East Slope
GC- 6	16G1038	1777	11/4/16	7 : 50	230	14.5	East Slope
GC- 7	16G1038	1835	11/4/16	8 : 00	230	14.5	East Slope
GC- 8	16G1038	1837	11/4/16	8 : 10	230	14.5	East Slope
GC- 9	16G1038	1770	11/4/16	8 : 20	230	14.5	East Slope
GC- 10	16G1038	1765	11/4/16	8 : 30	230	14.5	East Slope
GC- 11	16G1038	1828	11/4/16	8 : 40	230	14.5	East Slope
GC- 12	16G1061	1860	11/4/16	8 : 50	230	14.5	East Slope
GC- 13	16G1061	1846	11/4/16	9 : 00	230	14.5	East Slope
GC- 14	16G1038	1839	11/4/16	9 : 10	230	14.5	East Slope
GC- 15	16G1038	1836	11/4/16	9 : 20	230	14.5	East Slope
GC- 16	16G1038	1838	11/4/16	9 : 30	230	14.5	East Slope
GC- 17	16G1038	1776	11/4/16	9 : 40	230	14.5	East Slope
GC- 18	16G1038	1773	11/4/16	9 : 50	230	14.5	East Slope
GC- 19	16G1061	1867	11/4/16	10 : 05	230	14.5	East Slope
GC- 20	16G1061	1868	11/4/16	10 : 15	230	14.5	East Slope
GC- 21	16G1061	1869	11/4/16	10 : 25	230	14.5	East Slope
GC- 22	16G1061	1852	11/4/16	10 : 35	230	14.5	East Slope
GC- 23	16G1061	1889	11/4/16	10 : 45	230	14.5	East Slope
GC- 24	16G1061	1901	11/4/16	10 : 55	230	14.5	East Slope
GC- 25	16G1061	1911	11/4/16	11 : 10	230	14.5	East Slope
GC- 26	16G1061	1898	11/4/16	11 : 20	230	14.5	East Slope
GC- 27	16G1061	1899	11/4/16	11 : 30	230	14.5	East Slope
GC- 28	16G1061	1910	11/4/16	11 : 40	230	14.5	East Slope
GC- 29	16G1061	1914	11/4/16	11 : 50	230	14.5	East Slope
GC- 30	16G1061	1893	11/4/16	12 : 00	230	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 6 oz/yd2 DS 200-mil Geocomposite

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GC- 31	16G1061	1883	11/4/16	1 : 00	230	14.5	East Slope
GC- 32	16G1061	1876	11/4/16	1 : 10	230	14.5	East Slope
GC- 33	16G1061	1886	11/4/16	1 : 20	230	14.5	East Slope
GC- 34	16G1061	1926	11/4/16	1 : 30	230	14.5	East Slope
GC- 35	16G1061	1923	11/4/16	1 : 40	230	14.5	East Slope
GC- 36	16G1061	1921	11/4/16	1 : 50	230	14.5	East Slope
GC- 37	16G1061	1922	11/4/16	2 : 05	230	14.5	East Slope
GC- 38	16G1038	1767	11/4/16	2 : 15	230	14.5	East Slope
GC- 39	16G1038	1769	11/4/16	2 : 30	230	14.5	East Slope
GC- 40	16G1038	1768	11/4/16	2 : 40	230	14.5	East Slope
GC- 41	16G1038	1780	11/4/16	2 : 50	230	14.5	East Slope
GC- 42	16G1038	1781	11/5/16	7 : 10	230	14.5	East Slope
GC- 43	16G1038	1766	11/5/16	7 : 20	230	14.5	East Slope
GC- 44	16G1061	1844	11/5/16	7 : 30	230	14.5	East Slope
GC- 45	16G1038	1841	11/5/16	7 : 40	230	14.5	East Slope
GC- 46	16G1061	1842	11/5/16	7 : 50	230	14.5	East Slope
GC- 47	16G1061	1872	11/5/16	8 : 00	230	14.5	East Slope
GC- 48	16G1061	1875	11/5/16	8 : 10	230	14.5	East Slope
GC- 49	16G1061	1888	11/5/16	8 : 20	230	14.5	East Slope
GC- 50	16G1061	1900	11/5/16	8 : 30	230	14.5	East Slope
GC- 51	16G1038	1771	11/5/16	8 : 40	230	14.5	East Slope
GC- 52	16G1038	1778	11/5/16	8 : 50	230	14.5	East Slope
GC- 53	16G1038	1774	11/5/16	9 : 00	230	14.5	East Slope
GC- 54	16G1038	1783	11/5/16	9 : 10	230	14.5	East Slope
GC- 55	16G1038	1779	11/5/16	9 : 20	230	14.5	East Slope
GC- 56	16G1038	1782	11/5/16	9 : 30	230	14.5	East Slope
GC- 57	16G1061	1843	11/5/16	9 : 40	230	14.5	East Slope
GC- 58	16G1061	1873	11/5/16	9 : 50	230	14.5	East Slope
GC- 59	16G1061	1866	11/5/16	10 : 10	230	14.5	East Slope
GC- 60	16G1061	1882	11/5/16	10 : 20	230	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 6 oz/yd2 DS 200-mil Geocomposite

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GC- 61	16G1061	1890	11/5/16	10 : 30	230	14.5	East Slope
GC- 62	16G1061	1887	11/5/16	10 : 55	230	14.5	East Slope
GC- 63	16G1061	1870	11/5/16	11 : 10	230	14.5	East Slope
GC- 64	16G1061	1851	11/5/16	11 : 30	230	14.5	East Slope
GC- 65	16G1061	1856	11/5/16	11 : 40	230	14.5	East Slope
GC- 66	16G1061	1857	11/5/16	11 : 50	230	14.5	East Slope
GC- 67	16G1061	1845	11/5/16	1 : 20	230	14.5	East Slope
GC- 68	16G1061	1847	11/5/16	1 : 30	230	14.5	East Slope
GC- 69	16G1061	1848	11/5/16	1 : 40	230	14.5	East Slope
GC- 70	16G1061	1891	11/5/16	1 : 50	230	14.5	East Slope
GC- 71	16G1061	1892	11/5/16	2 : 00	230	14.5	East Slope
GC- 72	16G1061	1915	11/5/16	2 : 20	230	14.5	East Slope
GC- 73	16G1061	1939	11/5/16	2 : 30	230	14.5	East Slope
GC- 74	16G1061	1949	11/5/16	2 : 50	230	14.5	East Slope
GC- 75	16G1061	1928	11/5/16	3 : 00	230	14.5	East Slope
GC- 76	16G1061	1920	11/5/16	3 : 10	230	14.5	East Slope
GC- 77	16G1061	1849	11/5/16	3 : 20	230	14.5	East Slope
GC- 78	16G1061	1850	11/5/16	3 : 30	230	14.5	East Slope
GC- 79	16G1061	1863	11/5/16	3 : 50	230	14.5	East Slope
GC- 80	16G1061	1864	11/5/16	4 : 10	230	14.5	East Slope
GC- 81	16G1061	1859	11/5/16	4 : 20	230	14.5	East Slope
GC- 82	16G1061	1884	11/5/16	4 : 30	230	14.5	East Slope
GC- 83	16G1061	1895	11/5/16	4 : 50	230	14.5	East Slope
GC- 84	16G1061	1894	11/7/16	7 : 20	230	14.5	East Slope
GC- 85	16G1061	1896	11/7/16	7 : 30	230	14.5	East Slope
GC- 86	16G1061	1909	11/7/16	7 : 40	230	14.5	East Slope
GC- 87	16G1061	1943	11/7/16	7 : 50	230	14.5	East Slope
GC- 88	16G1061	1944	11/7/16	8 : 00	230	14.5	East Slope
GC- 89	16G1061	1947	11/7/16	8 : 10	230	14.5	East Slope
GC- 90	16G1061	1902	11/7/16	8 : 20	230	14.5	East Slope



DESIGN COMPANY INCORPORATED

PANEL PLACEMENT FORM

Client Name: Waste Management of Arkansas

Project Number: 16038

Project Name: Phase 2 Final Cover

CQA Monitor: Graham McCulloch

Reviewed By: Bryan Bailey, P.E.

Address: Eco Vista Class I Landfill

Location: Tontitown, AR

Product Type: 6 oz/yd2 DS 200-mil Geocomposite

Primary:

Secondary:

Other: _____

Panel No.	Lot No.	Roll Number	Date (m/d)	Time	Panel Length (ft)	Panel Width (ft)	Placement, Location, Comments
GC- 91	16G1061	1904	11/7/16	8 : 30	230	14.5	East Slope
GC- 92	16G1061	1877	11/7/16	8 : 40	230	14.5	East Slope
GC- 93	16G1061	1874	11/7/16	8 : 50	230	14.5	East Slope
GC- 94	16G1061	1858	11/7/16	9 : 00	230	14.5	East Slope
GC- 95	16G1061	1861	11/7/16	9 : 15	230	14.5	East Slope
GC- 96	16G1061	1862	11/7/16	9 : 25	230	14.5	East Slope
GC- 97	16G1061	1885	11/7/16	9 : 35	230	14.5	East Slope
GC- 98	16G1061	1865	11/7/16	9 : 50	230	14.5	East Slope
GC- 99	16G1061	1871	11/7/16	10 : 00	230	14.5	East Slope
GC- 100	16G1061	1932	11/7/16	10 : 10	230	14.5	East Slope
GC- 101	16G1061	1942	11/7/16	10 : 20	230	14.5	East Slope
GC- 102	16G1061	1935	11/7/16	10 : 30	230	14.5	East Slope
GC- 103	16G1061	1948	11/7/16	10 : 40	230	14.5	East Slope
GC- 104	16G1061	1946	11/7/16	10 : 50	230	14.5	East Slope
GC- 105	16G1061	1936	11/7/16	11 : 00	230	14.5	East Slope
GC- 106	16G1061	1937	11/7/16	11 : 10	230	14.5	East Slope
GC- 107	16G1061	1903	11/7/16	11 : 20	230	14.5	East Slope
GC- 108	16G1061	1897	11/7/16	11 : 40	230	14.5	East Slope
GC- 109	16G1061	1917	11/7/16	12 : 40	230	14.5	East Slope
GC- 110	16G1061	1918	11/7/16	12 : 50	230	14.5	East Slope
GC- 111	16G1061	1916	11/7/16	1 : 10	230	14.5	East Slope
GC- 112	16G1061	1912	11/7/16	1 : 20	230	14.5	East Slope
GC- 113	16G1061	1913	11/7/16	1 : 30	230	14.5	East Slope
GC- 114	16G1061	1919	11/7/16	1 : 50	230	14.5	East Slope
GC- 115	16G1061	1938	11/7/16	2 : 00	230	14.5	East Slope
GC- 116	16G1061	1941	11/7/16	2 : 15	230	14.5	East Slope
GC- 117	16G1061	1940	11/7/16	2 : 25	230	14.5	East Slope
GC- 118	16G1061	1945	11/7/16	2 : 40	230	14.5	East Slope
GC- 119	16G1061	1933	11/7/16	2 : 50	230	14.5	East Slope
GC- 120	16G1061	1925	11/7/16	3 : 00	230	14.5	East Slope

APPENDIX O
DAILY REPORTS – CQA TECHNICIAN

DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	10/27/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	clear						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
14	2 extrusion guns, vacuum box	
	3 fusion welders, 1 bobcat,	
	1 skidsteer, 1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Cell 10/11: Completed extrusion repairs and vacuum tested all extrusion welds on secondary liner.

Began deploying GCL and liner on Phase 2 Final Cover

All 43 destruct samples past lab tests for Secondary Liner

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

Bryan W Bailey
REVIEWED BY

10/27/2016
DATE

10/31/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	10/28/2016							
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S	
CLIENT:	Waste Mangement of Arkansas	WEATHER:	clear							
CONTRACTOR:	CEG and ESI									
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am				TIME DEPARTED:	5:30pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	3 fusion welders, 1 extrusion gun, 1 forklift, 1 bobcat,	
	1 ATV	
CEG - 9	smooth drum roller, dozer	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Phase 2 FC: Continued deploying GCL and liner. Completed east section of cap.
 Contractor continued placing clay on exposed trash and smooth drum rolled clay.
 Verified depth of clay cover to be 12".

Deployed 1 numbered roll of composite for vent; the other 14 numbered rolls were taken to cells 10/11 to be deployed in leachate collection trenches. There are 8 full unnumbered old rolls of composite, plus several partial rolls, that can be used to complete the remaining vents on the cap.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
 CQA TECHNICIAN

10/28/2016
 DATE

Bryan W Bailey
 REVIEWED BY

10/31/2016
 DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	10/29/2016							
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S	
CLIENT:	Waste Mangement of Arkansas	WEATHER:	clear							
CONTRACTOR:	CEG and ESI									
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:30pm			

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 6	2 extrusion guns, vacuum box	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

No liner deployed today. A small crew completed extrusion welding patches and caps, and vacuum testing repairs.

Marked destructs for testing. Destructs will be sent to lab on Monday.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

Bryan W Bailey
REVIEWED BY

10/29/2016
DATE

10/31/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	10/31/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	3 fusion welders, 1 extrusion gun, 1 forklift, 1 Bobcat,	
	1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Continued placing GCL and 40-mil LLDPE liner.

Sent 11 destructs to lab

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

Bryan W Bailey
REVIEWED BY

10/31/2016
DATE

10/31/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/1/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	3 fusion welders, 1 extrusion gun, 1 forklift, 1 Bobcat, 1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Continued placing GCL and 40-mil LLDPE liner. Booted and capped gas pipe extrusions. Extrusion welded liner to HDPE pipes and will attach liner to PVC pipes with steel clamps and neoprene gasket.

All 11 destructs sent to lab yesterday passed all tests.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/1/2016
DATE

Bryan W Bailey
REVIEWED BY

11/4/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/2/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	3 fusion welders, 1 extrusion gun, 1 forklift, 1 Bobcat, 1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Continued placing GCL and 40-mil LLDPE liner. Deployed approximately 64,000 sq ft of both GCL and liner.
 Extrusion welded several boots to gas pipe extrusions.
 Sent destruct #'s 12 - 22 to the lab for testing.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
 CQA TECHNICIAN

11/2/2016
 DATE

Bryan W Bailey
 REVIEWED BY

11/4/2016
 DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/3/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair/cloudy pm						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	4:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	3 fusion welders, 1 extrusion gun, 1 forklift, 1 Bobcat,	
	1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Completed deploying GCL and 40-mil LLDPE liner. Still to complete repairs.

Noticed a puddle of what is probably leachate.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number
DS 14 - 20					11/3/2016	

 Graham McCulloch
 CQA TECHNICIAN

Bryan W Bailey

 REVIEWED BY

 11/3/2016
 DATE

 11/4/2016
 DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/4/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	4:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI - 14	1 extrusion gun	
	gun, 1 forklift, 1 Bobcat,	
	1 ATV	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Began deploying geocomposite on top of liner. The geonetting was fastened together with zip ties at 5' intervals along edges and at 6" along butt seams. The overlapping fabric was then sewn.

Continued extrusion welding repairs and fitting boots to pipe extrusions. The liner was welded to the HDPE pipes and attached to the PVC pipes with neoprene gasket placed under steel bands.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/4/2016
DATE

Bryan W Bailey
REVIEWED BY

11/7/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/5/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	4:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI -14	1 extrusion gun	
	gun, 1 forklift, 1 Bobcat,	
	1 ATV	
CEG-9	1 large excavator, 1 small	
	excavator, 1 dozer, 3 haul trucks	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Continued deploying geocomposite. Approximately 2/3 of the cap is complete.
 Gas under the liner was building up so ESI cut 2 vents to allow gas to escape; one near the east of the cell and other near the highest point of the slope.
 CEG began placing soil cover on completed area of geocomposite near south area of final cover. Many large rocks were mixed in with the soil but they were allowed to remain. The largest rocks were asked to be removed. Clovis Grissom said these rocks will break up into clay when heavy vehicles roll over them, although CQA thinks that the sharp edges could damages the geocomposite and liner below.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

Mohammed, ESI's superintendent, wondered if there was enough geocomposite to complete the job. Was told by Bryan that all available rolls are at the site.

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
 CQA TECHNICIAN

11/5/2016
 DATE

Bryan W Bailey
 REVIEWED BY

11/7/2016
 DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/6/2016							
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S	
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair							
CONTRACTOR:	CEG and ESI									
REPORT BY:	Graham McCulloch	TIME ARRIVED:	8am				TIME DEPARTED:	3:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 6	1 large excavator, 1 small excavator, 1 dozer, 3 haul trucks	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

Continued placing protective cover on geocomposite. When the trucks dumped the soil, the dozer pushed the soil downhill to separate out the larger rocks, then pushed the finer soil over the geocomposite. Larger rocks that remained were picked out by the smaller excavator.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/6/2016
DATE

Bryan W Bailey
REVIEWED BY

11/7/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/7/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	overcast/ light rain						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	8am			TIME DEPARTED:	3:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI 14	1 forklift, 1 bobcat, 1 ATV	
	3 haul trucks, 2 dozers, 1	
CEG 8	large and 1 small trackhoe.	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

ESI completed installation of geocomposite.

- Panels of geocomposite are fastened together with white plastic zip ties at 5' intervals along edges and at 6" intervals along

CEG continued placing soil cover over geocomposite. The small trackhoe is utilized to remove rocks too large to be removed by hand.

- One man on the ground removed large rocks by hand or with the small trackhoe.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/7/2016
DATE

Bryan W Bailey
REVIEWED BY

11/9/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/8/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	rain						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	8am			TIME DEPARTED:	9:00am		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

No work. Rained out.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/8/2016
DATE

Bryan W Bailey
REVIEWED BY

11/9/2016
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/9/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:00pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
ESI 12	1 extrusion gun, 1 ATV, 1 forklift, 1 bobcat.	
CEG 9	4 haul trucks, 2 dozers, 1 large excavator, 1 small excavator	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

ESI extrusion welded extra section of liner along toe of cap (rainflap) which will have geotextile and drainage rock placed on top.

CEG continued placing protective cover over geocomposite. 1 groundman removed rocks by hand and with small excavator.

Waste Management provided 2 additional people to help with rock removal later in the day.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

A lot of gas is accumulating under the liner and cannot make it's way to the vent on top of the slope due to the placement of protective cover.

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch CQA TECHNICIAN <hr/> REVIEWED BY	11/9/2016 DATE	DESIGN COMPANY INCORPORATED
<hr/> REVIEWED BY	11/9/2016 DATE	

DAILY CONSTRUCTION REPORT

PROJECT:	Phase 2 Final Cover	DATE:	11/10/2016						
PROJECT NO.:	16038	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	fair						
CONTRACTOR:	CEG and ESI								
REPORT BY:	Graham McCulloch	TIME ARRIVED:	7am			TIME DEPARTED:	5:30pm		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 9	4 haul trucks, 2 dozers, 1 large excavator, 1 small excavator	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES:

CEG continued placing protective cover over geocomposite. 1 groundman removed rocks by hand and with small excavator.

Gas continues to build up under liner. The soil is being placed at the top and pushed down the slope so the gas has no way to get to the vent on top of the slope. According to Clovis this is how David Conrad wants it installed to avoid gas system lateral and header pipes.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

It seems that at least 1 more vent will have to be cut in the liner to allow the build up of gas to escape.

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Graham McCulloch
CQA TECHNICIAN

11/10/2016
DATE

Bryan W Bailey
REVIEWED BY

11/12/2016
DATE



DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover	DATE:	11/14/2016														
PROJECT NO.:	16043 and 16038	DAY:	<table style="font-size: small; text-align: center;"> <tr> <td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> </tr> <tr> <td></td><td></td><td>X</td><td></td><td></td><td></td><td></td> </tr> </table>	S	M	T	W	T	F	S			X				
S	M	T	W	T	F	S											
		X															
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:															
CONTRACTOR:	CEG Construction and ESI	sunny															
REPORT BY:	Bryan Bailey	TIME ARRIVED:	7:00AM														
		TIME DEPARTED:	6:00PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 10	CAT 345 Excavator - 2	
	D6 Dozer - 3	
	Off Road Dump Truck - 5	
ESI - 14	3 Fusion welders, 1 ext. gun	
	1 bobcat, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: _____

Cell 10/11: Continued deploying GCL and primary liner in Cell 10 on floor and 2/3 of the north side slope.
 Marked destructs. Repairs were extrusion welded.

Phase 2 FC: CEG continues to place protective cover and topsoil material in the final cover area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

<p style="text-align: center;"> _____ <small>COQA TECHNICIAN</small> </p>	<p>11/14/16 DATE</p>	<small>DESIGN COMPANY INCORPORATED</small>
<p>REVIEWED BY _____</p>	<p>DATE _____</p>	

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover	DATE:	11/15/2016						
PROJECT NO.:	16043 and 16038	DAY:	S	M	T	W	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny							
CONTRACTOR:	CEG Construction and ESI								
REPORT BY:	Bryan Bailey	TIME ARRIVED:	7:00AM		TIME DEPARTED:	6:00PM			

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 10	CAT 345 Excavator - 2	
	D6 Dozer - 3	
	Off Road Dump Truck - 5	
ESI - 14	3 Fusion welders, 1 ext. gun	
	1 bobcat, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

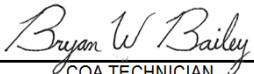
CONSTRUCTION ACTIVITIES: _____
 Cell 10/11: Continued deploying GCL and primary liner in Cell 10 on the west floor and cell 10/11 intercell berm.
 Marked destructs and sent to the lab. Repairs were extrusion welded.

Phase 2 FC: CEG continues to place protective cover and topsoil material in the final cover area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number



 CQA TECHNICIAN

 REVIEWED BY

11/15/16

 DATE

 DATE



DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover	DATE:	11/16/2016						
PROJECT NO.:	16043 and 16038	DAY:	S	M	T	W X	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:							
CONTRACTOR:	CEG Construction and ESI	sunny							
REPORT BY:	Bryan Bailey	TIME ARRIVED:	7:00AM			TIME DEPARTED:	6:00PM		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 10	CAT 345 Excavator - 2	
	D6 Dozer - 3	
	Off Road Dump Truck - 5	
ESI - 14	3 Fusion welders, 2 ext. gun	
	1 bobcat, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: _____

Cell 10/11: Continued deploying GCL and primary liner in Cell 11 on the floor to the west intercell berm.

Marked destruct and will send to lab tomorrow. Repairs were extrusion welded and primary to secondary liner were welded together along south of cell 10 and cell 10/11 intercell berm.

Phase 2 FC: CEG continues to place protective cover and topsoil material in the final cover area. Began working on letdowns and swales.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Bryan W Bailey

COQA TECHNICIAN

11/16/16

DATE



REVIEWED BY _____

DATE _____

DAILY SOILS CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover	DATE:	11/17/2016						
PROJECT NO.:	16043 and 16038	DAY:	S	M	T	W	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER:							
CONTRACTOR:	CEG Construction and ESI	cold/cloudy							
REPORT BY:	Bryan Bailey	TIME ARRIVED:	7:00AM			TIME DEPARTED:	6:00PM		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG - 10	CAT 345 Excavator - 2	
	D6 Dozer - 3	
	Off Road Dump Truck - 5	
ESI - 14	3 Fusion welders, 2 ext. gun	
	1 bobcat, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

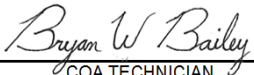
CONSTRUCTION ACTIVITIES: _____
 Cell 10/11: Continued deploying GCL and primary liner in Cell 11, along west floor, north side slope and west intercell berm. Marked destruct and sent the lab. Repairs were extrusion welded and primary to secondary liner were welded together along south and west sides.

Phase 2 FC: CEG continues to place protective cover material across liner system. Continued working on letdowns and swales.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number



 CQA TECHNICIAN

11/17/16

 DATE



 REVIEWED BY

 DATE

DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/7/16		
PROJECT NO.:	16043	DAY:	S	M	T
CLIENT:	Waste Mangement of Arkansas	WEATHER:	35° cloudy		
CONTRACTOR:		TIME ARRIVED:	7:00	TIME	1:00
REPORT BY:	Dante Wiley SR				

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 SUPR	1 EXCAVATOR	
1 Foreman	1 mini ex.	
operator 4	1 dozer	
	1 Track Dump	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS
		SWELLS	

CONSTRUCTION ACTIVITIES: Cap ~~work~~ ~~work~~ PERMS OVER AS TALL
 grading Protective Cover. - CELL 10/11

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

<p style="font-size: 1.2em; font-family: cursive;">Dante Wiley Sr.</p> <p style="font-size: 0.8em;">SITE TECHNICIAN</p> <p style="font-size: 1.2em; font-family: cursive;">[Signature]</p> <p style="font-size: 0.8em;">REVIEWED BY</p>	<p style="font-size: 1.2em; font-family: cursive;">12/7/16</p> <p style="font-size: 0.8em;">DATE</p>	<p style="font-size: 0.8em;">DESIGN COMPANY INCORPORATED</p>
<p style="font-size: 1.2em; font-family: cursive;">[Signature]</p> <p style="font-size: 0.8em;">REVIEWED BY</p>	<p style="font-size: 1.2em; font-family: cursive;">12/9/16</p> <p style="font-size: 0.8em;">DATE</p>	

DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/8/16		
PROJECT NO.:	16043	DAY:	M	T	W
CLIENT:	Waste Mangement of Arkansas	WEATHER:	21° Cold		
CONTRACTOR:					
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700	1700	

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 Supr	Excavator	
1 Foreman	mini ex	
4 operators	1 dozer	
	1 Truck dump	


VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: *Compost area grading*

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

<p><i>Dante Wiley Sr.</i> DATE</p> <p><i>[Signature]</i> REVIEWED BY</p>	<p>12/8/16 DATE</p> <p>12/9/16 DATE</p>	 <p>shepherd ENGINEERING</p> <p><small>DESIGN COMPANY INCORPORATED</small></p>
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DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/9/16		
PROJECT NO.:	16043	DAY:	S	M	T
CLIENT:	Waste Mangement of Arkansas	WEATHER:	W	TH	F
CONTRACTOR:			22° cold		
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700	1700	

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 supt	excavator	
1 Foreman	mini EX	
4 operator	1 dozer	
	1 Truck dump	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Cap area swells berm install protective cover grading. ~~work~~ (done)

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Dante Wiley
TECHNICIAN
 REVIEWED BY: *[Signature]*

12/9/16
DATE
 12/9/16
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/10/16						
PROJECT NO.:	16043	DAY:	S	M	T	W	TH	F	S
CLIENT:	Waste Mangement of Arkansas	WEATHER:	42° Cloudy						
CONTRACTOR:									
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700	1700					

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 SupR	2 excavators	
1 Foreman	1 mini excavator	
4 operators	1 dozer	
	1 dump truck	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: South side cap area 60 mil HDPE liner install both let down areas protective cover grading. Compost area grading clean-up. Swells berm grading compacting

Handwritten notes:
~~Grading?~~

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Signature: Dante Wiley Sr.
TECHNICIAN
 REVIEWED BY

12/10/16
DATE
 12/13/16
DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/11/16		
PROJECT NO.:	16043	DAY:	✓	T	W
CLIENT:	Waste Mangement of Arkansas	WEATHER:	42° cloudy		
CONTRACTOR:					
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700	6700	

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 Supr 1 Foreman 4 operators	2 excavators 1 mini excavator 1 dump truck	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Swell and berm compacting and textile install on swells and berm erosion matting control. Protective cover grading.

South Area Cop.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

<p style="font-size: 1.5em; font-family: cursive;">Dante Wiley Sr.</p> <p style="font-size: 1.5em; font-family: cursive;">[Signature]</p> <p>REVIEWED BY</p>	<p style="font-size: 1.5em;">12/14/16</p> <p>DATE</p>	<p style="font-size: 1.5em;">12/13/16</p> <p>DATE</p>
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DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/12/16		
PROJECT NO.:	16043	DAY:	M	W	TH
CLIENT:	Waste Mangement of Arkansas	WEATHER:	42° Cloudy		
CONTRACTOR:					
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700	1700	

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 Supr	1 Excavator	
1 Foreman	1 TRACKOR	
5 operators	1 mini Excavator	
	1 Bobcat	
	1 Dump Truck	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: South side Cap protective cover
 compacting SWell, beam compacting EROSION
 matting install to beams SWells. AFF arrives
 1500 cut beam flap install 6" perforated pipe Cell 10/11
~~leachate~~ leachate Trench. beam flap repairs
 2 techs 1 Fusion machine 1 extrusion gun.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Dante Wiley Sr.

[Signature]

REVIEWED BY

12/12/16

DATE

12/13/16

DATE



DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North Cell Construction	DATE:	12/13/16
PROJECT NO.:	16043	DAY:	S <input type="checkbox"/> M <input type="checkbox"/> T <input checked="" type="checkbox"/> W <input type="checkbox"/> TH <input type="checkbox"/> F <input type="checkbox"/> S <input type="checkbox"/>
CLIENT:	Waste Mangement of Arkansas	WEATHER:	43° Cloudy
CONTRACTOR:			
REPORT BY:	Dante Wiley SR	TIME ARRIVED:	700 - 1700

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
1 Supr	1 Excavator	
1 Foreman	1 Kubota	
4 operators	1 mini excav	
2 techs	1 dump truck	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Aft repairing berm Flap Cell 10/11
 Completing Cell 10 & 11 headwall, sump pits

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM:

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Dante Wiley Sr. 12/13/16
CONTRACTOR DATE
[Signature] 12/13/16
REVIEWED BY DATE



APPENDIX P
DAILY REPORTS – CQA ENGINEER

CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	7/6/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="font-size: small; text-align: center;"> <tr> <td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> </tr> <tr> <td></td><td></td><td></td><td>X</td><td></td><td></td><td></td> </tr> </table>	S	M	T	W	T	F	S				X			
S	M	T	W	T	F	S											
			X														
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	3:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

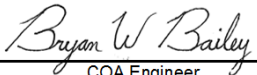
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG had mobilized some equipment to the site and was working the equipment staging area for Cell 10/11 North.
2. There was no work ongoing in the Phase 2 Final Cover Area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

07/06/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	7/21/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black;">S</td> <td style="border: 1px solid black;">M</td> <td style="border: 1px solid black;">T</td> <td style="border: 1px solid black;">W</td> <td style="border: 1px solid black;">T</td> <td style="border: 1px solid black;">F</td> <td style="border: 1px solid black;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="font-weight: bold;">X</td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S					X		
S	M	T	W	T	F	S											
				X													
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	4:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
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VISITORS			
TIME	NAME	REPRESENTING	REMARKS

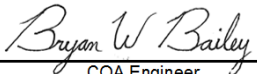

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG ws excavating soil from Cell 10/11 North and was hauling for WM daily cover, Phase 2 Final Cover Area and to other WM approved fill locations.
2. Offsite clay was being hauled and stockpiled in an area of the New Sedimentation Pond (north of Cell 10/11 North), which is to be used as the secondary clay liner. Almost all of the clay material is now on-site.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

 CQA Engineer	07/21/16 DATE	 DESIGN COMPANY INCORPORATED
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CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	8/3/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S				X			
S	M	T	W	T	F	S											
			X														
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	3:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

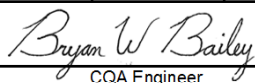
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG ws excavating soil from Cell 10/11 North and was hauling for WM daily cover, Phase 2 Final Cover Area and to other WM approved fill locations.
2. CEG was removing rock material to get to subgrade elevations.
3. CEG was working on cutting and filling the waste slopes in the Phase 2 Final Cover Area and placing the intermediate cover.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

08/03/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	8/25/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">x</td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S					x		
S	M	T	W	T	F	S											
				x													
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	4:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was excavating soil from Cell 10/11 North and was hauling for WM daily cover, Phase 2 Final Cover Area and to other WM approved fill locations.
2. CEG was removing rock material to get to subgrade elevations.
3. CEG was working on cutting and filling the waste slopes in the Phase 2 Final Cover Area and placing the intermediate cover.
4. CEG was excavating and placing fill for berms in the New Sedimentation Pond

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

Bryan W. Bailey
 CQA Engineer

08/25/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	9/7/2016						
PROJECT NO.:	16048 and 16038	DAY:	S	M	T	W X	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny							
CONTRACTOR:	CEG Construction								
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM			TIME DEPARTED:	12:00 PM		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

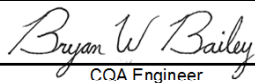
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was excavating soil from Cell 10/11 North and was hauling for WM daily cover, fill for subgrade in the Cell and to other WM approved fill locations.
2. CEG was removing rock material to get to subgrade elevations.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

09/07/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	9/20/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S			X				
S	M	T	W	T	F	S											
		X															
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	11:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

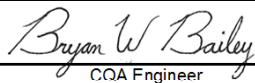
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was fine grading the subgrade in Cell 10/11 and preparing for subgrade certification. MSC had a few areas that needed to be cut/filled to get to subgrade elevations
2. Finished certifying the Subgrade.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

09/20/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	9/22/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="width: 12.5%; border: 1px solid black;">S</td> <td style="width: 12.5%; border: 1px solid black;">M</td> <td style="width: 12.5%; border: 1px solid black;">T</td> <td style="width: 12.5%; border: 1px solid black;">W</td> <td style="width: 12.5%; border: 1px solid black;">T</td> <td style="width: 12.5%; border: 1px solid black;">F</td> <td style="width: 12.5%; border: 1px solid black;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="font-weight: bold;">X</td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S					X		
S	M	T	W	T	F	S											
				X													
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	11:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 16	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

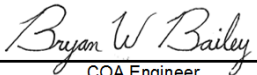

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG started placing clay in Cell 10/11 North on September 21, 2016. During this visit, I observed the 1st lift of clay liner placement in Cell 10 area. CEG was hauling clay from the stockpile, placing with dozers, watering and discing.
2. CEG was not performing any other work during my visit other than the clay liner placement in Cell 10/11.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

 _____ CQA Engineer	09/22/16 _____ DATE	 DESIGN COMPANY INCORPORATED
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CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	9/26/2016																					
PROJECT NO.:	16048 and 16038	DAY:	<table style="font-size: small; text-align: center;"> <tr> <td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td>X</td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	S	M	T	W	T	F	S									X					
S	M	T	W	T	F	S																		
	X																							
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny																						
CONTRACTOR:	CEG Construction																							
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	10:00 AM																					
		TIME DEPARTED:	1:00 PM																					

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 16	CAT 345 Excavator - 2	Other equipment included a water truck
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	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

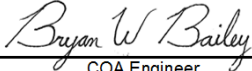

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG deployed lift 2 on Cell 10 area and were watering and processing the clay as it was placed and pushed out.
2. CEG was watering and compacting lift 1 in Cell 11 area.
3. I observed SEDCo Technican perform density test and obtain 2 shelby tubes for lift 1 in Cell 10.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

 _____ CQA Engineer	09/26/16 _____ DATE	 DESIGN COMPANY INCORPORATED
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CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	9/30/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> </table>	S	M	T	W	T	F	S						X	
S	M	T	W	T	F	S											
					X												
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: Sunny															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	2:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 16	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

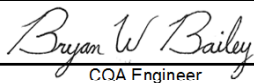
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was processing the deployed clay and compacting.
2. SEDCo was completing density testing, obtaining shelby tubes for Saturday delivery.
3. CEG was not performing any other work during my visit other than the clay liner placement in Cell 10/11 North

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

09/30/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	10/7/2016						
PROJECT NO.:	16048 and 16038	DAY:	S	M	T	W	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: cloudy							
CONTRACTOR:	CEG Construction								
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	1:00 AM			TIME DEPARTED:	2:00 PM		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 16	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was hauling and placing clay for lift 4 in the south area of Cell 10.
2. CEG was excavating material from toe of Phase 2 Final Cover for final cover liner tie-in to the 60-mil bottom liner system.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

10/07/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	10/12/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S				X			
S	M	T	W	T	F	S											
			X														
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: rainy															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	12:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 16	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

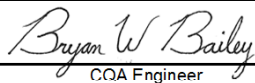
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. No work on Cell 10/11 or Phase 2 Final Cover due to rain
2. Geosynthetic materials(60-mil HDPE Geomembrane) for Cell 10/11 North were being delivered to the site and unloaded by CEG.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

10/12/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	10/18/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S			X				
S	M	T	W	T	F	S											
		X															
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny/cloud															
CONTRACTOR:	CEG Construction																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	11:00 AM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	CAT 815 Compactor -1	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
	CAT 563 Roller - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

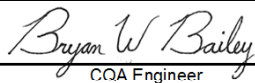
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was processing and compacting lift 4 on the north slope of Cell 10/11 North.
2. SEDCo personal was completing density testing and obtained 2 shelly tubes from the north slope of Cell 11 for lift 4.
3. CEG was continuing to work on the intermediate cover in the closure area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

10/18/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	10/25/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S			X				
S	M	T	W	T	F	S											
		X															
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny															
CONTRACTOR:	CEG Construction & ESI																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM														
		TIME DEPARTED:	3:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
ESI - 14	4 Wedge welders, 1 ext. gun	
	1 forklift, 1 skidsteer, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. ESI was continuing to install the Secondary HDPE Geomembrane in Cell 10/11 North. ESI was also working on the tie-in between Cell 10 and the existing Cell 9. Marked and cut destructive samples (DSS-#) and completing repairs with extrusion weld.
2. CEG continuing work on the intermediate cover in Phase 2 Final Cover area, preparing it for geosynthetics.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number

 CQA Engineer

10/25/16

 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	11/10/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="font-size: small; text-align: center;"> <tr> <td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td> </tr> <tr> <td></td><td></td><td></td><td></td><td>X</td><td></td><td></td> </tr> </table>	S	M	T	W	T	F	S					X		
S	M	T	W	T	F	S											
				X													
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny															
CONTRACTOR:	CEG Construction & ESI																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED: 9:00 AM	TIME DEPARTED: 1:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
ESI - 12		
	1 forklift, 1 skidsteer, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

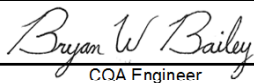
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. ESI was deploying LDS geocomposite (6-200-6) on top of secondary liner in Cell 10/11 North.
2. CEG was excavating, hauling and placing the Protective Cover (1-ft) ontop of Phase 2 Final Cover area. Protective cover is onsite material.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

11/10/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	11/22/2016														
PROJECT NO.:	16048 and 16038	DAY:	<table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> <td style="border: 1px solid black; width: 15px; text-align: center;">M</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">W</td> <td style="border: 1px solid black; width: 15px; text-align: center;">T</td> <td style="border: 1px solid black; width: 15px; text-align: center;">F</td> <td style="border: 1px solid black; width: 15px; text-align: center;">S</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	S	M	T	W	T	F	S			X				
S	M	T	W	T	F	S											
		X															
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny															
CONTRACTOR:	CEG Construction & ESI																
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:30 AM														
		TIME DEPARTED:	2:00 PM														

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 10	CAT 345 Excavator - 2	Other equipment included a water truck
	D6 Dozer - 4	
	Off Road Dump Truck - 5	
ESI - 12		
	1 forklift, 1 skidsteer, atv	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

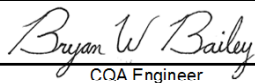
1. ESI was installing LCS geocomposite (6-250-6) in Cell 10/11 North.

2. CEG was placing the topsoil material on the Phase 2 Final Cover area. CEG was constructing the letdowns and drainage swales on the final cover area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

11/22/16
 DATE



CQA ENGINEERS DAILY CONSTRUCTION REPORT

PROJECT:	Cell 10/11 North and Phase 2 Final Cover Construction	DATE:	12/7/2016						
PROJECT NO.:	16048 and 16038	DAY:	S	M	T	W	T	F	S
CLIENT:	Waste Management of Arkansas - Eco Vista Landfill	WEATHER: sunny							
CONTRACTOR:	CEG Construction								
REPORT BY:	Bryan W. Bailey, P.E.	TIME ARRIVED:	9:00 AM			TIME DEPARTED:	12:00 PM		

NUMBER WORKING	LIST EQUIPMENT	GENERAL NOTES
CEG 6	CAT 345 Excavator - 1	
	D6 Dozer - 1	
	Off Road Dump Truck - 1	
	mini excavator - 1	

VISITORS			
TIME	NAME	REPRESENTING	REMARKS

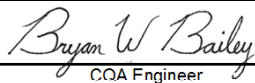
CONSTRUCTION ACTIVITIES: Two projects are ongoing during my inspection and they are the Cell Construction associated with Cell 10/11 North and the Phase 2 Final Cover Construction. During my inspection I observed the following:

1. CEG was working on the drainage swells and letdowns on Phase 2 Final Cover area.

FIELD PROBLEMS WHICH COULD RESULT IN DELAY, CHANGE ORDER, OR CLAIM _____

SAMPLES SENT TO LABORATORY:

Sample No.	Lift No.	Northing	Easting	Sample Date	Ship Date	Tracking Number


 CQA Engineer

12/07/16
 DATE



APPENDIX Q
CONSTRUCTION PHOTOGRAPHS

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 1 – Installation of the Geocomposite Gas Vent



Photo 2 – GCL being placed over the Installed Geocomposite Gas Vent

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 3 – Deploying GCL on Subgrade



Photo 4 – GCL is placed over Geocomposite Gas Vent

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 5 – Placing GCL at South Tie-In to Phase 1



Photo 6 – Heat Tacking GCL in Place at Gas Extraction Wells

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 7 – Heat Tacking GCL Panels Together



Photo 8 – Deploying 40-mil LLDPE Liner on GCL

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 9 – Deploying and Fusion Welding 40-mil LLDPE on GCL



Photo 10 – 40-mil LLDPE Placed on East Slope of Phase 2 Final Cover

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 11 – 40-mil LLDPE Tie-In to Phase 1



Photo 12 – Liner is cut to fit around Gas Extraction Wells, then Patch is Extrusion Welded

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 13 – Finished Patch and Pipe Boots Around Gas Extraction Wells



Photo 14 – Extrusion Welded Boots around Cells 1-4 LDS/LCS Riser Pipes at Headwall

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 15 – Vacuum Testing Extrusion Welded Repairs



Photo 16 – Vacuum Testing Repairs

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 17 – Placing Double-Sided Drainage Geocomposite



Photo 18 – Sewing Geocomposite panels Together

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 19 – Completing the Installation of Geocomposite at Termination



Photo 20 – Installing Rainflap at Toe of Slope before Placing Geotextile and Drainage Rock

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 21 – Hauling, Placing and Grading 12-inch Protective Cover and 6-inch Topsoil Layers



Photo 22 – Finished Installation of Rainflap at Toe of Slope

Final Cover Installation and Testing Report
Phase 2 Final Cover Area
Eco Vista Class I Landfill
ADEQ Permit No.: 0290-S1-R3 AFIN: 72-00144



Photo 23 – Completed Drainage Swale with Erosion Control Product



Photo 24 – Letdown on the East Slope Lined with Geomembrane