Haley Griffith (adpce.ad)

Subject: RE: Eco-Vista Class 1, Cell 13A CQA Report - AFIN: 72-00144; Permit 0290-S1-R4

From: Brad Fureigh [mailto:bfureigh@promusengineering.com]
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Subject: Eco-Vista Class 1, Cell 13A CQA Report - AFIN: 72-00144; Permit 0290-S1-R4

Hi Mr. Banic,

Please see the link provided below to download the Eco-Vista Class 1, Cell 13A CQA Report. If you have any questions regarding this submittal or have trouble downloading the report, please feel free to contact me at your convenience.

Thanks!

Eco-Vista Cell 13A CQA Report

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CQC AND CQA DOCUMENTATION REPORT

Cell 13A Construction
Eco Vista Class 1 Landfill
Tontitown, Arkansas

Permit No. 0290-S1-R4
AFIN: 72-00144

April 2024
Promus Project No. 230181

Prepared for:
Eco-Vista, LLC

Prepared by:

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CQC AND CQA DOCUMENTATION REPORT

Cell 13A Construction
Eco Vista Landfill

1. INTRODUCTION

This report documents the Construction Quality Control (CQC) and Construction Quality Assurance (CQA) efforts performed by Promus Engineering, LLC (Promus) for construction of the composite bottom liner system and leachate collection system for Cell 13A at the Eco Vista Landfill, located in Tontitown, Arkansas. This report also documents the CQC and CQA activities performed during the construction of Cell 13A.

1.1. Project Description

The Eco Vista Landfill is a permitted solid waste disposal facility owned and operated by Eco-Vista, LLC. (the Facility). The Facility is a solid waste landfill, permitted, designed, constructed and operated under the Arkansas Pollution Control and Ecology Commission Rule No. 22, Solid Waste Management Rules (referred to herein as the Rules), as administered by the Arkansas Department of Energy & Environment, Division of Environmental Quality (DEQ). The facility operates under Solid Waste Permit No. 0290-S1-R4 (AFIN No. 72-00144).

Cell 13A represents approximately 5-acres of solid waste disposal area situated in the valley between the active Class 1 landfill and the current closed Class 1 landfill. The Cell 13A composite bottom liner system and leachate collection system included construction of the following components:

Secondary Liner and LDS (from bottom to top)

- a minimum 24-inch thick compacted clay liner (CCL) ($k \leq 1x10^{-7}$ cm/sec);
- a nominal 60-mil thick High-Density Polyethylene (HDPE) geomembrane liner;
- a 6-oz/sy (200-mil) double-sided drainage Geocomposite for leak detection;
- 6-in SDR 11 HDPE perforated pipe, covered in gravel and wrapped in non-woven geotextile.

Primary Liner and LCS (from bottom to top)

- a Geosynthetic Clay Liner (GCL);
- a nominal 60-mil thick High-Density Polyethylene (HDPE) geomembrane liner;
- a 6-oz/sy (250-mil) double sided drainage Geocomposite for leachate collection; and
- a minimum 12-inch thick protective cover layer of on-site soils.
- 6-in SDR 11 HDPE perforated pipe, covered in gravel and wrapped in non-woven geotextile;

The construction of Cell 13A also included installation of roughly 4-acres of overliner for portions of Site 3 and Site 4. However, prior to installation of overliner, the existing final cover had to be removed, including vegetation and clay cap soils. During excavation, the contractor ensured a minimum of 6-inches of clay from the previous final cover soils remained (per Detail 1, Option 2 on Sheet 24 of the Permit Plans). Depth verification for the 6-inch clay was performed by Promus at each certification grid point. Photographic documentation of the verification is provided in Appendix B. Prior to

installing overliner, the clay surface was rolled with a smooth drum vibratory compactor. Geosynthetic installation data for geomembrane and Geocomposite pertaining to Site 3 and Site 4 are included in the Primary Geomembrane and LCS Geocomposite sections, respectively.

1.2. Scope

Waste Management retained Promus to provide quality control and quality assurance services during construction of the cell components as described in the facility Construction Quality Assurance and Quality Control (CQA) Plan prepared by Promus Engineering Inc., dated June 2022. The CQA Plan was submitted as part of the Major Permit Modification Application in September 2022 (DEQ DIN 82573). This report documents the quality assurance activities associated with Cell 13A construction. The scope of services provided by Promus relevant to this report include:

- visual observation of construction activities addressed in the CQA Plan;
- documentation of construction material compliance with the CQA Plan;
- field and laboratory testing to evaluate and document compliance of construction with the CQA Plan; and
- data review, evaluation, compilation, and documentation report preparation.

1.3. Quality Program

The Manufacturing Quality Control (MQC) procedures for this project were set forth by the various MQC and CQC plans developed by various material manufacturers, suppliers, installers, and contractors. The site-specific CQC and CQA procedures for this project were established by the CQA Plan, which includes the requirements for material characteristics, as well as the minimum frequencies of field and laboratory testing for construction verification. In general, MQC and CQC included extensive observations and testing to ensure material conformity and workmanship compliance with the project plans and specifications. CQA activities included oversight, reviews, audits, observations, and testing to verify and support the results of the MQC and CQC programs. Additionally, the CQA program included compilation of the test program results as part of this documentation report.

The CQC efforts performed by the field technicians included monitoring and testing, as well as laboratory testing activities required by the CQA Plan. Promus CQC personnel were on-site essentially full-time during bottom liner and LDS/LCS construction components.

The CQC field technician documented site activities on a daily basis. The observations were summarized in the form of daily field reports (DFRs), which were submitted to Promus CQA staff for review and finalization. DFRs documented project information such as weather, contractor's equipment and personnel on-site, site activities, CQC testing and sampling, and other pertinent information. These DFRs are presented in Appendix A. The CQC representative also recorded digital photographs of site construction and project progress. Selected photographs are provided in Appendix B as a photographic log of construction.

CQA services performed by Promus included pre-construction materials evaluation, direction of the CQC efforts, review of materials compliance/certification submittals, review of field and laboratory CQC data, problem troubleshooting, and preparation of this report. Promus CQA personnel

communicated with CQC field representatives during the construction progress, reviewed DFRs and field and laboratory test data, and performed site visits prior to and during construction.

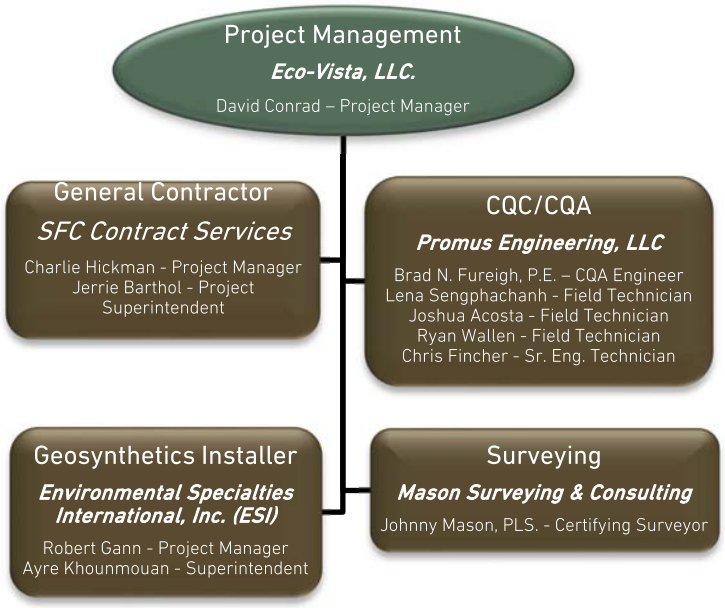
1.4. Construction Chronology

Promus personnel were on site to observe the construction of Cell 13A from about October 2023 to April 2024. The following table illustrates the overall progress of Cell 13A construction activities:

Task	Begin Date	Completion Date
Excavation	August 3, 2023	October 18, 2023
Compacted Clay Liner	October 18, 2023	December 12, 2023
Geosynthetics	December 12, 2023	March 13, 2024
LCS and Protective Cover	February 19, 2024	April 6, 2024

1.5. Project Parties

Waste Management contracted SFC Contract Services, Inc. (SFC) to serve as the General Contractor for the construction of Cell 13A. Surveying was performed by Mason Surveying & Consulting (Mason Surveying) and the geosynthetic materials installation was performed by Environmental Specialties International, Inc. (ESI). Waste Management also contracted CQC/CQA services to Promus and geosynthetic laboratory services to TRI Environmental, Inc (TRI). The inset organizational chart illustrates the organizational structure associated with the construction of Cell 13A. Each of these firms contributed to the quality program for the project.



2. CLAY LINER PRE-CONSTRUCTION TESTING

In accordance with the CQA Plan, pre-construction testing and evaluation were conducted to select adequate fill materials and develop construction compaction criteria for the construction of the compacted clay liner (CCL). The clay material was obtained from an offsite borrow source and was hauled and placed into a stockpile prior to the start of cell construction.

2.1. Materials Evaluation

In summary, representative material of proposed CCL soil was collected from an offsite borrow source prior to hauling the material to the site and tested for suitability. The material was transported

to the geotechnical laboratory for testing as prescribed by the CQA Engineer. The material was evaluated to determine the index and physical properties of the soils. Remolded permeability testing was performed to develop moisture and density conditions that correlated with a high probability of acceptable permeability. The laboratory test results for the CCL pre-construction testing effort are summarized in Table C-1 in Appendix C. Laboratory test reports are also provided in Appendix C. The results of the CCL pre-construction testing are discussed in the following section.

2.2. Clay Liner Construction Recommendations

The test evaluations allowed for the development of compaction acceptance criteria for the primary soil type used from the offsite borrow area. The criteria were developed taking into consideration the index properties of the soil at the site. The CCL compaction standards developed for the acceptance criteria included:

- compaction to at least 95 percent maximum dry density (per the Standard Effort Compaction Test – ASTM D698); and
- moisture content of at least optimum moisture content (per the Standard Effort Compaction Test – ASTM D698).

3. COMPACTED CLAY LINER CONSTRUCTION

In general, construction of the CCL was accomplished by hauling, placing, conditioning, and compacting clay soil hauled from the clay stockpile on the landfill property to form a low permeability soil barrier. The clay liner was placed in four approximately 6-inch thick compacted lifts to form the minimum 24-inch thick layer. The liner construction quality control and quality assurance activities are discussed in the following sections.

3.1. Construction Quality Control

The CCL construction was monitored by visual observations and documentation, field testing, and laboratory testing, as prescribed in the CQA Plan. Each of these CQC aspects is discussed below.

3.1.1. Visual Observation

The CQC technician was on-site during the placement, preparation, and compaction of the CCL. Construction observations associated with the CCL included material consistency, moisture content, lift thickness, compaction effort, and compacted lift thickness. The CCL was visually inspected for the presence of deleterious material. The field observations for these activities were documented by the CQC technician in the DFRs, which are provided in Appendix A. Photographs of CCL construction are included in Appendix B.

3.1.2. Laboratory Testing

Laboratory testing of CCL material included testing samples collected prior to construction and during construction to evaluate material performance and conformance to the requirements of the CQA Plan. Undisturbed samples were collected, as required, in the compacted lifts to evaluate the hydraulic conductivity of the placed soils. Laboratory test results for the CCL construction effort are

summarized in Table C-2 in Appendix C. Laboratory test reports of clay liner material are also provided in Appendix C.

3.1.3. Field Testing

Field testing of the CCL consisted of performing in-place moisture content and density determinations by nuclear methods (ASTM D 6938) on compacted lifts, as necessary, to evaluate compaction efforts and moisture content. The CQC technician performed compaction testing and recorded the test results while comparing the results to requirements established through the pre-construction testing. The CQC technician documented the lift number and locations of the field tests. The CQC technician promptly informed the contractor of the test results. If the results indicated failing conditions, the contractor reworked the area, and the CQC technician then retested the area. This process was repeated until passing conditions were achieved. Table C-3 includes the CCL compaction test results. Figures C-1 through C-4 illustrate the approximate locations of field compaction tests and undisturbed permeability sample locations for each of the four lifts of the CCL.

3.2. Construction Quality Assurance

The CQC observations of the CCL construction, as summarized in the DFRs, were reviewed by the CQA staff on a regular basis. The Promus CQA personnel conferred with the CQC technician occasionally to discuss the observations. In some cases, minor changes to the DFRs were made to correct typos or to further explain various details.

The CQA review of clay liner CQC field and laboratory test results required a comparison of the testing frequencies to required minimums and a comparison of the test results to the requirements of the CQA Plan. Based upon the CQA review of the laboratory data provided in Table C-1 and Table C-2, and the field compaction data provided in Table C-3 in Appendix C, the CCL was constructed in general accordance with the CQA Plan.

Upon completion of the CCL, the clay liner surface was surveyed at the design control points by Mason Surveying. The survey data was compared to the as-built subgrade elevations to determine layer thickness and evaluate conformance. The as-built survey provided by Mason Surveying for Cell 13A is presented in Appendix I. The as-built survey indicated that the constructed layer achieved the minimum thickness of 24 inches.

4. GEOSYNTHETIC CLAY LINER

The first layer of the primary composite liner system is a geosynthetic clay liner (GCL), installed directly of the LDS Geocomposite in the footprint of Cell 13A and directly over the 6-inch thick clay on Site 3 and Site 4. The GCL installed was a Bentoliner NSL, which consists of a sodium bentonite clay encapsulated between two geotextiles, manufactured by Solmax/GSE. The GCL was overlain with 60-mil HDPE geomembrane (primary liner) daily. The following sections discuss the installation methods, construction quality control, and construction quality assurance for the GCL component.

4.1. Construction Quality Control

CQC of the GCL installation was performed by representatives of the installer, ESI, while being observed by a Promus CQA technician. Promus field representatives performed an inventory of the

onsite material and compared the inventory to the approved material list. The surface of the installed LDS geocomposite was inspected by ESI and Promus prior to the GCL installation. The installation was monitored through field observations and documentation. GCL installation activities were documented in DFRs, which are included in Appendix A. Selected photographs of the GCL installation are included in Appendix B.

The following list includes the field observations of the GCL installation that were typically performed:

- inventory of delivered materials,
- inspection of damage or significant hydration,
- handling and storage protocols,
- underlying surface condition and protection during GCL installation,
- deployment of panels and seam overlap,
- proper seaming and supplementary bentonite, as needed,
- traffic on deployed GCL, and
- proper repair of damaged areas.

4.2. Construction Quality Assurance

Promus CQA staff reviewed DFRs and project photos and discussed with CQA field personnel the visual observations and findings. Promus CQA personnel often conferred with the CQA technicians to discuss construction observations. In some cases, typos or minor changes to the DFRs were made to clarify or to further explain various details.

MQC data for the rolls of GCL proposed for construction were submitted by the manufacturer and reviewed by Promus. CQA conformance samples of GCL were also collected and tested by TRI. GCL MQC and CQA conformance test results are presented in Appendix D. Promus CQA personnel reviewed the conformance test results to verify the material satisfied the requirements of the facility CQA Plan.

5. HDPE GEOMEMBRANE LINER

The composite liner design included the installation of a textured 60-mil High-Density Polyethylene (HDPE) geomembrane liner for the secondary and primary liner. The secondary liner was installed in the footprint of Cell 13A and the primary liner was installed over the secondary liner in Cell 13A, as well as over Site 3 and Site 4. The HDPE geomembrane was manufactured by Skaps Industries and installed by ESI.

5.1. Construction Quality Control

CQC of the geomembrane was performed by representatives of the installer, ESI, under the observation of a CQA technician. The CQC criteria for installation of the geomembrane liner are outlined in the CQA Plan. The geomembrane liner installation was monitored by observation and documentation of installation, field, and laboratory testing. The following paragraphs summarize these aspects of CQC activities for the geomembrane installation.

5.1.1. Visual Observations

CQA technicians were present during the geomembrane installation and seaming program. The visual observations were documented in DFRs, which are included in Appendix A. Selected photographs of the installation are included in Appendix B.

The following list includes the field observations that were typically performed:

- delivery inspection for correct inventory, noticeable defects, and proper handling and storage;
- liner subgrade surface preparation and evaluation;
- panel overlap of deployed material;
- panel identification documentation;
- weather variations during seaming;
- trial welding performed by the installer;
- seam cleaning and grinding prior to welding;
- non-destructive seam testing performed by the contractor;
- proper installation at tie-ins and cell limits;
- documentation of seams and patch/repair locations; and
- traffic and equipment on installed materials.

The panels were numbered by the installation contractor's CQC personnel to aid in the installation documentation and to illustrate the panel and seam relationships in the panel diagram. The panel layout diagrams prepared by Mason Surveying illustrate the location of panels, seams, and destructive samples for the installed secondary and primary liners. Each panel was given a consecutive number in the field prefixed by "P-" (Primary) or "S-" (Secondary). This number was recorded on the deployed panel by the CQC. Each panel was logged on the Geomembrane Panel Placement Information form with relevant information such as the panel length. Copies of these forms are provided in Appendix E.

5.1.2. Field Testing

Approximately 30,848 linear feet of fusion welded seams and 12,748 linear feet of extrusion welded seams were documented during the geomembrane installation. The field seams were continuously tested by non-destructive test methods and periodically tested by destructive test methods, per the CQA Plan. Seams were numbered according to the two adjoining panels that formed the seams. For example, seam S-5/S-6 was the seam that was constructed between panels S-5 and S-6. The seam numbers were logged and tracked on Geomembrane Seaming and Testing Observation forms with relevant information such as seam length, welding device, welder's initials, and nondestructive testing results. Copies of the seaming documentation are provided in Appendix E.

Field testing of the geomembrane seams focused on inspecting and documenting the integrity of the seaming process. Field testing was performed by the installation contractor under the observation of CQA field technicians. Field testing of seams included pre-construction trial (or test) welds and seam

integrity testing. The relevant field and laboratory testing methods used to evaluate geomembrane field seams are described in the following paragraphs.

5.1.2.1. Trial Weld Testing

Trial welds (or "test welds") were required daily at the beginning of each seaming period and at least twice per day for equipment used for seam welding. Trial weld CQC testing was performed by ESI on liner samples using the equipment and personnel that would be used for seaming. If the welds failed strength or FTB criteria, adjustments in heating temperature and/or seaming speed were made and additional trial welds were repeated until the welds passed. The results of the test welds performed by ESI were recorded on the Test Weld Information form, which is provided in Appendix E.

5.1.2.2. Seam Integrity Testing

Both fusion and extrusion field seams were nondestructively tested to document seam integrity. Air pressure testing was performed on continuous fusion-welded seams. The results were documented on the Geomembrane Seaming and Testing Observation forms, which are included in Appendix E. Seams that were constructed using extrusion seaming were nondestructively tested using vacuum box testing. Vacuum box testing was also recorded on the Geomembrane Seaming and Testing Observation forms or Geomembrane Repair Information forms in Appendix E for the secondary and primary liners, respectively. Seams that failed to meet the CQA Plan requirements were repaired and retested.

5.1.2.3. Repair Testing

During the installation operations, the deployed geomembrane was monitored for areas of potential damage. Areas of observed liner damage were marked by the CQA technician for repair and documented, as necessary. Extrusion welds of repairs were nondestructively tested using vacuum box testing. Repairs on the geomembrane liner and subsequent testing of repairs were documented on a Geomembrane Repair Information log. These logs, which are presented in Appendix E, include locations of repair areas and provide the dates of the nondestructive tests on the repairs.

5.1.2.4. Destructive Testing

In addition to the nondestructive seam testing, the CQA field technician marked locations of samples to be obtained from the constructed seams at an average interval of no greater than one sample per 500 linear feet of welded seam, as required by the CQA Plan. During geomembrane installation, 94 destructive seam tests (DS-#) were initially collected and evaluated. Of these, 68 samples were performed on fusion-welded seams and 26 samples were performed on extrusion-welded seams or repairs. The testing resulted in an approximate average test frequency of one test per 454 linear feet of fusion-welded seam and one test per 490 linear feet of extrusion-welded seam.

The destructive seam samples were shipped to TRI Environmental, Inc. (TRI) for laboratory seam strength testing, as specified in the CQA Plan. Each of the samples exhibited acceptable laboratory results, except five samples. Samples DS-5, DS-12, DS-16, PDS-12, and CDS-1 failed laboratory testing by TRI. Destruct samples PDS-14 and CDS-4 failed in field testing and therefore those samples were not sent to the lab. In accordance with the corrective measures outlined in the CQA Plan, additional samples were collected on each side of the seaming paths of the failed seam sample locations and labeled "A" and "B" (e.g. DS-5A and DS-5B). Of the 14 retest samples, CDS-1A failed

laboratory testing by TRI; therefore, an additional sample, CDS-1AA was collected 10-ft after CDS-1A. CDS-1AA exhibited acceptable laboratory test results. The entire seam between passing samples was capped by ESI. Repair and testing protocols on the destructive seam test locations were performed and documented. Destructive seam sample results provided by TRI are presented in Appendix E. The geomembrane liner panel layout drawing for the secondary and primary liner systems, prepared by Mason Surveying and provided in Appendix I, illustrates the destructive seam test sample locations.

5.2. Construction Quality Assurance

Promus CQA staff reviewed DFRs and project photos and discussed with the CQA field personnel the visual observations and findings. In some cases, typos or other minor changes to the DFRs were made to clarify or to further explain various details.

Prior to shipping the geomembrane to the site, the HDPE material manufacturer performed quality testing of the material as specified in the CQA Plan. Additionally, CQA samples of material were cut from the production run and sent to TRI for conformance testing. These laboratory data were reviewed by CQA personnel to evaluate the material conformance to the requirements of the CQA Plan. The laboratory conformance results provided by the manufacturer and test results provided by TRI are included in Appendix E. The results indicated compliance with the project requirements.

The results of the destructive seam testing, performed by TRI, were also reviewed by CQA personnel. The results of the destructive seam testing and the frequency of the testing satisfy the requirements of the CQA Plan. The destructive seam test results provided by TRI are included in Appendix E. The geomembrane liner panel layout drawing for the secondary and primary liners was prepared by Mason Surveying and is included in Appendix I. The panel layout drawing illustrates the location of seams, panel numbers, anchor trenches, and destructive seam test sample locations.

6. DRAINAGE GEOCOMPOSITE

The Leak Detection System (LDS) drainage geocomposite (SKAPS 6-200-6) was installed directly on the secondary HDPE liner throughout the footprint of Cell 13A to facilitate drainage and protect the secondary geomembrane. The geocomposite consisted of a 200 mil HDPE geonet heat bonded to 6-oz non-woven geotextile on both sides of the geonet. The Leachate Collection System (LCS) drainage geocomposite (SKAPS 6-250-6) was installed directly on the primary HDPE liner throughout the cell to facilitate drainage and protect the primary geomembrane. The geocomposite consisted of a 250 mil HDPE geonet with a 6-oz geotextile heat bonded to both sides. The following sections discuss the CQC and CQA activities performed during installation.

6.1. Construction Quality Control

The CQC criteria for geocomposite material acceptance are outlined in the CQA Plan. The geocomposite installation CQC activities generally consisted of observing the deployment and seaming of the geocomposite material. The CQA field technician was present during the deployment and installation of the geocomposite. The installation observations were documented in DFRs. The DFRs documenting the geocomposite installation are included in Appendix A. Selected photographs of the installation are included in Appendix B. The following list includes field observations that were typically performed:

- removal of objects on the geomembrane surface;
- confirming geocomposite inventory;
- geocomposite panel overlap and seaming;
- areas needing repair;
- geomembrane protection during geocomposite installation; and
- proper placement at the tie-in and anchor trench.

6.2. Construction Quality Assurance

Promus CQA staff reviewed DFRs and project photos and discussed with CQA field personnel the visual observations and findings. The Promus CQA personnel often conferred with the CQA technicians to discuss the observations. In some cases, typos or minor changes to the DFRs were made to clarify or to further explain various details.

The manufacturer's geocomposite testing data (MQC data) were reviewed by Promus CQA staff and the results were compared to the project requirements. Additionally, samples of the proposed inventory were collected for CQA conformance testing. Conformance test results were reviewed and approved prior to the material being sent to the site. A copy of the drainage geocomposite MQC and CQA conformance test results are provided in Appendix E. The data provided indicates the geocomposite materials placed over the geomembrane for the LDS and LCS satisfy the requirements of the project.

7. PROTECTIVE SOIL LAYER AND LEACHATE CONVEYANCE SYSTEM

The LDS and LCS corridors were designed with a 6-inch diameter perforated HDPE pipe, covered with aggregate and wrapped in a 12-oz/sy non-woven geotextile. The LDS and LCS corridor extend from the west end of Cell 13A to the temporary risers located at the east end of Cell 13A, as shown on Detail 1, Sheet 25 of the Permit Drawings (DIN 80454). A 36-inch diameter vertical riser was installed for the temporary LCS riser. The LCS riser is equipped with two leachate pumps to evacuate leachate from the cell. An 18-inch diameter HDPE pipe was installed for the temporary LDS riser. One pump was installed in the LDS riser for leachate removal. Automatic controls were installed for the pumps and they are equipped with a high level alarm, and preset elevations to turn the pumps on and off. The sump risers were connected to a temporary leachate forcemain that was tied-into the existing dual contained forcemain located south of existing Cell 1. Cell 13A is the first section of Cell 13 to be constructed as shown on the Development Plan (Sheet 8 of 30 from the Permit Drawings, DIN 80454). Future Cell 13B will also utilize temporary sump risers for the LCS and LDS. Future Cell 13C will be constructed with the permanent LDS and LCS sumps.

The protective cover for Cell 13A was designed to be a 12-inch thick layer of on-site soils with a permeability of $k \geq 1x10^{-3}$ cm/sec. Since the existing final cover for the North Phase of the closed landfill had to be removed as part of this construction effort, and the protective cover soils in the final cover were from onsite borrow and previously approved, that material was selected for reuse as protective cover in Cell 13A.

7.1. Construction Quality Control

The Promus CQC technician was on-site during installation of the protective cover and installation of the LCS components. Construction observations associated with this activity included monitoring

material consistency, layer thickness, pipe welding operations and monitoring any potential damage occurring to the geosynthetics. The LCS piping installation was monitored and compared to the design drawings. The field observations were documented by the CQC technician in the DFRs, which are provided in Appendix A. Photographs of drainage layer and LCS construction are included in Appendix B.

7.1.1. Laboratory Testing

The preconstruction sample result for protective cover soils was obtained from the Final Cover CQA Report (DEQ DIN 57024). Construction samples of the protective cover materials and leachate collection system aggregate were obtained and submitted for geotechnical laboratory testing in accordance with the CQA Plan. The aggregate placed in the LDS and LCS corridors and sumps were also tested for conformance. Laboratory testing of the protective cover soils is summarized in Table H-1, and testing of the LDS and LCS aggregate is provided in Table H-2 of Appendix H. Laboratory results of the protective cover soils, and LDS and LCS aggregate are also included in Appendix H.

7.1.2. Thickness Control

The thickness of the protective cover material was monitored during placement by the field technician. The thickness of the placed material was confirmed through civil survey. The as-built top of protective cover survey provided by Mason Surveying is presented in Appendix I. The survey data in Appendix I indicates the minimum thickness of 12 inches was achieved in the protective cover material.

7.2. Construction Quality Assurance

Promus CQA staff reviewed DFRs and project photos and discussed with CQC personnel the visual observations and findings. The Promus CQA personnel conferred with the CQC technicians on a regular basis to discuss the observations. In some cases, typos or minor changes to the DFRs were made to clarify or to further explain various details. The CQA staff reviewed the material test results and survey data for compliance with the project requirements. The protective cover, and LDS and LCS aggregate laboratory test results indicated general conformance with the requirements of the CQA Plan.

8. CONCLUSIONS

This report of the CQA activities for the compacted clay liner, secondary and primary geomembrane liners, leak detection and leachate collection systems, and soil protective cover specifically for the Cell 13A construction at the Eco-Vista Landfill has been prepared in accordance with generally accepted geotechnical and environmental engineering practices for the exclusive use of Eco-Vista, LLC., its agents and/or clients. No warranty either expressed or implied is made.

Our conclusions are based upon site observations and the field and laboratory testing performed during the course of this project. We have assumed that information provided to us by others is correct and true, unless otherwise noted. The information contained within this report is, to the best of our knowledge and belief, true, accurate, and complete. If additional information or changes in previous information become available in the future, we request the opportunity to review and change our recommendations and conclusions, as necessary.

Based on the observations, in-place testing, laboratory testing, and CQA review of testing and documentation performed by the Promus Engineering, LLC representatives, it is our professional judgment that the elements within our work scope constructed during this project, as documented herein, have been constructed in substantial accordance with the project CQA Plan and industry accepted procedures and methodologies.

8.1. Variance

The maximum particle size for onsite soil protective cover is 1-inch according to Table 1 of the CQA Plan. The soils used for protective cover in Cell 13A were previously approved protective cover soils used on the north phase of the final cover for the closed Class 1 Landfill. The construction samples obtained for the existing soils indicated some particles slightly greater than 1-inch. The material achieved the required permeability and there was no indication that the slightly larger particle size would have any negative impact on the performance of the liner and leachate collection system. Therefore, the material was approved for reuse as protective cover for Cell 13A.

8.2. Sump Calibration

Permit Condition 30 of Permit 0290-S1-R4 requires documentation of sump calibration for the LDS and LCS to be submitted with the CQA report. The purpose of the sump calibration is to develop an alternative method to measure the quantity of leachate discharged in the event of a flow meter malfunction. Due to the configuration of the temporary LDS and LCS sumps for Cell 13A, it was determined the sump calibration would likely not satisfy the intent of the exercise, and the calibration was intended for the permanent sump configuration, which will be constructed in Cell 13C. As a backup, the site has installed hour meters to record the pump's run times. Therefore, if a flow meter malfunctions, the pump's run time during the malfunction period can be used to calculate the volume pumped.

This Construction Quality Control and Construction Quality Assurance Documentation Report was prepared by me and/or the project CQA activities were performed under my direct supervision:

By: _____ April 13, 2024

Brad N. Fureigh, P.E. Date
Arkansas Professional Engineer No. 14977

Benchmark Table			
Northing	Easting	Elevation	ID
666639.51	646397.86	1299.17	PNT-2
665515.18	644920.35	1296.09	PNT-10
662089.30	647253.71	1195.31	PNT-21

LEGEND

- PROPERTY BOUNDARY
- CLASS 1 WASTE DISPOSAL BOUNDARY
- CLASS 4 WASTE DISPOSAL BOUNDARY
- CELL BOUNDARY
- EXISTING CLOSED AREA
- 0.00 PNT-21 — PERMANENT SITE MONUMENT
- NE-1 — GROUNDWATER MONITORING WELL
- GP-11 — GAS MONITORING PROBE
- OUTFALL — EXISTING STORMWATER OUTFALL
- APPROXIMATE LIMITS OF CONSTRUCTION AREA

NOTE:

TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THIS FIGURE WAS OBTAINED FROM SOUTHERN RESOURCES MAPPING CORPORATION AND WAS DATED DECEMBER 5, 2023.

REV	DATE	DES. BY	DRA. BY	APPR. BY	DESCRIPTION

PREPARED FOR: WASTE MANAGEMENT OF ARKANSAS, INC.

PREPARED BY: PROMUS ENGINEERING www.promusengineering.com

SITE LAYOUT MAP

CELL 13A CQC & CQA DOCUMENTATION REPORT
ECO VISTA CLASS 1 LANDFILL
TONTITOWN, ARKANSAS

PROJECT NO.: 230181

FIGURE 1

Last Saved By: JAMES Date: 4/11/2024 2:37 PM MFR PROJECTS-ACTIVE-FIELD\230181-WMEV-ECOVISTA-CELL-13A-CQA\PROJECT DOCS\MISC. FIGURES\01-SITE LAYOUT MAP.DWG

APPENDICES

APPENDIX A

DAILY FIELD REPORTS

DAILY FIELD REPORT

DFR Report No.: 230181-033124-01 Rev.:3 **Date of Field Activity:** 03-30-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 171

Technician Time

Arrive Site: 8:00 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 4:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo EC220E, Volvo ECR88D, Komastu D71 px, Komastu D65 px, Volvo A40G

Personnel Working: SFC 6

Weather Conditions: AM: Partly Cloudy PM: Mostly Cloudy

Temperature Observations: High 73 Low 61

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC complete the protective cover. Observed SFC backfilling tie in trenches.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Construction of headwall

DFR by: Ryan Wallen **DFR Review/Approval by:** Jonathan King

Jonathan King

DAILY FIELD REPORT

DFR Report No.: 230181-032924-01 Rev.:3 **Date of Field Activity:** 03-29-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 8:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 8:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo EC220E, Volvo ECR88D

Personnel Working: SFC 6

Weather Conditions: AM: Mostly Sunny PM: Mostly Sunny

Temperature Observations: High 77 Low 55

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding tie in to forcemain at Edwards basin.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue construction of headwall

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032824-01 Rev.:2 **Date of Field Activity:** 03-28-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 8:00 am Depart Site: 4:30 pm Lunch: 0:30 hrs On-site: 8:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo EC220E, Volvo ECR88D

Personnel Working: SFC 6

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 66 Low 36

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding tie in to forcemain at the new, west headwall and the "supersump."

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Make tie in at Edwards basin. Start construction of the west headwall. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032724-01 Rev.:2 **Date of Field Activity:** 03-27-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 8:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 8:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 55 Low 35

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue welding pipe. Start construction of the west head wall.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032624-01 Rev.:2 **Date of Field Activity:** 03-26-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 8:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 8:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Cloudy

Temperature Observations: High 45 Low 30

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding 18” pipe. Observed SFC excavating a trench to tie into existing pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue installing 18” pipe. Continue deploying protective cover. Begin construction of head wall.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032324-01 Rev.:3 **Date of Field Activity:** 03-23-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 8:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 8:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Overcast/Cloudy PM: Clear

Temperature Observations: High 59 Low 37

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue installing 18” pipe. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032224-01 Rev.:2 **Date of Field Activity:** 03-22-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 1:00 pm Lunch: 0:30 hrs On-site: 5:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Precipitation PM: Overcast/Cloudy Precip. Type: Rain Precip.: .03

Temperature Observations: High 65 Low 45

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue installing the 18” pipe. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032124-01 Rev.:3 **Date of Field Activity:** 03-21-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 68 Low 50

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue installing 18” gas collection pipe.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-032024-01 Rev.:2 **Date of Field Activity:** 03-20-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Partly Cloudy PM: Partly Cloudy

Temperature Observations: High 77 Low 45

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue welding 18” pipe. Start construction of headwall.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031924-01 Rev.:2 **Date of Field Activity:** 03-19-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 66 Low 30

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC welding 18” pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031824-01 Rev.:2 **Date of Field Activity:** 03-18-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 45 Low 28

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Start the installation of the 18” pipe and headwall.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031624-01 Rev.:2 **Date of Field Activity:** 03-16-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12

Weather Conditions: AM: Clear PM: Mostly Sunny

Temperature Observations: High 66 Low 39

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC transporting 18” HDPE pipe to staging area.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Start installing 18” pipe toward headwall.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031524-01 Rev.:3 **Date of Field Activity:** 03-15-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568,

Personnel Working: SFC 12, ESI 2

Weather Conditions: AM: Overcast/Cloudy PM: Partly Cloudy

Temperature Observations: High 64 Low 39

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC transporting 18” HDPE pipe to staging area. Observed SFC excavating the temporary road onto the cell floor. Observed ESI patching hole in rain blanket.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031424-01 Rev.:3 **Date of Field Activity:** 03-14-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 3:00 pm Lunch: 0:30 hrs On-site: 7:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 12

Weather Conditions: AM: Precipitation PM: Precipitation Precip. Type: Rain Precip.: 3

Temperature Observations: High 72 Low 46

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031324-01 Rev.:4 **Date of Field Activity:** 03-13-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 7:00 pm Lunch: 0:30 hrs On-site: 11:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 12, ESI 14

Weather Conditions: AM: Clear PM: Mostly Sunny

Temperature Observations: High 77 Low 61

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC excavating the anchor trench for the rain blanket. Observed ESI installing the rain blanket. Observed SFC backfilling the anchor trench. Observed ESI deploying liner on the stormwater drainage ditch. Observed ESI weld rain flap on diversion berm.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031224-01 Rev.:2 **Date of Field Activity:** 03-12-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 6:30 pm Lunch: 0:30 hrs On-site: 11:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 12, ESI 14

Weather Conditions: AM: Partly Cloudy PM: Partly Cloudy

Temperature Observations: High 72 Low 55

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC excavating the anchor trench for the rain blanket. Observed ESI installing the rain blanket. Observed SFC backfilling anchor trench.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue deploying rain blacket.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-031124-01 Rev.:2 **Date of Field Activity:** 03-11-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 12, ESI

Weather Conditions: AM: Partly Cloudy PM: Clear

Temperature Observations: High 66 Low 36

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing rock around the vertical leachate collection riser. Observed ESI staging material for the rain blanket. Observed SFC installing protective cover. Observed SFC excavating the anchor trench for the rain blanket.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Start installing rain blanket.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030924-01 Rev.:2 **Date of Field Activity:** 03-09-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 6, ESI 12

Weather Conditions: AM: Overcast/Cloudy PM: Partly Cloudy

Temperature Observations: High 54 Low 37

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed ESI installing the rain flap. Observed SFC installing rock around the vertical leachate collection riser.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Start installing rain blaket.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030824-01 Rev.:2 **Date of Field Activity:** 03-08-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568, Deere 331G

Personnel Working: SFC 6, ESI 12

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 61 Low 36

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC backfilling anchor trench. Observed ESI installing the rain flap.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Start installing the rain blanket.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030724-01 Rev.:2 **Date of Field Activity:** 03-07-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Precipitation PM: Overcast/Cloudy Precip. Type: Rain Precip.: .2

Temperature Observations: High 64 Low 54

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC backfilling anchor trench.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Install rain flaps and rain blanket. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: Rev.:2 **Date of Field Activity:** 03-06-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Cloudy

Temperature Observations: High 70 Low 48

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC constructing rock berm. Observed ESI deploying geocomposite.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Start installing rain flap. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030624-01 Rev.:4 **Date of Field Activity:** 03-05-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 1:00 hrs On-site: 9:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Cloudy

Temperature Observations: High 72 Low 47

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC constructing rock berm. Observed ESI deploying GCL/Membrane.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue constructing rock berm. Start deploying geocomposite. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030424-01 Rev.:2 **Date of Field Activity:** 03-04-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Partly Cloudy PM: Mostly Cloudy

Temperature Observations: High 77 Low 56

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC backfilling anchor trench.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying GCL/geomembrane. Continue deploying protective cover. Start installing rock berm.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030224-01 Rev.:3 **Date of Field Activity:** 03-02-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 70 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed ESI deploying GCL/membrane. Observed SFC excavating an anchor trench.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying geo-synthetics, continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-030124-01 Rev.:2 **Date of Field Activity:** 03-01-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Mostly Sunny PM: Overcast/Cloudy

Temperature Observations: High 57 Low 37

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed ESI deploying geocomposite. Observed SFC excavating an anchor trench.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying geo-synthetics, continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022924-01 Rev.:2 **Date of Field Activity:** 02-29-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:15 pm Lunch: 0:30 hrs On-site: 9:48 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 55 Low 27

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying GCL/geomembrane.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying GCL/geomembrane. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022824-01 Rev.:3 **Date of Field Activity:** 02-28-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 6:15 pm Lunch: 0:30 hrs On-site: 10:48 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Partly Cloudy PM: Partly Cloudy

Temperature Observations: High 56 Low 21

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying GCL/geomembrane. Took density tests on the west basin, those tests met CQA requirements.

Sampling and Testing

Tests Performed: Nuclear Moisture & Density

Samples Collected: Other

Planned Activities: Continue deploying GCL/geomembrane. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022724-01 Rev.:2 **Date of Field Activity:** 02-27-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Partly Cloudy PM: Overcast/Cloudy

Temperature Observations: High 81 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying GCL/geomembrane. Observed SFC installing vertical leachate collection sump.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying geo-synthetics. Continue deploying protective over, continue installing LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022624-01 Rev.:2 **Date of Field Activity:** 02-26-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 10:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N, Cat CS568

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Mostly Sunny PM: Mostly Cloudy

Temperature Observations: High 77 Low 64

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI welding Secondary/Primary liner. Observed SFC installing riser pipe on the LDS. Observed SFC excavating new anchor trench. Observed ESI welding skirt on the riser pipe. Observed SFC smooth drum rolling cell.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Start deploying GCL/Membrane. Continue installing LCS. Continue deploying protective cover.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022424-01 Rev.:5 **Date of Field Activity:** 02-24-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 66 Low 37

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying geocomposite. Observed ESI welding Secondary/Primary liner. Observed SFC installing riser pipe on the LDS.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue installing LCS. Continue deploying protective cover. Start deploying GCL/membrane.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022324-01 Rev.:2 **Date of Field Activity:** 02-23-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX, Cat D6N

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 66 Low 37

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stockpiling clay in west basin. Observed SFC transporting red material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying geocomposite. Observed ESI welding South Tie in.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying geocomposite. Continue installing LCS. Continue welding liner. Continue deploying clay to the west basin.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-022224-01 Rev.:2 **Date of Field Activity:** 02-22-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kobelco SK260, Bobcat T740, Volvo A406, Volvo EC220E, Deere 331G, Komatsu PC 490, Komatsu D65 PX, Komatsu D71 PX

Personnel Working: SFC 6, ESI 14

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Cloudy

Temperature Observations: High 66 Low 42

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stockpiling clay in west basin. Observed SFC transporting red material to staging area. Observed SFC deploying protective cover. Observed SFC installing LCS. Observed ESI deploying geocomposite. Observed ESI welding south Tie in.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying protective cover. Continue installing LCS. Continue welding liners.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

General:

DFR Report No.: 022124	Date of Field Activity: 2/21/24	Project: Eco-Vista Cell 13A CQA	Tech(s): Chris Fincher
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: ESI Rep.: Ayre Khounmouan

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1730 hrs On-site: 10.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

ESI-Extrusion Welders, Vacuum Box, John Deere Skid Steer, Bobcat Skid Steer; SFC-Komatsu PC490lc Excavator, (2) Volvo Off-Road Haul Trucks, CAT D6N lgp Dozer, Volvo ECR88D Mini-Excavator.

Summary:

ESI continued extrusion welding the anchor trench cap along the south tie-in/future lined cell. Vacuum box testing followed the seaming and four destructive samples were collected. Repairs made at destructive sample locations were vacuum box tested.

At approximately 0700, SFC began using survey equipment to mark the temporary sump and expansion berm layout on the liner. SFC continued spreading protective cover soils throughout the western portion of the cell. A Komatsu excavator is being utilized to remove final protective cover soils from the north face of the closed class 1 landfill and load into the haul trucks for transport. The CAT D6 with low-ground pressure is being used to spread the protective cover. The Volvo mini-excavator with an hdpe pipe affixed over the blade was utilized throughout the day to dress up the gravel around the LCS.

Tests Performed:

(4) Destructive Seam samples collected for analysis by 3rd part laboratory.

Problems Noted: Problem Resolution:

Planned Activities:

ESI plans to continue anchor trench cap welding and geocomposite deployment. SFC will continue spreading protective cover.

Weather Conditions:

AM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 75 Low 58 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Chris Fincher DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 022024	Date of Field Activity: 2/20/24	Project: Eco-Vista Cell 13A CQA	Tech(s): Chris Fincher
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: ESI Rep.: Ayre Khounmouan

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0730 hrs Depart Site: 1700 hrs On-site: 10.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

ESI-Extrusion Welders, Vacuum Box, John Deere Skid Steer, Bobcat Skid Steer; SFC-Komatsu PC490lc Excavator, (2) Volvo Off-Road Haul Trucks, CAT D6N lgp Dozer

Summary:

ESI continued extrusion welding the anchor trench cap, now along the south tie-in/future lined cell. Vacuum box testing followed the seaming and 10 destructive samples were collected from the north and south seams.

SFC continued spreading protective cover soils throughout the western portion of the cell. A Komatsu excavator is being utilized to remove final protective cover soils from the north face of the closed class 1 landfill and load into the haul trucks for transport. The CAT D6 with low-ground pressure is being used to spread the protective cover. Later in the afternoon, SFC began mounding up the gravel around the LCS pipe using an excavator with HDPE piping covering the teeth.

Tests Performed:

(10) Destructive Seam samples collected for analysis by 3rd part laboratory.

Problems Noted: Problem Resolution:

Planned Activities:

ESI plans to continue anchor trench ap welding and geocomposite deployment. SFC will continue spreading protective cover and plans to make a crossing over the LCS to allow protective cover spreading throughout the south side of the cell.

Weather Conditions:

AM| ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 69 Low 44 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Chris Fincher DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 021924	Date of Field Activity: 2/19/24	Project: Eco-Vista Cell 13A CQA	Tech(s): Chris Fincher
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: ESI Rep.: Ayre Khounmouan

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 1330 hrs Depart Site: 1700 hrs On-site: 3.50 hrs Travel: 4.00 hrs Mileage: 230

Daily Field Notes:

Equipment Operating:

ESI-Extrusion Welder, Vacuum Box, John Deere Skid Steer, Bobcat Skid Steer; SFC-Komatsu PC490lc Excavator, (2) Volvo Off-Road Haul Trucks, CAT D6N lgp Dozer

Summary:

ESI continued extrusion welding the anchor trench cap along the north tie-in. Vacuum box testing followed the seaming. ESI also deployed geocomposite throughout the lined areas, marking destruct locations on top for survey. Geocomposite seams were zip-tied and leistered according to the CQA Plan.

SFC began spreading protective cover soils throughout the western portion of the cell. A Komatsu excavator is being utilized to remove final protective cover soils from the north face of the closed class 1 landfill and load into the haunt trucks for transport. The CAT D6 with low-ground pressure is being used to spread the protective cover.

Tests Performed:

(6) Destructive Seam Samples sent to 3rd party laboratory for analysis.

Problems Noted: Problem Resolution:

Planned Activities:

ESI plans to continue anchor trench cap welding and geocomposite deployment. SFC will continue spreading protective cover..

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 63 Low 34 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Chris Fincher DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

DFR Report No.: 230181-021724-01 Rev.:3 **Date of Field Activity:** 02-17-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:20 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:12 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Deere 331G, Volvo A406, Komatsu D71PX

Personnel Working: ESI- 16 SFC-5

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 32 Low 25

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI welding cap on south anchor trench. Observed ESI welding tie in on the north side. Observed ESI welding Secondary/Primary liner. Observed SFC transporting clay to staging area. Observed SFC transporting rock to staging area. Observed SFC deploying rock on LCS. Day cut short due to rain.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying rock to LCS. Continue welding Cap, south tie in and Secondary/Primary liner.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-021624-01 Rev.:4 **Date of Field Activity:** 02-16-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 11:00 am Lunch: 0:00 hrs On-site: 4:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Deere 331G, Volvo A406, Komatsu D71PX

Personnel Working: ESI-16, SFC-5

Weather Conditions: AM: Precipitation PM: Precip. Type: Showers Precip.: 1

Temperature Observations: High 55 Low 46

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI welding cap on south anchor trench. Observed ESI welding tie in on north side. Observed ESI welding liner. Observed SFC transporting clay to staging area. Observed SFC transporting rock to staging area. Observed SFC deploying rock on LCS. Day cut short due to rain.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue welding cap, secondary and primary liner and tie-in. Continue deploying rock on LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-021524-01 Rev.:2 **Date of Field Activity:** 02-15-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:15 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:18 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Red

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Deere 331G, Volvo A406, Komatsu D71PX

Personnel Working: ESI- 16 SFC-5

Weather Conditions: AM: Clear PM: Mostly Sunny

Temperature Observations: High 66 Low 36

Daily Summary of Activities: Observed and reported construction activities performed on site by SFC and ESI. Observed ESI welding cap strips on south anchor trench. Observed ESI welding tie-in on northside. Observed ESI welding S/P liner. Observed SFC transporting clay and rock to staging area on west side of Cell 13A. Observed SFC deploying rock in the LCS trench, working west to east.

*Note

S = secondary liner

P = primary liner

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue welding cap, s/p and tie-in. Countinue installing piping and deploying rock to LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Brad Fureigh

DAILY FIELD REPORT

DFR Report No.: 230181-021424-01 Rev.:2 **Date of Field Activity:** 02-14-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:15 am Depart Site: 5:00 pm Lunch: 1:00 hrs On-site: 8:48 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Deere 331G, Volvo A406, Kobelco SK260, Komatsu D71PX

Personnel Working: ESI-16, SFC-5

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 66 Low 36

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI welding cap on south anchor trench. Observed ESI welding tie in on northside. Observed SFC backfilling anchor trench. Observed ESI welding secondary/primary liner. Observed SFC transporting clay to staging area. Observed ESI deploying geocomposite. Observed SFC transporting rock to staging area. Observed SFC deploying rock on LCS.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue welding tie in, cap and secondary/primary. Countinue deploying rock on LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-021324-01 Rev.:2 **Date of Field Activity:** 02-13-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:20 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:42 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740, Deere 331G, Volvo A406, Kobelco SK260

Personnel Working: ESI- 16 SFC-5

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 65 Low 34

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI welding cap on south anchor trench. Observed ESI welding tie in on northside. Observed SFC transporting rock to staging area. Observed SFC deploying rock on leachate collection system (LCS). Observed SFC backfilling anchor trench. Observed ESI welding secondary/primary liner. Observed SFC transporting clay to staging area.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue deploying rock on LCS. Countinue welding the cap, tie in and secondary/primary liner. Countinue deploying geocomposite.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-021124-01 Rev.:2 **Date of Field Activity:** 02-11-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:30 am Depart Site: 12:45 pm Lunch: 0:00 hrs On-site: 5:18 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T740,

Personnel Working: ESI- 16

Weather Conditions: AM: Overcast/Cloudy PM: Precipitation Precip. Type: Rain Precip.: .1

Temperature Observations: High 41 Low 32

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI welding cap on anchor trench. Observed ESI welding tie in on northside.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue welding cap, secondary/primary and tie in. Continue deploying rock on leachate collection pipe.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-021024-01 Rev.:2 **Date of Field Activity:** 02-10-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 20

Technician Time

Arrive Site: 7:00 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 10:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu D71 PX, Deere 331G, Bobcat T740, Volvo A406, D65 PX,

Personnel Working: SFC- 8, ESI- 16

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Cloudy

Temperature Observations: High 54 Low 35

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stock piling clay material. Observed SFC deploying clay to west basin. Observed ESI welding cap on anchor trench. Observed SFC transporting rock to staging area. Observed SFC deploying rock to leachate collection pipe.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue welding cap/tie in. Continue deploying rock. Start deploying geocomposite.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020924-01 Rev.:2 **Date of Field Activity:** 02-09-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:20 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:42 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo EC220E, Komatsu D71 PX, Kobelco SK260 LC, Deere 331G, Bobcat T740, Volvo A406, Komatsu PC490 LC, D65 PX,

Personnel Working: SFC- 8, ESI- 16

Weather Conditions: AM: Overcast/Cloudy PM: Mostly Sunny

Temperature Observations: High 72 Low 45

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stock piling clay material. Observed SFC transporting clay material to staging area. Observed SFC backfilling/compacting anchor trench. Observed ESI welding cap on anchor trench. Observed SFC transporting rock to staging area. Observed SFC deploying rock onto LCS. Observed ESI deploying GCL/Geomembrane. Joshua Acosta was on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue deploying rock on LCS, deploy geocomposite on remainder of cell, countinue deploying clay on west basin.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020824-01 Rev.:2 **Date of Field Activity:** 02-08-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:30 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo EC220E, Komatsu D71 PX, Kobelco SK260 LC, Deere 331G, Bobcat T740, Volvo A406, Komatsu PC490 LC, D65 PX,

Personnel Working: SFC- 8, ESI- 16

Weather Conditions: AM: Mostly Cloudy PM: Mostly Sunny

Temperature Observations: High 70 Low 45

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stock piling clay material. Observed SFC transporting clay material to staging area. Observed SFC backfilling/compacting anchor trench. Observed ESI welding cap on anchor trench. Observed SFC transporting rock to staging area. Observed SFC deploying rock onto leachate collection system (LCS). Joshua Acosta was on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Countinue deploying geo-synthetics. Countinue deploying rock onto LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020724-01 Rev.:3 **Date of Field Activity:** 02-07-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:30 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo EC220E, Komatsu D71 PX, Kobelco SK260 LC, Deere 331G, Bobcat T740, Volvo A406, Komatsu PC490 LC, D65 PX,

Personnel Working: SFC- 8, ESI- 16

Weather Conditions: AM: Partly Cloudy PM: Mostly Cloudy

Temperature Observations: High 66 Low 50

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC stock piling clay material. Observed SFC transporting clay material to staging area. Observed SFC backfilling/compacting anchor trench. Observed ESI deploying GCL/Geomembrane. Joshua Acosta was on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue backfilling anchor trench, continue deploying GCL/Geomembrane, deploying geocomposite.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020624-01 Rev.:2 **Date of Field Activity:** 02-06-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:10 am Depart Site: 6:00 pm Lunch: 0:00 hrs On-site: 10:48 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Deere 331G, Bobcat T740, Komatsu PC490 LC, Volvo A406, Kobelco SK260 LC, Volvo EC220E, Komatsu D71PX

Personnel Working: SFC- 6 ESI- 16

Weather Conditions: AM: Mostly Sunny PM: Mostly Cloudy

Temperature Observations: High 64 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting clay material to stock pile. Observed SFC transporting clay material to staging area. Observed SFC backfilling/compacting north anchor trench. Observed ESI deploying GCL/Geomembrane.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying GCL/Geomembrane, continue backfilling anchor trench.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020224-01 Rev.:2 **Date of Field Activity:** 02-02-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:00 am Depart Site: 6:30 pm Lunch: 0:30 hrs On-site: 11:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu pc 490, Bobcat T740, Kubota x900, Deere 331G, Komatsu D65 PX, Volvo A406

Personnel Working: SFC 5, ESI 18

Weather Conditions: AM: Mostly Cloudy PM: Mostly Cloudy

Temperature Observations: High 72 Low 46

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting clay material. Observed SFC backfilling anchor trench. Observed SFC compacting anchor trench. Observed SFC constructing temporary ramp onto cell floor. Observed ESI deploying geo-composite. Joshua Acosta was on site.

Problems Noted: PDS-14 failed. 14A failed back to previous panel. Panel 58-59 whole seam failed. PDS-12 failed.

Problem Resolution: Capped entire seam on panel 58-59. Sending in PDS-12A/12B

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Deploying geo-composite, start installing LCS.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-020124-01 Rev.:2 **Date of Field Activity:** 02-01-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Nuclear Density Gauge Mileage: 40

Technician Time

Arrive Site: 7:20 am Depart Site: 6:00 pm Lunch: 0:30 hrs On-site: 10:12 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu pc 490, Bobcat T740, Kubota x900, Deere 331G

Personnel Working: SFC 5, ESI 18

Weather Conditions: AM: Mostly Cloudy PM: Mostly Sunny

Temperature Observations: High 64 Low 46

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI deploying GCL. Observed ESI deploying geomembrane. Panels 56-70 . Observed SFC transporting GCL from stock pile to staging areas around cell. Oberved ESI transporting geo-membrane to staging area. Performed 6 Nuclear Density Tests (NDTs) on west basin floor/ slope. Tests met CQA compaction requirements. Observed ESI deploying geo-composite on west slope. Joshua Acosta was on site.

Sampling and Testing

Tests Performed: Nuclear Moisture & Density

Samples Collected:

Planned Activities: Continue deploying geo-synthetics, start installing Leachate Collection System.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-013124-01 Rev.:2 **Date of Field Activity:** 01-31-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Nuclear Density Gauge Mileage: 40

Technician Time

Arrive Site: 7:15 am Depart Site: 5:15 pm Lunch: 0:30 hrs On-site: 9:30 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu pc 490, Bobcat T740, Kubota x900, Cat D5N, Komatsu D65 PX, Cat 815F, JCB D510, Komatsu D71 PX, Deere 331G

Personnel Working: SFC 5, ESI 16

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 66 Low 32

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI deploying Geosynthetic Clay Liner (GCL). Observed ESI deploying geo-membrane. Panels 48-55 . Observed SFC transporting GCL from stockpile to staging areas around cell. Oberved ESI transporting geo-membrane to staging area. Observed SFC spreading clay material onto west basin floor and slopes. Performed 4 Nuclear Density Tests (NDTs) on west basin floor. Tests met CQA compaction requirements. Collected 2 shelby tube samples on the west basin floor to ship to the soils laboratory for permeability testing. Joshua Acosta was on site.

Sampling and Testing

Tests Performed: Nuclear Moisture & Density

Samples Collected: Other

Planned Activities: Continue deploying geo-synthetics, perform NDTs, collect shelby tube samples.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-013024-01 Rev.:2 **Date of Field Activity:** 01-30-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:20 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:42 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu pc 490, Bobcat T740, Kubota x900, Cat D5N, Komatsu D65 PX, Cat 815F, JCB D510

Personnel Working: Operators, liner crew

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 64 Low 33

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI deploying Geosynthetic Clay Liner (GCL). Observed ESI deploying geo-membrane panels 27-47. Observed SFC transporting GCL from stock pile to staging areas around the cell. Observed SFC spreading clay material onto west basin floor and slopes. Observed ESI deploying geo-textile over the Leak Detection System (LDS). Joshua Acosta was on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Continue deploying geo-synthetics, continue deploying clay liner on west basin.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-012924-01 Rev.:4 **Date of Field Activity:** 01-29-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu pc 490, Bobcat T740, Kubota x900, Volvo A406, Cat D5N, Komatsu D65 PX

Personnel Working: Operators, liner crew

Weather Conditions: AM: Mostly Sunny PM: Mostly Sunny

Temperature Observations: High 52 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI deploying Geosynthetic Clay Liner (GCL). Observed ESI deploying geo-membrane panels 11-26. Observed SFC transporting GCL from stockpile to staging areas around the cell. Observed SFC spreading clay material onto west basin floor and slopes. Joshua Acosta was on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Deploying geosynthetics, deploying clay liner to west basin.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-012724-01 Rev.:2 **Date of Field Activity:** 01-27-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:00 am Depart Site: 8:00 am Lunch: 0:00 hrs On-site: 1:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo A406, Komatsu PC 490, Bobcat T740

Personnel Working: SFC 2

Weather Conditions: AM: Precipitation PM: Precipitation Precip. Type: Rain Precip.: .5

Temperature Observations: High 48 Low 43

Daily Summary of Activities: No construction today due to rain. SFC crew members maintaining pumps.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Complete Leak Detection System (LDS). Deploy geo-synthetics.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-012624-01 Rev.:2 **Date of Field Activity:** 01-26-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 8:00 am Depart Site: 5:30 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo A406, Komatsu PC 490, Bobcat T740, JCB D510, Kubota X900

Personnel Working: Operators, liner crew

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 46 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed ESI deploying geo-composite onto south slope. Observed SFC transporting gravel into haul trucks. Observed SFC transporting gravel onto Leak Detection System (LDS). Observed ESI deploying Geosynthetic Clay Liner (GCL) onto west/southwest slope. Observed ESI deploying geo-membrane over GCL.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Deploying geo-synthetics.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-012524-01 Rev.:2 **Date of Field Activity:** 01-25-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 40

Technician Time

Arrive Site: 7:30 am Depart Site: 5:00 pm Lunch: 0:30 hrs On-site: 9:00 hrs Travel: 1:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie "Red" Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Volvo A406, Komatsu PC 490, Bobcat T740

Personnel Working: Operators

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 48 Low 43

Daily Summary of Activities: Observed and reported all activities on site. Observed SFC transporting gravel in haul trucks. Observed SFC transporting gravel onto Leak Detection System (LDS). Observed SFC removing temporary road onto LDS.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Complete LDS, Complete Geo-synthetics.

DFR by: Ryan Wallen **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-012424-01 Rev.:2 **Date of Field Activity:** 01-24-2024

Lead Technician: Ryan Wallen Other Technician(s):

Technician Equipment On-site: Mileage: 230

Technician Time

Arrive Site: 3:15 pm Depart Site: 5:15 pm Lunch: 0:00 hrs On-site: 2:00 hrs Travel: 4:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC/ ESI Rep.: Red/ Ayre

Other Subcontractors Onsite:

Daily Site Operations Notes

Equipment Operating: Volvo A406, Komatsu pc 490, Bobcat T740, Komatsu 71px, JCB D510

Personnel Working: Operaters, liner crew

Weather Conditions: AM: PM: Mostly Cloudy

Temperature Observations: High 50 Low 45

Daily Summary of Activities: Observed ESI deploying geocomposite drainage material for the LDS. Observed SFC transporting gravel to the LDS. Also observed SFC building a temporary road to bring gravel in from the east side of the cell.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Complete installation of LDS geocomposite and LDS prior to beginning installation of primary liner system

DFR by: Ryan Wallen **DFR Review/Approval by:** Brad Fureigh

DAILY FIELD REPORT

DFR Report No.: 230181-012024-01 Rev.:2 **Date of Field Activity:** 01-20-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 4:45 pm Lunch: 0:00 hrs On-site: 9:48 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, Komatsu 210 Excavator, (2) Volvo A40G Haul trucks, Komatsu 65XP Dozer, Bobcat T740 Skid steer, Bobcat T770 Skid steer, Jcb Loader, Cat UTV, Kubota UTV

Personnel Working: SFC - 8 ESI - 7

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 24 Low 5

Daily Summary of Activities: SFC continued putting gravel in ditch for the Leak Detection System (LDS). Komatsu 210 loaded haul trucks with gravel at the stockpile and transported to gravel container at the southwest corner of Cell 13A. Bobcat skid steer then proceeded to install gravel over the perforated pipe in the LDS ditch. ESI installed geocomposite on the west slope and proceeded to the north.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: No work Sunday.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011924-01 Rev.:2 **Date of Field Activity:** 01-19-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:00 hrs On-site: 10:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, Komatsu 210 Excavator, (2) Volvo A40G Haul trucks, Komatsu 65XP Dozer, Bobcat T740 Skid steer, Bobcat T770 Skid steer, Jcb Loader, Cat UTV, Kubota UTV

Personnel Working: SFC - 8 ESI - 7

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 17 Low 10

Daily Summary of Activities: SFC installed and fused perforated pipe in ditch for the Leak Detection System (LDS). Komatsu 210 loaded haul trucks with gravel at the stockpile and transported to gravel container at the southwest corner of Cell 13A. Bobcat skid steer then proceeded to install gravel over perforated pipe in the LDS ditch. ESI installed geocomposite on the north slope working eastward. Komatsu dozer fine graded north side of the west pond and part of the floor. Stopped installing geocomposite at 1600 hours. SFC stopped work at 1630 hours.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: ESI to continue installing geocomposite. SFC continue to install gravel and perforated pipe.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011524-01 Rev.:2 **Date of Field Activity:** 01-15-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 0

Technician Time

Arrive Site: 7:00 am Depart Site: 7:00 am Lunch: 0:00 hrs On-site: 0:00 hrs Travel: 0:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: none

Personnel Working: 0

Weather Conditions: AM: PM:

Temperature Observations: High 35 Low 12

Daily Summary of Activities: No work. Standing snow.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Weather permitted.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011424-01 Rev.:2 **Date of Field Activity:** 01-14-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 0

Technician Time

Arrive Site: 7:00 am Depart Site: 7:00 am Lunch: 0:00 hrs On-site: 0:00 hrs Travel: 0:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: none.

Personnel Working: 0

Weather Conditions: AM: Precipitation PM: Precipitation Precip. Type: Snow Precip.: 4-6

Temperature Observations: High 12 Low -2

Daily Summary of Activities: No work. Snow throughout the day.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Weather permitted.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011324-01 Rev.:1 **Date of Field Activity:** 01-13-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 8:00 am Depart Site: 5:30 pm Lunch: 0:00 hrs On-site: 9:30 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, JCB Loader, Bobcat T770 Skid Steer

Personnel Working: SFC -1 ESI -7

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 30 Low 12

Daily Summary of Activities: ESI installed geocomposite at the east end of the cell starting at the widen section and continuing east. SFC only operator used the Komatsu 490 excavator to help ESI deploy geocomposite.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: ESI to make a call due to weather.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011224-01 Rev.:3 **Date of Field Activity:** 01-12-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 0

Technician Time

Arrive Site: 7:00 am Depart Site: 7:00 am Lunch: 0:00 hrs On-site: 0:00 hrs Travel: 0:00 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: none

Personnel Working: 0

Weather Conditions: AM: Precipitation PM: Overcast/Cloudy Precip. Type: Snow Precip.: 1-2

Temperature Observations: High 32 Low 17

Daily Summary of Activities: ESI called off work prior to my arrival on site.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Finish repairs and install geocomposite.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011124-01 Rev.:7 **Date of Field Activity:** 01-11-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 6:45 am Depart Site: 6:00 pm Lunch: 0:00 hrs On-site: 11:18 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kubota UTV, Bobcat T770 Skid Steer, JCB Loader

Personnel Working: SFC -8 ESI -6

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 60 Low 28

Daily Summary of Activities: SFC arrived on site and decided in the field for one personnel to stay with ESI and the rest of the crew went home. ESI arrived on site at 800 hours and began repairs. After lunch ESI continued repairs with two extrusion guns and installed geocomposite for the Leak Detection System (LDS). Vacuum testing was performed after repairs were completely welded.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Weather permitted.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-011024-01 Rev.:1 **Date of Field Activity:** 01-10-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 5:45 pm Lunch: 0:00 hrs On-site: 10:48 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kubota UTV, Komatsu 490 Excavator, Komatsu 210 Excavator, (3) Volvo A40G Haul Truck, Komatsu 65xp Dozer, Komatsu 71xp Dozer, Bobcat T740 Skid Steer, Bobcat T770 Skid Steer

Personnel Working: SFC -8 ESI -6

Weather Conditions: AM: Clear PM: Clear

Temperature Observations: High 50 Low 28

Daily Summary of Activities: SFC had the 490 excavator excavate soil south of the east end of Cell 13A onto (2) haul trucks to transports to the west downdrain for the 65xp dozer to fine grade. One haul truck transported gravel for the 210 excavator to place after installing the east relief wellhead pipe with geotextile. Relocated to the west relief wellhead to complete geotextile. ESI arrived on site at 700 hours then exit due to freezing conditions. Returned on site at 1000 hours and began repairs.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: ESI to continue repairs. SFC to determine in field.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010924-01 Rev.:3 **Date of Field Activity:** 01-09-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 9:00 am Lunch: 0:00 hrs On-site: 2:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Kubota UT

Personnel Working: 2

Weather Conditions: AM: Precipitation PM: Overcast/Cloudy Precip. Type: Snow Precip.: less than an inch

Temperature Observations: High 35 Low 28

Daily Summary of Activities: SFC were unable to perform any activities. Exit site at approximately 745 hours.
Two of ESI personnel arrived on site and began removing DS-12A, DS-12B, DS-16A, and DS-16B to perform field testing on each. The laboratory destructive samples were shipped out shortly after.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Weather permitting, continue geosynthetics deplolyment.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010824-01 Rev.:3 **Date of Field Activity:** 01-08-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 12:15 pm Lunch: 0:00 hrs On-site: 5:18 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Bobcat T770 Skid Steer

Personnel Working: 7

Weather Conditions: AM: Overcast/Cloudy PM: Precipitation Precip. Type: Rain Precip.: .50

Temperature Observations: High 46 Low 39

Daily Summary of Activities: SFC were shooting points in the south pond. Equipment were started but none were used to work. Rain began approximately 800 hours. Continued on and off then became intermittent approximately 1145 hours. ESI arrived on site long enough to move equipment from the east end of the cell to the west end of the cell with the Bobcat skid steer before rain. ESI exited the job site at approximately 800 hours.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Activities are determined according to weather.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010624-01 Rev.:2 **Date of Field Activity:** 01-06-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 12:00 pm Lunch: 0:00 hrs On-site: 5:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, Volvo A40G Haul Truck, Komatsu 210 Excavator, Komatsu 71PX Dozer

Personnel Working: 7

Weather Conditions: AM: Overcast/Cloudy PM: Overcast/Cloudy

Temperature Observations: High 35 Low 32

Daily Summary of Activities: SFC installed PRWH-01 (Pressure Relief Well Head) with geotextile with gravel using the Komatsu 490 excavator. The Komatsu 210 was used to load gravel into the haul truck to transport to cover pipe for PRWH-01. Komatsu 71 dozer fine graded the southwest downdrain.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: No work Sunday.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010524-01 Rev.:1 **Date of Field Activity:** 01-05-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 6:45 am Depart Site: 7:00 am Lunch: 0:00 hrs On-site: 0:18 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: None

Personnel Working: 7

Weather Conditions: AM: Precipitation PM: Overcast/Cloudy Precip. Type: Snow Precip.: 1-2

Temperature Observations: High 41 Low 32

Daily Summary of Activities: SFC called off work for the day.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Try to install stormwater letdown structures.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010424-01 Rev.:1 **Date of Field Activity:** 01-04-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:00 hrs On-site: 10:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, Volvo A40G Haul Truck, Cat UTV, Bobcat T740 Skid Steer, McElroy Pitbull, Komatsu 210 Excavator, Komatsu 65PX Dozer, Komatsu 71PX Dozer

Personnel Working: 7

Weather Conditions: AM: Clear PM: Partly Cloudy

Temperature Observations: High 50 Low 28

Daily Summary of Activities: The Volvo haul truck transported gravel from the stockpile to the container near the SW corner of the cell. The Bobcat skid steer continued placing gravel over the perforated pipe for the Leak Detection System (LDS). The Volvo haul truck continued transporting gravel from stockpile to gravel container for the Bobcat skid steer. Momentarily, skid steer operator switched to Kubota SVL95 skid steer for servicing of the Bobcat skid steer. Four (4) of SFC personnel continued to fuse 6” perforated/solid pipe with tees. The Komatsu 490 excavator transported two (2) perforated/solid with tees to two locations on the south end of proposed capped area. One on the west end and the other near existing well. Both dozers at the proposed cap area to the east end, fine graded until end of shift.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: Weather permitted, work will continue.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

DFR Report No.: 230181-010324-01 Rev.:1 **Date of Field Activity:** 01-03-2024

Lead Technician: Lena Sengphachanh Other Technician(s):

Technician Equipment On-site: Truck, 1/2 Ton Mileage: 30

Technician Time

Arrive Site: 7:00 am Depart Site: 5:00 pm Lunch: 0:00 hrs On-site: 10:00 hrs Travel: 0:30 hrs Other: hrs

Project Information

Promus Project No.: 230181 **Project:** Eco-Vista Cell 13A CQA

Client: Eco-Vista, LLC

General Contractor: SFC Rep.: Jerrie “Red” Barthol

Other Subcontractors Onsite: ESI

Daily Site Operations Notes

Equipment Operating: Komatsu 490 Excavator, Volvo A40G Haul Truck, Cat UTV, Bobcat T740 Skid Steer, McElroy Pitbull

Personnel Working: 7

Weather Conditions: AM: Mostly Sunny PM: Mostly Sunny

Temperature Observations: High 50 Low 24

Daily Summary of Activities: SFC installed sacrificial layers of Geosynthetic Clay Liner (GCL) and geocomposite on the south slope near the SW corner of the cell. The Volvo haul truck transported gravel from the stockpile to the container near the southwest corner of the cell. The Komatsu excavator then built a ramp from soil for the Cat UTV to pull in place the perforated pipes and haul the McElroy pitbull to fuse two 6” perforated stringers together. Once completed, the Bobcat skid steer began placing gravel over the perforated pipe for the Leak Detection System (LDS). Four (4) of SFC personnel resumed fusing 6” fittings until shift ended.

Sampling and Testing

Tests Performed:

Samples Collected:

Planned Activities: SFC will continue to place gravel in ditch for LDS and fuse parts.

DFR by: Lena Sengphachanh **DFR Review/Approval by:** Chris Fincher

DAILY FIELD REPORT

General:

DFR Report No.: 121823	Date of Field Activity: 12/18/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: ESI Rep.: Ayre Khounmouan

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1700 hrs On-site: 10.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Bobcat T770 Skid Steer, JCB Loader, Komatsu 490 Excavator, Komatsu 65PX Dozer, Volvo Mini Ex, McElroy Tracstar

Summary:

Observed SFC fuse 6" perforated pipes. Komatsu dozer transported 3-6" perforated stringers to an access road outside of the east end of Cell 13A. SFC began fusing the stringers together. ESI began secondary geomembrane deployment at approximately 0900 hours. Monitored all aspects of trial weld testing, panel placement, fusion seaming, air testing, and leistering of patches. Shipped DS.1 - DS.7 to TRI. Installed panels S-103 to S-117 whish is approximately 58,000 sqft.

Tests Performed:

Air tests.

Problems Noted: Problem Resolution:

Planned Activities:

ESI plan to detail, remove and test destructs, vacuum test and install geocomposite for the LDS; SFC continue to fuse 6" perforated pipes.

Weather Conditions:

AM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 44 Low 30 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

PROMUS ENGINEERING

General:

DFR Report No.: 121723	Date of Field Activity: 12/17/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: ESI Rep.: Ayre Khounmouan

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1715 hrs On-site: 10.25 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Summary:

ESI filled sandbags until warm enough to begin repairs. ESI began repairs approximately 0930 hours. Removed and tested DS.1 - DS.7. Completed 69 repairs. Vacuum tested 57 repairs.

Tests Performed:

Vacuum tests

Problems Noted:

Problem Resolution:

Planned Activities:

ESI to continue installing secondary geomembrane; SFC continue to fuse 6" perforated pipes.

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy

Temperature Observations: High 57 Low 26 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 121623	Date of Field Activity: 12/16/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1000 hrs On-site: 3.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Bobcat T770 Skid Steer, JCB Loader, McElroy Tracstar

Summary:

Observed SFC fuse 6" stringers using the McElroy Tracstar. ESI filled sandbags and the T770 Bobcat skid steer and JCB Loader staged rolls of geocomposite.

Tests Performed:

Problems Noted:

Problem Resolution:

Planned Activities:

Weather Conditions:

AM| ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☒ Windy PM| ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 46 Low 33 Precip.: 0.00 in. Precip Type Other notes: misty

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

PROMUS ENGINEERING

General:

DFR Report No.: 121523	Date of Field Activity: 12/15/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1415 hrs On-site: 7.25 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Bobcat T770 Skid Steer, JCB Loader, McElroy Tracstar, Bobcat Skid Steer, Volvo 490 Excavator

Summary:

Observed SFC fuse 6" stringers using the McElroy Tracstar. ESI began secondary geomembrane installation using the 490 excavator for geomembrane deployment on the south side of Cell 13A. The T770 Bobcat skid steer with the winch attached was stationed on the north side of the cell to pull geomembrane from the south end of the cell to the north end of the cell and installed pie pieces of geomembrane at the widen area of the south slope. JCB loader transported rolls of geomembrane from the stockpile south of the active Class 4 cell to above the south side of Cell 13A. Sandbags were used on leading edges of the geomembrane and used at areas where geomembrane would trampoline due to contractions. Panels S-86 to S- 103 was installed. Approximately 28,000 sqft was installed. Monitored all aspects of geomembrane installation along with trial welds, panel placement, fusion seaming, air testing and leistering patches after air test was completed. Rain began at approximately 1345 hours. T770 Bobcat skid steer and JCB loader proceeded to stage rolls of geocomposites.

Tests Performed:

Problems Noted:

Problem Resolution:

Planned Activities:

Begin secondary geomembrane and SFC continue to fuse 6" stringers.

Weather Conditions:

AM | ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☒ Windy

PM | ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☒ Rainy | ☒ Windy

Temperature Observations: High 57 Low 46 Precip.: 0.25 in. Rain Other notes:

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 121423	Date of Field Activity: 12/14/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1715 hrs On-site: 10.25 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Volvo Mini-Ex, Bobcat T770 Skid Steer, JCB Loader, McElroy Tracstar, Bobcat Skid Steer, Volvo 490 Excavator

Summary:

Observed SFC fuse 6" stringers using the McElroy Tracstar. ESI began secondary geomembrane installation using the 490 excavator for geomembrane deployment on the south side of Cell 13A. The T770 Bobcat skid steer with the winch attached was stationed on the north side of the cell to pull geomembrane from the south end of the cell to the north end of the cell. JCB loader transported rolls of geomembrane from the stockpile south of the active Class 4 cell to above the south side of Cell 13A. Sandbags were used on leading edges of the geomembrane and used at areas where geomembrane would trampoline due to contractions. Panels S-65 to S-85 were installed. Approximately 54,000 sqft was installed. Monitored all aspects of geomembrane installation along with trial welds, panel placement, fusion seaming, air testing and leistering patches after air test was completed.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Begin secondary geomembrane and SFC continue to fuse 6" stringers.

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 62 Low 39 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 121323	Date of Field Activity: 12/13/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1630 hrs On-site: 9.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Volvo Mini-Ex, Bobcat T770 Skid Steer, JCB Loader, McElroy Tracstar, Bobcat Skid Steer, Volvo 490 Excavator

Summary:

Observed SFC fuse 6" stringers using the McElroy Tracstar. ESI began secondary geomembrane installation using the 490 excavator for geomembrane deployment on the south side of Cell 13A. The T770 Bobcat skid steer with the winch attached was stationed on the north side of the cell to pull geomembrane from the south end of the cell to the north end of the cell. JCB loader transported rolls of geomembrane from the stockpile south of the active Class 4 cell to above the south side of Cell 13A. Sandbags were used on leading edges of the geomembrane and used at areas where geomembrane would trampoline due to contractions. Panels S-40 to S-64 was installed. Approximately 64,000 sqft was installed. Monitored all aspects of geomembrane installation along with trial welds, panel placement, fusion seaming, air testing and leistering patches after air test was completed.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Begin secondary geomembrane and SFC continue to fuse 6" stringers.

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 59 Low 37 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 121223	Date of Field Activity: 12/12/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1730 hrs On-site: 10.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Volvo Mini-Ex, Bobcat T770 Skid Steer, JCB Loader, McElroy Tracstar, Bobcat Skid Steer, Volvo 490 Excavator

Summary:

Observed SFC fuse 6" stringers using the McElroy Tracstar. ESI began secondary geomembrane installation at approximately 0800 hours using the T770 Bobcat skid steer for geomembrane deployment starting at the northwest corner to the southwest corner of Cell 13A. Switched to the 490 excavator for geomembrane deployment once approached the south slope. The T770 Bobcat skid steer with the winch attached was stationed on the north side of the cell on the road to the active face to pull geomembrane from the south end of the cell to the north end of the cell. Panels S-1 to S-39 was installed. Approximately 57,000 sqft was installed. Monitored all aspects of geomembrane installation along with trial welds, panel placement, fusion seaming, air testing and leistering patches after air test was completed.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Begin secondary geomembrane and SFC continue to fuse 6" stringers.

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 59 Low 32 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 121123	Date of Field Activity: 12/11/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1700 hrs On-site: 10.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Volvo Mini Ex, Cat CS44B Smoother Roller

Summary:

Observed SFC smooth roll west end of Cell 13A. Mini excavator excavated the west trench. SFC fused 6" stringers. ESI arrived on site and began filling sandbags and prepping tools and specialty equipment.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Begin secondary geomembrane and SFC continue to fuse 6" stringers.

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 53 Low 28 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120923	Date of Field Activity: 12/9/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 1400 hrs Depart Site: 1645 hrs On-site: 2.75 hrs Travel: 2.75 hrs Mileage: 200

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor, Volvo Mini Ex, Komatsu 210 Excavator, Cat CS44B Smoother Roller

Summary:

Observed SFC continued to process lift 4 of clay liner on the south slope. The Komatsu 490 excavator was used to load (2) Volvo A40G with excess clay soil for removal after fine grading lift 4 and also removed the access ramp. The soil loads were transported to the South Pond and deposited. The 65XP and 71XP dozers were used to fine grade lift 4. The Volvo mini ex finished excavating the trench for the north tie-in then proceeded to begin trench for the south tie-in. Once the lifts were graded and compacted, the smooth roller completed smooth rolling the east end of Cell 13A.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 55 Low 44 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120823	Date of Field Activity: 12/8/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0645 hrs Depart Site: 1330 hrs On-site: 6.75 hrs Travel: 3.00 hrs Mileage: 215

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor, Volvo Mini Ex, Komatsu 210 Excavator

Summary:

Observed SFC continued to process lift 4 of clay liner on the far east end of Cell 13A and on the south slope. The Komatsu 490 excavator was used to load (2) Volvo A40G haul trucks with clay soil from the stockpile at the South Pond. The soil loads were transported to the east end of the Cell and deposited. The 65XP and 71XP dozers were used to fine grade lift 4. The Volvo mini ex began excavating the trench for the north tie-in then proceeded to begin trench for the south tie-in. Once the lifts were graded, the CAT 815 compactor was used to process and compact the clay liner.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

continue processing lift 4 at the far east end and the south slope; continue excavating trenches.

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 62 Low 57 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120723	Date of Field Activity: 12/7/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0645 hrs Depart Site: 1715 hrs On-site: 10.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor, Cat CS44B Smoth Roller, Volvo Mini Ex, Komatsu 210 Excavator

Summary:

Observed SFC complete lift 3 and continue to process lift 4 of clay liner on the east end of the Cell. The 65XP dozer began fine grading the west end of the cell where the soil for the trenches were stockpiled onto the north and south slopes. The Komatsu 490 excavator was used to load (2) Volvo A40G haul trucks with clay soil from the stockpile at the South Pond. The soil loads were transported to the east end of the Cell and deposited. The 65XP and 71XP dozers were used to fine grade lifts 3 and 4. The 210 excavator cleaned off soil from existing geocomposite/geomembrane to expose for future tie-in. The Volvo mini ex began excavating the trench for the north tie-in. Once the lifts were graded, the CAT 815 compactor was used to process and compact the clay liner. The smooth drum roller was used to prepare sections for moisture/density testing.

Tests Performed:

Collected 2 Permeability Samples; 4 NDTs

Problems Noted: Problem Resolution:

Planned Activities:

continue processing lift 4 at the far east end and the south slope; continue excavating trenches.

Weather Conditions:

AM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM| ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 64 Low 46 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120623	Date of Field Activity: 12/6/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0645 hrs Depart Site: 1645 hrs On-site: 10.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor, Cat CS44B Smoth Roller, Volvo Mini Ex,

Summary:

Observed SFC complete lift 2, process lift 3, and begin lift 4 of clay liner on the east end of the Cell. The Komatsu 490 excavator was used to load (2) Volvo A40G haul trucks with clay soil from the stockpile at the South Pond. The soil loads were transported to the east end of the Cell and deposited. The 65XP and 71XP dozers were used to fine grade lifts 2, 3 and 4. Later in the morning, the Komatsu 71 dozer was relocated from the South Pond to assist with permeability samples thereafter, returned to the South Pond to continue grading stockpile. The Volvo mini ex began excavating the trench for the north tie-in. Once the lifts were graded, the CAT 815 compactor was used to process and compact the clay liner. The smooth drum roller was used to prepare sections for moisture/density testing.

Tests Performed:

8 NDTs; Collected 4 Permeability Samples

Problems Noted: Problem Resolution:

Planned Activities:

continue processing lifts 3 and 4

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 57 Low 28 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120523	Date of Field Activity: 12/5/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1700 hrs On-site: 10.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor, Cat CS44 Smooth Drum Roller, Volvo Water Truck

Summary:

Observed SFC processing lift 1 and 2 of clay liner on the east end of the Cell. The Komatsu 490 excavator was used to load (2) Volvo A40G haul trucks with clay soil from the stockpile at the South Pond. The soil loads were transported to the east end of the Cell and deposited. The 65XP and 71XP dozers were used to fine grade lifts 1 and 2. Later in the morning, the Komatsu 71 dozer was relocated to the South Pond to assist with grading the stockpile. The water truck was used to moisture condition the clay on the south slope. Once the lifts were graded, the CAT 815 compactor was used to process and compact the clay liner. The smooth drum roller was used to prepare sections for moisture/density testing.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

continue processing lifts 1 and 2

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 53 Low 39 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120423	Date of Field Activity: 12/4/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1700 hrs On-site: 10.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 65 Dozer, Komatsu 71 Dozer, Komatsu 210 Excavator, Komatsu 490 Excavator, (2) Volvo A40G Haul Trucks, Cat 815F Compactor

Summary:

Observed SFC removing saturated bottom at the east end of Cell 13A with the 210 excavator and sporadically spreading on the north slope to dry with the help of the 490 excavator. 65XP dozer used clay soil used from access ramp to backfill bottom. Once backfill was completed, 490 excavator and 71XP dozer relocated to the clay soil stockpile at the pond. 490 began loading (2) Volvo A40G haul trucks with clay soil and transported to the east end of the cell to begin processing lifts 1 and 2. The 210 excavator was used to expose existing geocomposite and geomembrane for future tie-in on the slope slope. Cat compactor began compacting approximately 125' of north and south slope along with the floor.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

continue processing lifts 1 and 2

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 50 Low 43 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120223	Date of Field Activity: 12/2/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1200 hrs On-site: 5.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

McElroy Pitbull, Bobcat Skid Steer

Summary:

Observed SFC fusing 6" HDPE pipe for the LCS and LDS. SFC continued fusing 6 inch stringers throughout the day using a McElroy pitbull. The Bobcat skid steer was used to pull the pipe into place for welding. Cell 13A was too saturated from previous rain to make any progress with soil liner.

Tests Performed:

Problems Noted:

Problem Resolution:

Planned Activities:

fuse 6 inch pipes

Weather Conditions:

AM | ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☐ Windy

PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 50 Low 43 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 120123	Date of Field Activity: 12/01/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1200 hrs On-site: 5.00 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

McElroy Pitbull, Bobcat Skid Steer

Summary:

Observed and documented all activities performed on site. Monitored all aspects of fusing 6" pipes. McElroy pitbull was used to fused the 6 inch stringers. The Bobcat skid steer pulled completely 6 inch pipes to extend stringers and stockpiled stringers.

Tests Performed:

Problems Noted:

Problem Resolution:

Planned Activities:

fuse 6 inch pipes

Weather Conditions:

AM | ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 50 Low 43 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 113023	Date of Field Activity: 11/30/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1130 hrs On-site: 4.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer

Summary:

Observed and documented all activities performed on site. Monitored all aspects of stockpiling clay soil. Clay soil was stockpiled at the east end of Cell 13A by 3rd party earthwork company. Komatsu dozer pushed and contained stockpile neatly. Rained on and off from start of shift and rain become more consistent and intermittent around 1045 hours.

Tests Performed:

Problems Noted:

Problem Resolution:

Planned Activities:

fused 6-inch pipe

Weather Conditions:

AM| ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☒ Rainy | ☒ Windy

PM| ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☒ Rainy | ☒ Windy

Temperature Observations: High 54 Low 50 Precip.: 0.5 in. Rain Other notes:

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 112923	Date of Field Activity: 11/29/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1745 hrs On-site: 10.75 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 210LC Excavator, Komatsu 65 Dozer, Bobcat E35 Mini Excavator, Kubota Mini Excavator

Summary:

Observed and documented all activities performed on site. Monitored all aspects of dressing, fine grading and smooth rolling of the west half of Cell 13A. SFC continued fine grading the west half of Cell 13A using a Komatsu 71 dozer equipped with GPS. Areas where excess soil was placed above design grade were bladed and pushed towards the west side of Cell 13A and up the top of the west slope. Cleaned off top of north slope to expose existing geocomposite and exposed geomembrane on the top of south slope, in preparation of liner tie-in with shovels. Bobcat mini ex with jackhammer demolished headwall on the top of the south slope. Kubota mini ex removed pieces of concrete of the headwall to dispose. The smooth drum roller rolled the west end of the cell to the east of the existing headwall. Komatsu 65 dozer pushed stockpiled soil at the pond.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

stockpile clay soil

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 61 Low 42 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

PROMUS ENGINEERING

General:

DFR Report No.: 112823	Date of Field Activity: 11/28/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1715 hrs On-site: 10.25 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 210LC Excavator, Cat 916 Compactor, (1) Volvo A40G Haul Truck, Bobcat Skid Steer with Spin Broom

Summary:

Observed and documented all activities performed on site. Monitored all aspects of leachate collection system (LCS) corridor excavation, dressing and fine grading of the west half of Cell 13A. SFC continued the LCS corridor excavation along the south toe of slope using a Komatsu 71 dozer to the end of the narrow section of Cell 13A before the widen area. Soil excavated from the LCS corridor was loaded into a Volvo A40G haul truck by the Komatsu 210 excavator and transported to the start of the widen area of Cell 13A. The west half of Cell 13A was fine graded using a Komatsu 71 dozer equipped with GPS. Areas where excess soil was placed above design grade were bladed and pushed towards the east side of Cell 13A. Cat compactor compacted soil at the east end of the narrow section and the beginning of the widen area. Began first lift on the south slope of widen area. Cleaned off top of north slope to expose existing geocomposite and exposed geomembrane on the top of south slope, in preparation of liner tie-in. A bobcat skid steer with spin broom was used to clean off the liner tie-ins.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

expose existing material on north and south end, removal of excess soil and fine grading, smooth roll completed area, remove headwall

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 54 Low 23 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 112723	Date of Field Activity: 11/27/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1730 hrs On-site: 10.50 hrs Travel: 2.75 hrs Mileage: 200

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 490LC Excavator, Cat 916 Compactor, (1) Volvo A40G Haul Truck

Summary:

Observed and documented all activities performed on site. Monitored all aspects of leachate collection system (LCS) corridor excavation, dressing and fine grading of the west half of Cell 13A. SFC excavated the corridor for the LCS along the south toe of slope using a Komatsu 71 dozer. Soil excavated from the LCS corridor was loaded into a Volvo A40G haul truck by the Komatsu 490 excavator and transported to the start of the widen area of Cell 13A. The west half of Cell 13A was fine graded using a Komatsu 71 dozer equipped with GPS. Areas where excess soil was placed above design grade were bladed and pushed towards the east side of Cell 13A. Cat compactor compacted soil at the east end of the narrow section and the beginning of the widen area.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Continue LCS corridor installation, expose existing material on North and South end, removal of excess soil and fine grading

Weather Conditions:

AM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM | ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☒ Windy

Temperature Observations: High 48 Low 26 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

PROMUS ENGINEERING

General:

DFR Report No.: 111823	Date of Field Activity: 11/18/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0700 hrs Depart Site: 1630 hrs On-site: 9.50 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 65 Dozer, Komatsu 490LC Excavator, Cat 916 Compactor, (2) Volvo A40G Haul Truck, Volvo K-500 Watertruck, JLG loader

Summary:

Observed and documented all activities performed on site. Monitored all aspects of processing soil liner installation. 490 excavator loaded haul trucks with clay to begin lifts for the west half of Cell 13A. Both dozers were pushing and grading lift 4. Compactor followed behind after to complete small section. Lift 4 was not completely processed for small area before the widening area. No NDTs were performed. Unloaded 9 trucks of GCL. GCL were stockpiled and cover for protection. Collected 2 bulk constructions samples.

Tests Performed:

Problems Noted: Problem Resolution:

Planned Activities:

Took off week of Thanksgiving.

Weather Conditions:

AM| ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM| ☒ Clear | ☐ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy

Temperature Observations: High 64 Low 37 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 111723	Date of Field Activity: 11/17/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0645 hrs Depart Site: 1700 hrs On-site: 10.25 hrs Travel: 0.50 hrs Mileage: 30

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 65 Dozer, Komatsu 490LC Excavator, Cat 916 Compactor, (2) Volvo A40G Haul Truck, Volvo K-500 Watertruck

Summary:

Observed and documented construction activities performed on site, including monitoring the processing and compaction of soil liner. Loads of offsite clay soil were received throughout the day. The incoming dump truck loads were backed up to the western slope and dumped. SFC managed the incoming clay with a Komatsu dozer. The 490 excavatorwas used to load haul trucks with clay to be transported to the east half of Cell 13A. Both dozers were used to fine grade each lift. The compactor was used to achieve required density after each lift was processed. Moisture-Density tests were performed and permeability samples were obtained after compaction efforts were completed. Performed 20 density tests and collected 8 permability samples. SFC unloaded 6 trucks of GCL rolls on top of the Class 4 Landfill top deck and covered the rolls with a tarp for protection from the weather.

Tests Performed:

Nuclear Density Tests on clay liner

Problems Noted: Problem Resolution:

Planned Activities:

Continue to process west half of cell and unload trucks of GCL.

Weather Conditions:

AM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM| ☐ Clear | ☒ Pt Cldy | ☒ Cldy | ☐ Rainy | ☐ Windy

Temperature Observations: High 64 Low 51 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 111623	Date of Field Activity: 11/16/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 0645 hrs Depart Site: 1715 hrs On-site: 10.50 hrs Travel: 3.25 hrs Mileage: 220

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 490LC Excavator, Cat 916 Compactor, (2) Volvo A40G Haul Truck, Volvo K-500 Watertruck

Summary:

Observed and documented construction activities performed by SFC, including processing and compacting soil liner. Loads of offsite clay soil were received throughout the day. The incoming dump truck loads were backed up to the western slope and dumped. SFC managed the incoming clay with the Komatsu dozer. The 490 excavator was used to load haul trucks with clay to be transported to the east half of Cell 13A. A dozer was used to fine grade each lift then the compactor was used to achieve the desired density. Once processing and compaction efforts were completed, NDTs were performed and perm samples were collected.

Tests Performed:

Nuclear Density Tests

Problems Noted: Problem Resolution:

Planned Activities:

Continue to process clay liner

Weather Conditions:

AM| ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy PM| ☐ Clear | ☐ Pt Cldy | ☒ Cldy | ☐ Rainy | ☐ Windy

Temperature Observations: High 62 Low 55 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh DFR Review/Approval by: Brad Fureigh

DAILY FIELD REPORT

General:

DFR Report No.: 111223	Date of Field Activity: 11/12/23	Project: Eco-Vista Cell 13A CQA	Tech(s): Lena Sengphachanh
Promus Project No.: 230181	Client: Eco-Vista, LLC	Rep.: Dave Conrad	Ref:

Gen. Contractor: SFC Contract Services Rep.: Jerrie "Red" Barthol Subcontractor: Rep.:

Technician Equipment On-site: ☒ Truck ☐ ATV ☐ Gas Meter Other: Nuclear Gauge

Technician Time: Arrive Site: 1300 hrs Depart Site: 1715 hrs On-site: 4.25 hrs Travel: 6.00 hrs Mileage: 400

Daily Field Notes:

Equipment Operating:

Komatsu 71 Dozer, Komatsu 490LC Excavator, Cat 916 Compactor, (2) Volvo A40G Haul Truck, Volvo K-500 Watertruck

Summary:

Arrived on site and met with "Red" to discuss progress and determine which areas would be needing tests today. Following material processing and compaction, (14) NDTs were performed and (5) perm samples were obtained.

Tests Performed:

Nuclear Density Tests on clay liner

Problems Noted:

Problem Resolution:

Planned Activities:

Weather Conditions:

AM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy

PM | ☐ Clear | ☒ Pt Cldy | ☐ Cldy | ☐ Rainy | ☐ Windy

Temperature Observations: High 64 Low 60 Precip.: 0.00 in. Precip Type Other notes:

DFR by: Lena Sengphachanh

DFR Review/Approval by: Brad Fureigh

Daily Field Report

Report No: 111123 **Rev:** 0 **Date:** Friday, 12 Apr, 2024

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Jake Mooney

Other Technicians:

Time On-site: *Arrive:* 07:00 AM CDT *Depart:* 06:00 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:** 20.0

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie

Const. Equip. Working: 2 dozers, 1 excavator, 815 compactor

Contr. Personnel Working: 6

Weather Conditions: Temp High: 61.0 Temp Low: 39.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Observed contractor placing, processing, grading, and compacting the clay liner in Cell 13A. Two dozers were used to spread and fine grade the clay lifts. An 815 compactor was used to process and compact the clay.

Tests Performed: 12 x Soil: Moisture-Density Tests (Nuclear)

Samples Collected: 1 x Soil: Undisturbed (Perm)

Attachments:

Planned Activities:

Report by: Jake Mooney	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 110923 **Rev:** 1 **Date:** Friday, 12 Apr, 2024

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Brad Fureigh

Time On-site: *Arrive:* 07:00 AM CDT *Depart:* 06:00 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:** 20.0

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie

Const. Equip. Working: 2 dozers, 1 excavator, 815 compactor

Contr. Personnel Working: 6

Weather Conditions: Temp High: 54.0 Temp Low: 50.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Observed contractor placing, processing, grading, and compacting clay liner in the west half of Cell 13A. Two dozers were used to spread and fine grade the clay lifts. An 815 compactor was used to process and compact the clay.

Tests Performed: 10 x Soil: Moisture-Density Tests (Nuclear)

Samples Collected: 6 x Soil: Undisturbed (Perm)

Attachments:

Planned Activities:

Report by: Jake Mooney	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 110823 **Rev:** 0 **Date:** Friday, 12 Apr, 2024

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Brad Fureigh

Time On-site: *Arrive:* 07:00 AM CDT *Depart:* 06:00 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck **Mileage:** 30.0

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie

Const. Equip. Working: 2 dozers, 1 excavator, 815 compactor

Contr. Personnel Working: 6

Weather Conditions: Temp High: 81.0 Temp Low: 67.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Observed SFC excavating the east half of Cell 13A, and beginning to expose existing liner tie-ins. Obtained two bulk samples for material testing.

Tests Performed:

Samples Collected: 2 x Soil: Bulk (Proctor)

Attachments:

Planned Activities: clay liner installation

Report by: Jake Mooney	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 11723 **Rev:** 1 **Date:** Wednesday, 08 Nov, 2023

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Jake Mooney

Time On-site: *Arrive:* 07:00 AM CST *Depart:* 05:00 PM CST *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:**

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie

Const. Equip. Working: 2 dozers one track hoe

Contr. Personnel Working: 6

Weather Conditions: Temp High: 79.0 Temp Low: 61.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Earthwork: Moisture-Density Testing

Additional Info:
Arrived on site at 7am. Contractor was getting ready for soil to arrive for clay liner.

I observed as soil was end dumbed by tandem axle dump trucks into a stockpile near the west edge of Cell 13A. SFC only managed the stockpile and did not place clay in the cell today

Tests Performed:
Attachments:

Planned Activities: Install soil liner in cell

Report by: Jake Mooney	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 111023 **Rev:** 0 **Date:** Friday, 12 Apr, 2024

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Brad Fureigh

Other Technicians: Jake Mooney

Time On-site: *Arrive:* 07:00 AM CDT *Depart:* 06:00 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:** 20.0

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie

Const. Equip. Working: 2 dozers, 1 excavator, 815 compactor

Contr. Personnel Working: 6

Weather Conditions: Temp High: 64.0 Temp Low: 38.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Observed contractor placing, processing, grading, and compacting the first and second lifts of clay liner in the west half of Cell 13A. Two dozers were used to spread and fine grade the clay lifts. An 815 compactor was used to process and compact the clay.

Tests Performed: 12 x Soil: Moisture-Density Tests (Nuclear)

Samples Collected: 3 x Soil: Undisturbed (Perm)

Attachments:

Planned Activities: continue placement of clay liner

Report by: Jake Mooney	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 101823 **Rev:** 1 **Date:** Wednesday, 18 Oct, 2023

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Josh Acosta

Time On-site: *Arrive:* 08:00 AM CDT *Depart:* 04:50 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:**

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie Barthol

Const. Equip. Working: Komatsu cleated compactor, Cat excavator, 2x Cat dozers, 2x Cat off road trucks

Contr. Personnel Working: 8

Weather Conditions: Temp High: 70.0 Temp Low: 54.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Arrived on site and met with SFC crew. Initial tests of the compacted lifts did not meet minimum compaction requirements per the CQA plan. The crew recompacted the material using the cleated compactor. After compacting, multiple tests were taken and the material met the requirements for moisture and compaction. Two perm tube samples were taken of this initial lift. A sample of the Leachate gravel was also taken.

Tests Performed: 8 x Soil: Moisture-Density Tests (Nuclear)

Samples Collected: 2 x Soil: Undisturbed (Perm)

Attachments:

Planned Activities: Schedule pending deliverable clay material.

Report by: Josh Acosta	**Reviewed by:** Brad Fureigh

Daily Field Report

Report No: 101723 **Rev:** 2 **Date:** Thursday, 19 Oct, 2023

Project: Eco-Vista Cell 13A (Project 230181)

Technician: Josh Acosta

Time On-site: *Arrive:* 08:00 AM CDT *Depart:* 05:30 PM CDT *Lunch:* 0 min. *Additional Time:* 0:0 min.

Equip On-site: Truck, Nuclear Density Gauge **Mileage:**

Client: Waste Management **Client Rep:** Dave Conrad

Contractor: SFC **Contractor Rep:** Jerrie Barthol

Const. Equip. Working: Komatsu cleated compactor, Cat excavator, 2x Cat dozers, 2x Cat off road trucks

Contr. Personnel Working: 8

Weather Conditions: Temp High: 73.0 Temp Low: 55.0 **Precipitation:** 0.0 inches Rain

Morning: Sunny **Afternoon:** Sunny

Observations Made: Landfill CQA: Soil Liner QC/QA

Additional Info:
Arrived on site and met with SFC crew. The crew was excavating clay liner material from an onsite stockpile located in the site's borrow area. The clay material was loaded and hauled to the cell floor where it was spread by dozer into a loose lift. To meet OMC requirements, the crew used a water truck to hydrate the lift and used a tractor with a disk harrow to process the lift. After tilling, the lift was compacted using a cleated compactor.

No tests were conducted.

Tests Performed:
Attachments:

Planned Activities: Test compacted lift

Report by: Josh Acosta	**Reviewed by:** Brad Fureigh

APPENDIX B

PHOTOGRAPHIC LOG

Photo No. 1
Looking northeast at excavation between the active Class 1 landfill and Closed Class 1 landfill using excavators and off-road haul trucks.

Photo No. 2
Looking south at completed excavation of 13A cell footprint near east end of cell.

Photo No. 3
Looking west at excavated cell in valley between the two landfills.

Photo No. 4
Contractor beginning to excavate Site 4.

Photo No. 5
Dozers were used to fine grade the clay lifts and a CAT 815 was used to process and compact the clay.

Photo No. 6
A water truck was used to add water and moisture condition the clay and dozers were used to blend the soils until suitable for compaction and testing.

Photo No. 7
Looking west at continued clay liner installation near the middle of Cell 13A.

Photo No. 8
Looking east at installation of clay liner near the east end of Cell 13A.

Photo No. 9
The existing geosynthetics were exposed around the perimeter of Cell 13A for tie-in.

Photo No. 10
Dozers equipped with GPS equipment were used to fine grade the final lift of clay while a smooth drum roller was used to smooth the top surface in preparation of geosynthetics installation.

Photo No. 11
Trial welds were prepared prior to panel seaming at least every five hours. Trial welds and destructive samples were tested using a field tensiometer.

Photo No. 12
The secondary geomembrane liner was deployed using a rubber tracked skid steer and manpower.

Photo No. 13
A double track fusion welder was used to seam the geomembrane panels.

Photo No. 14
Fusion welded seams were pressurized with air to ensure the seams were welded properly.

Photo No. 15
Destructive samples were obtained at least every 500-ft of seam length. The destructive samples were tested with the field tensiometer as well as shipped to a third-party laboratory for testing. Destructive samples were repaired with patches, as shown in this photo, that were extrusion welded and then vacuum box tested.

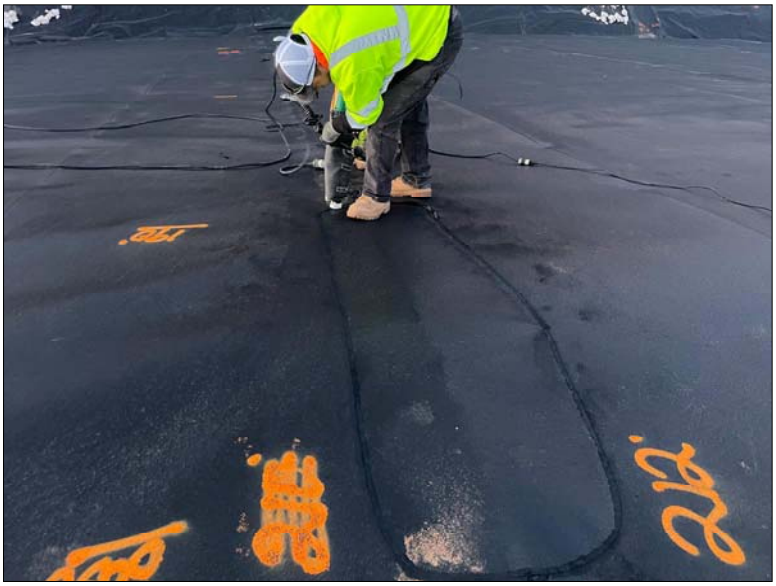


Photo No. 16
An extrusion welder was used to weld patches on repairs and at tie-ins where double track fusion welding was not possible.

Photo No. 17
Anchor trenches were backfilled and compacted prior to being capped with a layer of geomembrane.

Photo No. 18
Vacuum box testing was performed on extrusion welded seams. Soapy water was applied over the extrusion welds, then the vacuum box was used to attempt to pull air through the recently welded seam.

Photo No. 19
Geocomposite was installed over the secondary liner as part of the leak detection system (LDS) and over the primary liner as part of the leachate collection system (LCS).

Photo No. 20
The geonet portion of the geocomposite was zip-tied as required by the CQA Plan. The geotextile portion of the geocomposite was heat bonded at the seams.

Photo No. 21
A center collection trench for the LDS was installed from west to east along the full length of Cell 13A. The LDS corridor consists of a 6-in perforated HDPE pipe covered in aggregate and wrapped in non-woven geotextile.

Photo No. 22
Aggregate is being added over the 6-in LDS pipe in the west end of Cell 13A. The LDS was constructed from west to east.

Photo No. 23
Once the secondary liner system was complete, a GCL layer was placed directly over the top of the LDS Geocomposite drainage layer.

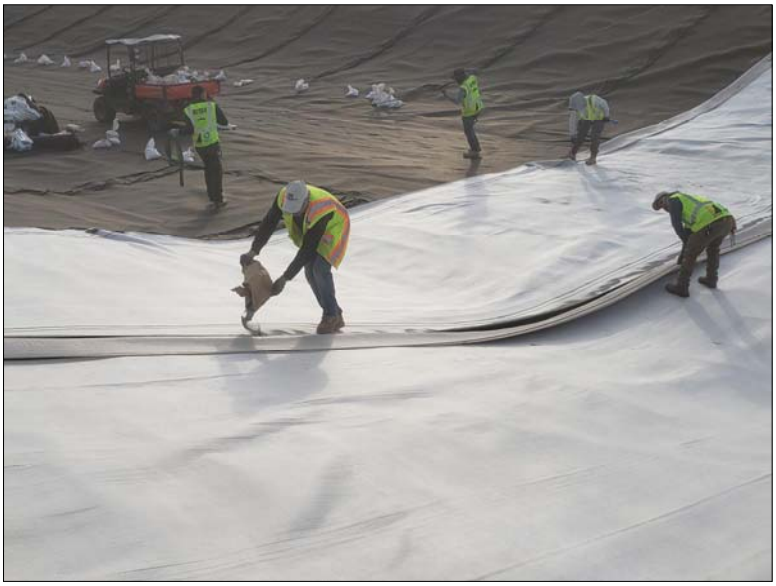


Photo No. 24
Powdered bentonite was applied to the overlapped seams of the GCL as required by the CQA Plan.

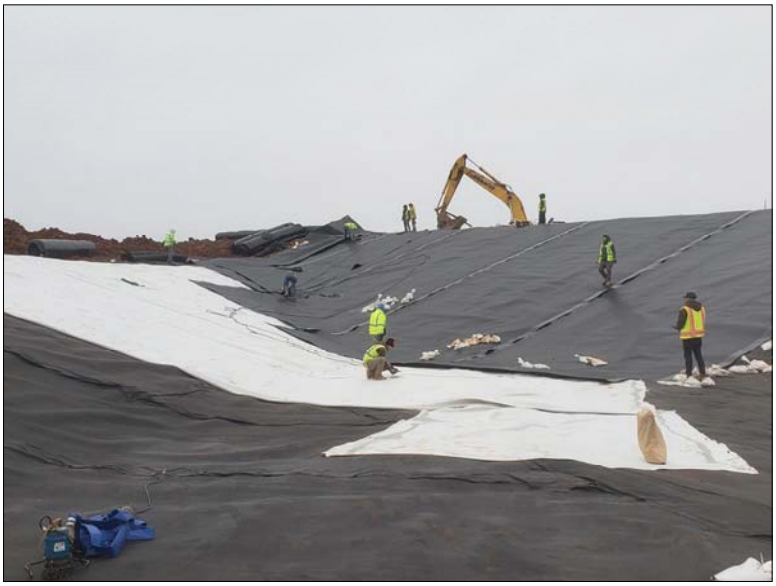


Photo No. 25
The GCL was covered each day with 60 mil geomembrane (primary liner).

Photo No. 26
Looking west at non-woven geotextile being placed over the top of the LDS corridor.

Photo No. 27
The primary liner was extrusion welded to the secondary liner around the perimeter of Cell 13A.

Photo No. 28
Geomembrane cap strips were extrusion welded over the anchor trenches located around the perimeter of Cell 13A.

Photo No. 29
Looking northwest at the completed primary geomembrane liner near the east end of Cell 13A.

Photo No. 30
A rubber tracked skid steer was used to install aggregate in the LCS corridor.

Photo No. 31
Looking west at the LCS corridor construction where the temporary LCS vertical riser will be installed to collect and remove leachate from Cell 13A.

Photo No. 32
The overlapped portion of the non-woven geotextile wrap around the LCS corridor was sewn per the project specifications.

Photo No. 33
Soil from the north slope of the existing final cover system of the Closed landfill was used for onsite soil protective cover.

Photo No. 34
Installation of the 18-in HDPE LDS riser on the north slope of Cell 13A.

Photo No. 35
Depth verification was performed by Promus personnel at each certification survey point over Site 3 and Site 4 to confirm at least 6-in clay remained in place, prior to placement of overliner geosynthetics.

Photo No. 36
Looking southwest at completed grading of Site 4 prior to installation of geosynthetics.

Photo No. 37
Installation of GCL and geomembrane liner over Site 4.

Photo No. 38
Installation of drainage Geocomposite over Site 4.

Photo No. 39
Looking east at installed LCS vertical riser near the east end of Cell 13A.

Photo No. 40
Looking south at completed grading of Site 3 prior to installation of geosynthetics.

Photo No. 41
Installation of GCL and geomembrane liner over Site 3.

Photo No. 42
Looking east at temporary rain flap berm located at the east end Cell 13A.

Photo No. 43
Temporary geomembrane rain flap installed over the berm located on the east side of Cell 13A at the temporary sump.

Photo No. 44
Construction of a new geomembrane lined flume on the south side of Site 4.

Photo No. 45
Construction of the temporary LCS sump at the east end of Cell 13A.

Photo No. 46
Looking west at the North Phase LCS and LDS risers and cleanout pipes being extended to the west perimeter of Cell 13A. A gravel berm was constructed across the floor and along the north perimeter to support the piping without impeding the flow of leachate to the sump end of Cell 13A.

Photo No. 47
A temporary leachate forcemain was installed at the east end of Cell 13A to convey leachate from the LCS and LDS to onsite storage tanks. The forcemain was tied-into the existing dual contained forcemain south of existing Cell 1.

Photo No. 48
Construction of the new concrete headwall for the North Phase risers, located at the west perimeter of Cell 13A.

APPENDIX C

COMPACTED CLAY LINER

TABLE C-1

Eco-Vista Class 1 Landfill, Cell 13A

Laboratory Test Data - Compacted Clay Liner Preconstruction Testing

Sample ID	Atterberg Limits			Grain Size % Passing			USCS Classification	Proctor Data		Remolded Perm. (k)	Remarks
	LL	PL	PI	1-in	No. 4	No. 200		$\gamma_{d(max)}$ (pcf)	w_{opt} (%)	(cm/sec)	
0927A	46	21	25	100.0	94.8	68.5	CH	106.2	17.7	5.1E-08	Tan/Brown Sandy Lean Clay

Statistical Summary

Minimum	46	21	25	100	95	68.5	-	106.2	17.7	5.1E-08	
Maximum	46	21	25	100	95	68.5	-	106.2	17.7	5.1E-08	
Average	46	21	25	100	95	68.5	-	106.2	17.7	5.1E-08	(1)
Standard Deviation	-	-	-	-	-	-	-	-	-	N/A	
Requirements	-	-	≥ 10	100	≥ 80	≥ 30	CL, CH, or SC	-	-	≤ 1.0E-07	
Number of Tests	1			1			-	1		1	
Required Precon. Test Frequency	1/20000 CY			1/20000 CY			1/20000 CY	1/20000 CY		1/20000 CY	
Test Frequency	1/16940 CY			1/16940 CY			1/16940 CY	1/16940 CY		1/16940 CY	

Notes:

(1) Geometric mean.

(2) Test frequency based on 16940 CY of CSL for the project

TABLE C-2

Eco-Vista Class 1 Landfill, Cell 13A

Laboratory Test Data - Compacted Clay Liner Construction Testing

Sample ID	Atterberg Limits			Grain Size % Passing			USCS Classification	Proctor Data		Permeability (k) (cm/sec)	Remarks
	LL	PL	PI	1-in	No. 4	No. 200		$\gamma_{d(max)}$ (pcf)	w_{opt} (%)		
1002B	46	20	26	100.0	99.5	84.7	CL	108.0	18.0	4.1E-08	Brown, lean clay with sand
1002D	45	20	25	100.0	99.0	86.0	CL	107.4	17.2	4.0E-08	Brown, lean clay
1118A	44	20	24	100.0	98.0	86.7	CL	110.3	17.6	8.2E-08	Red/Brown, lean clay
1118B	45	20	25	100.0	97.5	85.0	CL	110.2	17.4	8.8E-08	Red/Brown, lean clay
1018A	-	-	-	-	-	-	-	-	-	4.4E-08	Undisturbed Perm Test
1018B	-	-	-	-	-	-	-	-	-	3.3E-08	Undisturbed Perm Test
1109A	-	-	-	-	-	-	-	-	-	7.0E-08	Undisturbed Perm Test
1109B	-	-	-	-	-	-	-	-	-	8.0E-08	Undisturbed Perm Test
1109C	-	-	-	-	-	-	-	-	-	1.7E-08	Undisturbed Perm Test
1109D	-	-	-	-	-	-	-	-	-	2.9E-08	Undisturbed Perm Test
1109E	-	-	-	-	-	-	-	-	-	1.1E-08	Undisturbed Perm Test
1109F	-	-	-	-	-	-	-	-	-	1.6E-08	Undisturbed Perm Test
1110A	-	-	-	-	-	-	-	-	-	9.4E-08	Undisturbed Perm Test
1110B	-	-	-	-	-	-	-	-	-	7.2E-08	Undisturbed Perm Test
1110C	-	-	-	-	-	-	-	-	-	1.6E-08	Undisturbed Perm Test
1112A	-	-	-	-	-	-	-	-	-	3.3E-08	Undisturbed Perm Test
1112B	-	-	-	-	-	-	-	-	-	4.4E-08	Undisturbed Perm Test
1112C	-	-	-	-	-	-	-	-	-	2.1E-08	Undisturbed Perm Test
1112D	-	-	-	-	-	-	-	-	-	2.2E-08	Undisturbed Perm Test
1112E	-	-	-	-	-	-	-	-	-	3.2E-08	Undisturbed Perm Test
1116A	-	-	-	-	-	-	-	-	-	4.4E-08	Undisturbed Perm Test
1116B	-	-	-	-	-	-	-	-	-	8.8E-08	Undisturbed Perm Test
1116C	-	-	-	-	-	-	-	-	-	3.3E-08	Undisturbed Perm Test
1116D	-	-	-	-	-	-	-	-	-	1.1E-08	Undisturbed Perm Test
1116E	-	-	-	-	-	-	-	-	-	1.1E-08	Undisturbed Perm Test
1117A	-	-	-	-	-	-	-	-	-	4.1E-08	Undisturbed Perm Test
1117B	-	-	-	-	-	-	-	-	-	1.5E-08	Undisturbed Perm Test
1117C	-	-	-	-	-	-	-	-	-	1.4E-08	Undisturbed Perm Test
1117D	-	-	-	-	-	-	-	-	-	4.0E-08	Undisturbed Perm Test
1117E	-	-	-	-	-	-	-	-	-	1.6E-08	Undisturbed Perm Test
1117F	-	-	-	-	-	-	-	-	-	2.2E-08	Undisturbed Perm Test
1117G	-	-	-	-	-	-	-	-	-	1.6E-08	Undisturbed Perm Test

TABLE C-2

Eco-Vista Class 1 Landfill, Cell 13A

Laboratory Test Data - Compacted Clay Liner Construction Testing

Sample ID	Atterberg Limits			Grain Size % Passing			USCS Classification	Proctor Data		Permeability (k) (cm/sec)	Remarks
	LL	PL	PI	1-in	No. 4	No. 200		$\gamma_{d(max)}$ (pcf)	w_{opt} (%)		
1117H	-	-	-	-	-	-	-	-	-	1.6E-08	Undisturbed Perm Test
1206A	-	-	-	-	-	-	-	-	-	1.1E-08	Undisturbed Perm Test
1206B	-	-	-	-	-	-	-	-	-	2.0E-08	Undisturbed Perm Test
1206C	-	-	-	-	-	-	-	-	-	2.3E-08	Undisturbed Perm Test
1206D	-	-	-	-	-	-	-	-	-	2.0E-08	Undisturbed Perm Test
1207A	-	-	-	-	-	-	-	-	-	1.2E-08	Undisturbed Perm Test
1207B	-	-	-	-	-	-	-	-	-	1.4E-08	Undisturbed Perm Test

Statistical Summary

Minimum	44	20	24	100	98	85.0	-	110.2	17.4	1.1E-08
Maximum	45	20	25	100	98	86.7	-	110.3	17.6	9.4E-08
Average	45	20	25	100	98	86	-	110.3	17.5	3.9E-08 (2)
Standard Deviation	1	0.0	0.7	0.0	0.4	1.2	-	0.1	0.1	N/A
Requirements	-	-	≥ 10	100	≥ 80	≥ 30	CL, CH, or SC	-	-	≤ 1.0E-07
Number of Tests	4			4			4	4		35
Required Frequency	1/5000 CY			1/5000 CY			1/5000 CY	1/5000 CY		1/40000 SF/LIFT
Test Frequency (1)	1/4235 CY			1/4235 CY			1/4235 CY	1/4235 CY		1/24891 SF

Notes:

(1) Actual test frequencies are approximate and based on 5 acres with 16940 CY of CSL placed in 4 lifts across the 5-acre cell.

(2) Geometric mean.

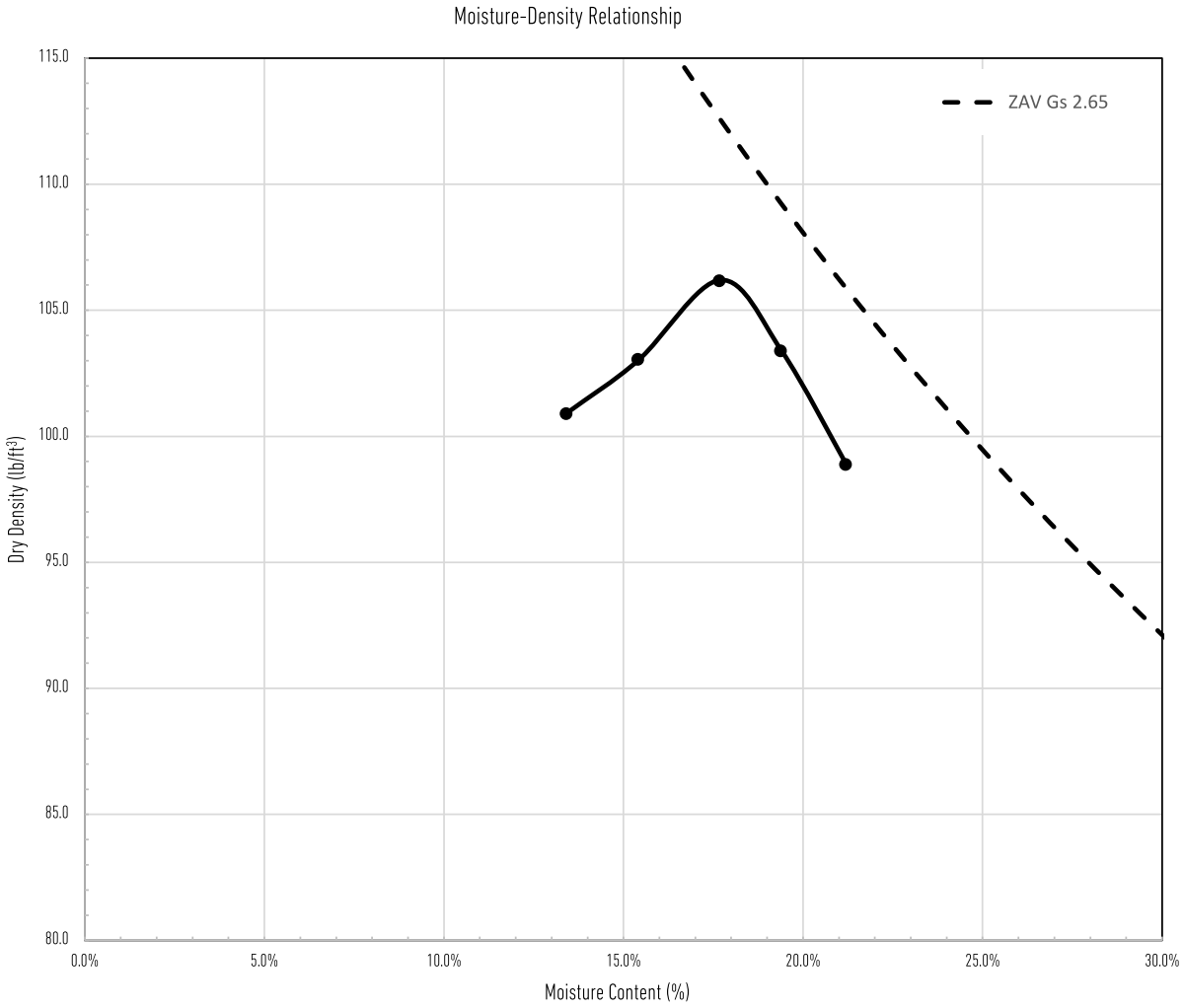
Laboratory Testing
Compacted Clay Liner

STANDARD EFFORT COMPACTION TEST RESULTS

ASTM D 698

Sample ID: 0927-A
Description: Tan / Brown Sandy Lean Clay
Source: 0

Test Date: 10/12/2023
Test Date:
Test By: JDY



PREP. METHOD: Moist sample preparation
TEST METHOD: Method A; 4-inch dia. mold, 5.5 lb hammer, 3 layers, 25 blows/layer

TEST RESULTS

Sample Moisture Content:	**15.3 %**
Maximum Dry Density:	**106.2 lb/ft3**
Optimum Moisture Content:	**17.7 %**

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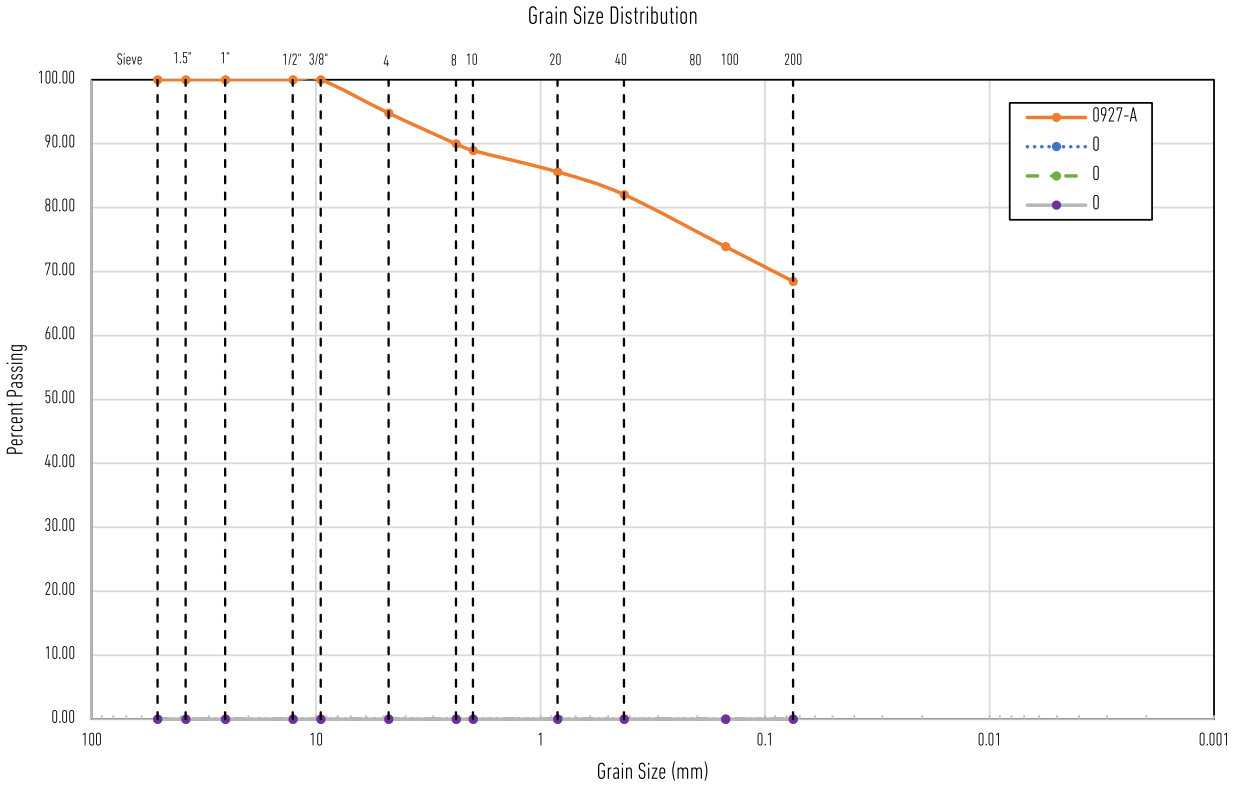
PROJECT: Eco Vista Landfill
PROJECT NO: 230181 TEST DATE: 12-Oct-23
CLIENT: Waste Management

FIGURE

GRAIN SIZE ANALYSIS TEST RESULTS



Sample	% GRAVEL	% MED. TO COARSE SAND	% FINE SAND	% FINES (SILT AND CLAY)
0927-A	0.00	11.07	20.46	68.47

Sample	**0927-A**			
Source				
MC	15.3%			
2.0"	100.00			
1.5"	100.00			
1"	100.00			
1/2"	100.00			
3/8"	100.00			
No. 4	94.78			
No. 8	89.98			
No. 10	88.93			
No. 20	85.59			
No. 40	82.04			
No. 200	68.47			

PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405

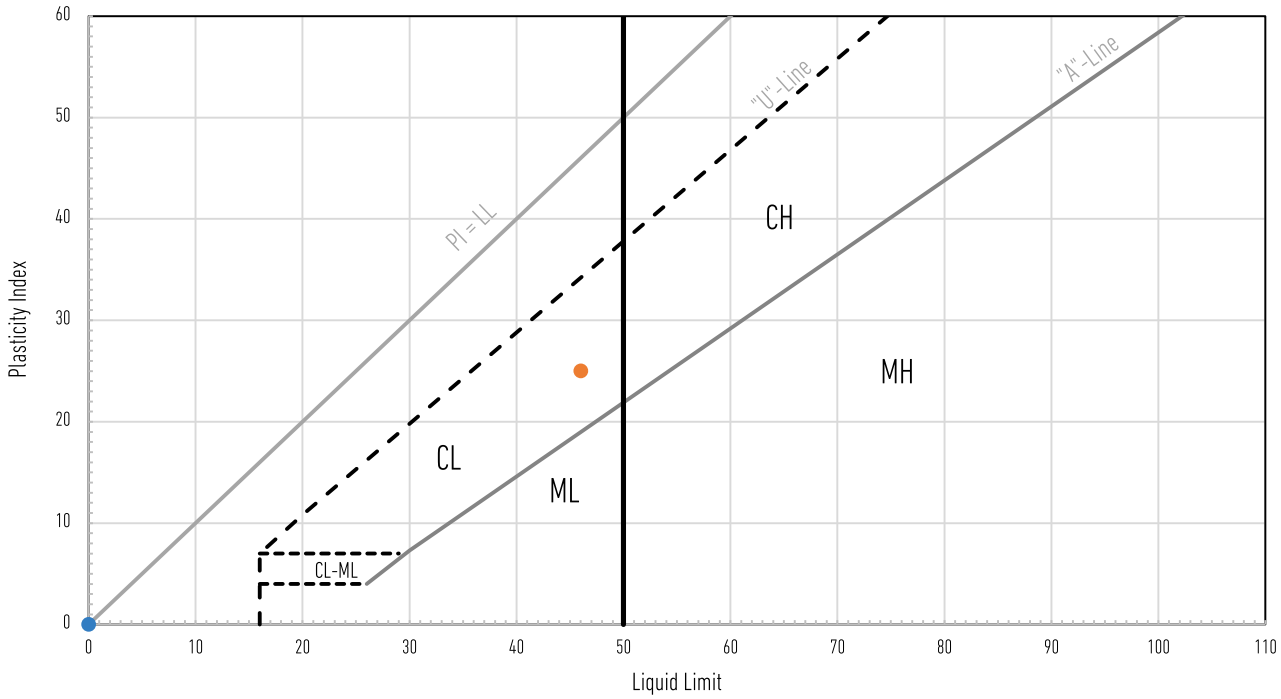
PROJECT: Eco Vista Landfill

PROJECT NO: 230181 TEST DATE: 12-Oct-23

CLIENT: Waste Management

FIGURE

SOIL CLASSIFICATION TEST RESULTS



Sample ID	Depth or Source	LL	PL	PI	Fines	USCS	Soil Description
0927-A		46	21	25	68.5	CH	Brown / Tan Sandy Lean Clay

PROMUS ENGINEERING
100 Cherokee Blvd. Ste 325, Chattanooga TN 37405 (888) 811-9066

PROJECT: Eco Vista Landfill

PROJECT NO: 230181

CLIENT: Waste Management

FIGURE

PROMUS ENGINEERING

HYDRAULIC CONDUCTIVITY

FLEXIBLE-WALL PERMEAMETER, CONSTANT VOLUME, FALLING-HEAD, ASTM D5084 Method F

PROJECT NO.: 230181 PROJECT: Eco Vista Landfill DATE: 10/18/2023

SAMPLE ID: 0927-A DESCRIPTION:

SAMPLE INFORMATION

Type (Remold/Und.):	Remold
Diameter (in):	2.83
Height (in):	2.80
Moist Weight (g):	564.4
Unit Wt. (wet) (pcf):	122.0
Unit Wt. (dry) (pcf):	100.9
% Max DD:	95%

MOISTURE CONTENT

	Initial	Final
Tare ID	ST41	ST13
Tare Wt (g)	14.12	14.07
Wet Wt (g)	58.93	63.18
Dry Wt (g)	51.20	53.65
Moisture Content	20.8%	24.1%
+/- OMC	3.1%	6.4%
Sample Saturation:	87%	100%

QUALITY CONTROL

Setup By:	JDY
Calc By:	JDY
Appr. By:	JDY

SOIL PROPERTIES

Specific Gravity:	2.65	*
Max DD:	106.2	
OMC:	17.7%	

* assumed

DATA

Consol. Press. (psi)	10.0
Back Press. (psi):	65.0
Hyd. Gradient:	28
Equil. Menisci, R_{eq}:	1.6
Pipette Menisci, Rp:	16.8

TEST EQUIP. DATA

Board ID:	1M
Permometer ID:	1
Pipete Area, a_p (cm^2):	0.031416
Annulus Area, a_a (cm^2):	0.76712
Permeant:	Tap Water

TEST READINGS

	Date (m/d)	Elapsed t (sec)	Z (pipet @t)	ΔZp (cm)	Temp. °C	R_T (T corr.)	Perm., k_{20} (cm/sec)	Acceptance Vm	Acceptance OK?
1	10/21	300	16.2	0.5847	23.4	0.92	5.07E-8	0.4%	OK
2	10/21	600	15.6	1.1847	23.4	0.92	5.24E-8	2.8%	OK
3	10/21	900	15.1	1.6847	23.4	0.92	5.05E-8	0.8%	OK
4	10/21	1200	14.6	2.1847	23.4	0.92	5.00E-8	1.7%	OK
		1500		16.7847	23.4	0.92	#NUM!	#NUM!	#NUM!
		1800			23.4	0.92			

Average of selected 4 consecutive values, k_a: 5.09E-8

Acceptance Criteria (4 consecutive readings):

Vm ≤ 15% for ka ≥ 1.00E-8

Vm < 50% for ka < 1.00E-8

Vm Acc: 15%

AVERAGE CORRECTED HYDRAULIC CONDUCTIVITY, k_{20}: 5.09E-08

Comments/Qualifiers:

CQA Testing Laboratory

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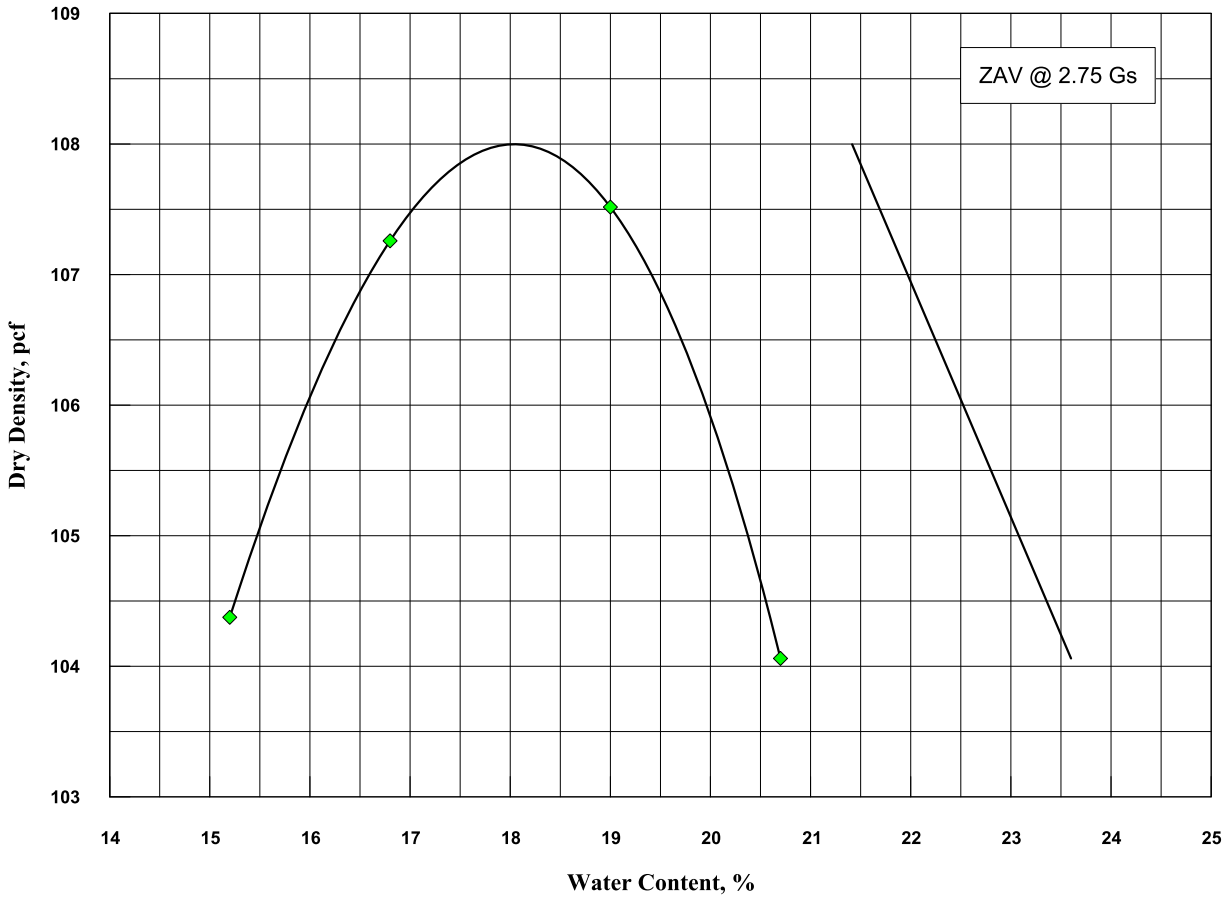
Lab ID: 05091

Laboratory Compaction Test
ASTM D698, Standard Compaction Test, Mechanical Rammer
Method B, Moist Method



Report Date:	10.08.2023	**Received Date:**	10.05.2023	**Ran by:**	JMB	**Checked by:**	BMG
Max. Dry Density, pcf:	**108.0**			**OMC, %:**	**18.0**		
Corrected for Oversize:	**N/A**			**Corrected:**	**N/A**		

Project: Eco-Vista Landfill, Cell 13 A **Client:** Waste Management of Arkansas

Project Number: 2330 **Sample Location:** 1002 B

Sample Description: Brown CL, lean clay, with sand

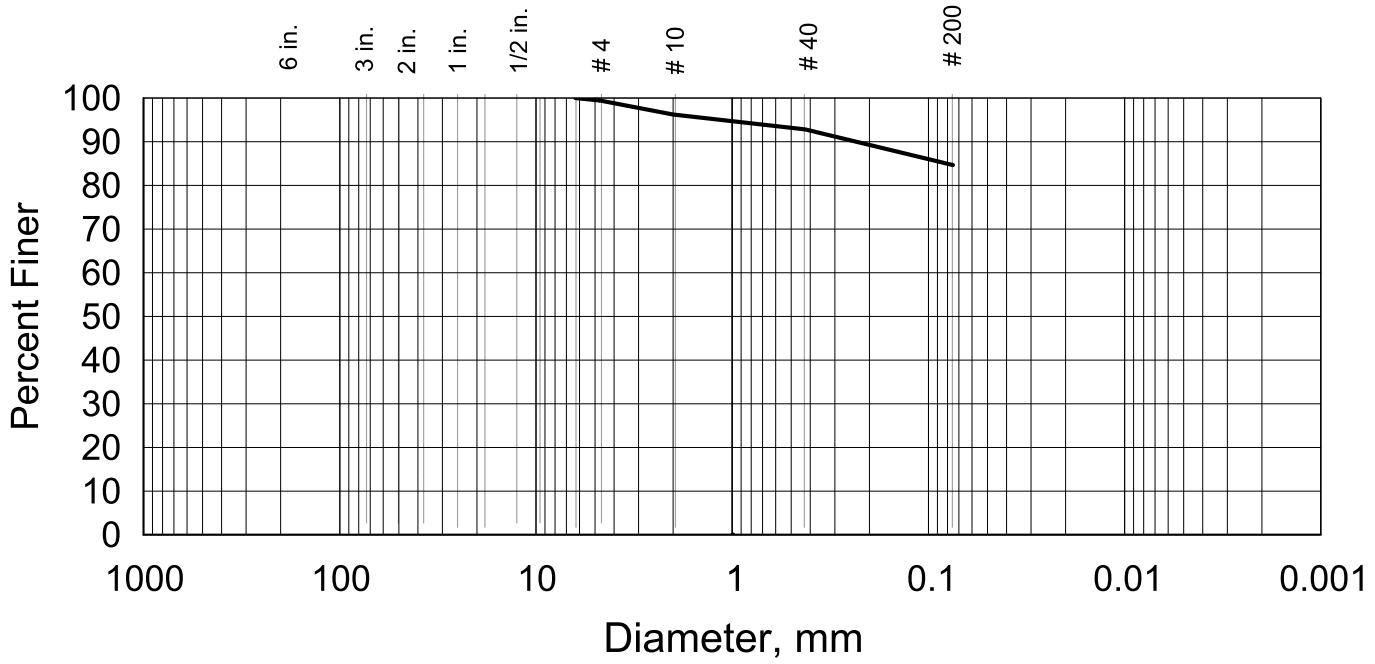
LL	PL	PI	NMC
46	20	26	14.8

Gravel, %	Sand, %	Clay, %	P-200
N/A	14.8	N/A	85.2

Traceability Items

Balance ID	Hammer ID	Mold ID	Other
1	1S	A	
2	**Page ID**	**1002 B**	**Compaction**

Particle Distribution Test Result



Grain-size Analysis ASTM D6913/D1140

Proj. Name: Eco-Vista Landfill, Cell 13 A	Gravel, %	Sand, %	Silt, %	Clay, %	LL	PI
Project No.: 2330	0.5	14.8			46	26
Report Date 10.10.2023 Log-in Date 10.05.2023	**Description and Classification**					
Project Loc. Arkansas	Brown	CL, lean clay,	with sand			
	Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type	6 "		2.5 "		3/8 "	
1002 B Bulk Sample	5 "		2 "		1/4 "	100.0
Remarks: **NMC, %** **14.8**	4.5 "		1- 1/2 "		# 4	99.5
Moist Method, ASTM D6913 - D1140 Bulk	4 "		1 "		# 10	96.3
Sample wt., kg	3.5 "		3/4 "		# 40	92.8
24.18	3 "		1/2 "		# 200	84.7

Sedimentation ASTM D7928

Hygroscopic Moisture Content Data		Hydrometer Specimen Wet wt.	0.00	**Traceability Items**		
WS+t	0.00	Hydrometer Specimen Dry wt.	ERR	Balance ID	1	2
DS+T	0.00	Assumed Gs	2.75	Therm ID	58981	NA
Tare wt	0.00	Percent <#40 based on complete specimen	92.83	Flask ID	1	NA
Moist Ratio	ERR	Calculated biased weight	ERR	Bulb ID	1	152H
		Composite Correction at 20 deg C	-6	Sol Mix, ml	125	NA
		Meniscus Correction only	1	Tested By	JMB	BMG

Hydrometer Reading Data			Temp.	Corrected			Effective	Diameter, mm	Percent
Time, min.	Readings	Temp.	Correction, Ct	Reading, Rc	K	Rm	depth		finer
2	0	0		-6		1	16.13	0.0000	
5	0	0		-6		1	16.13	0.0000	
15	0	0		-6		1	16.13	0.0000	
30	0	0		-6		1	16.13	0.0000	
60	0	0		-6		1	16.13	0.0000	
240	0	0		-6		1	16.13	0.0000	
600	0	0		-6		1	16.13	0.0000	

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Recompacted Specimen

Project Number:	**2330**	**Specimen Received Date:**	**10.05.2023**	**Test Date:**	**10.13.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**10.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1002 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:
Recompacted Specimen

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	18.0	24.5	Maximum Dry Density, pcf		108.0	102.6	0.0
Percent Saturation	73.6	101.1	Optimum Moisture Content, (%)		18.0	18.0	0.0
Wet Mass Density, (pcf)	121.1	128.2	**Percent Compacted:**	95.0		95.0	0.0
Dry Mass Density, (pcf)	102.6	103.0					
Height of Solids, (in)	1.793	1.798	**Test Pressures During Test**				
Void Ratio	0.673	0.667	Backpressure, psi		50		
Calculated Porosity, (%)	40.24	40.02	Effective Confining Stress, psi		5		

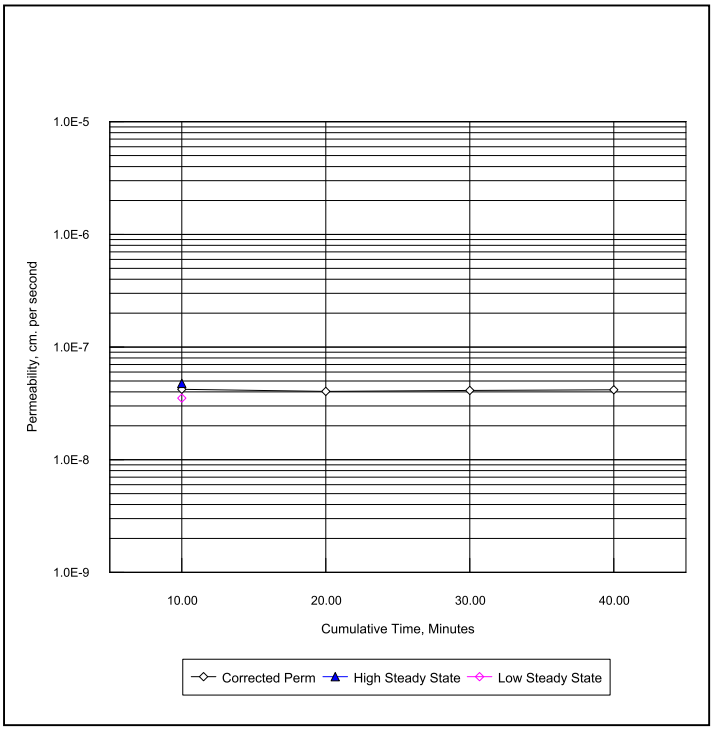
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	7.62	7.61
Specimen Diameter, cm	10.16	10.14
Specimen Area, cm^2	81.06	80.81
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	1198	1264
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	T-2
Balance ID	1	**CV Hg ID**	2
Thermo ID	2		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0940
Test Constant, C=(M1*S/G)	**0.000226**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	4.2E-008	4.2E-008
10	20.00	4.0E-008	4.0E-008
10	30.00	4.1E-008	4.1E-008
10	40.00	4.2E-008	4.2E-008

Average Permeability, Corrected k:		**4.1E-008**
	15% of Average	6.2E-009
	High Steady State Limit:	4.8E-008
	Low Steady State Limit:	3.5E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
10.13.2023	6.0167	0	1.100	14.900	24.557			0.075	20
10.13.2023	6.1833	600	1.157	13.500	21.964	1.000	1.400	0.084	20
10.13.2023	6.3500	600	1.206	12.300	19.741	1.000	1.200	0.094	20
10.13.2023	6.5167	600	1.251	11.200	17.704	1.000	1.100	0.105	20
10.13.2023	6.6833	600	1.292	10.200	15.851	1.000	1.000	0.117	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	16.86
Unmeasured Flow, cm:	1.96

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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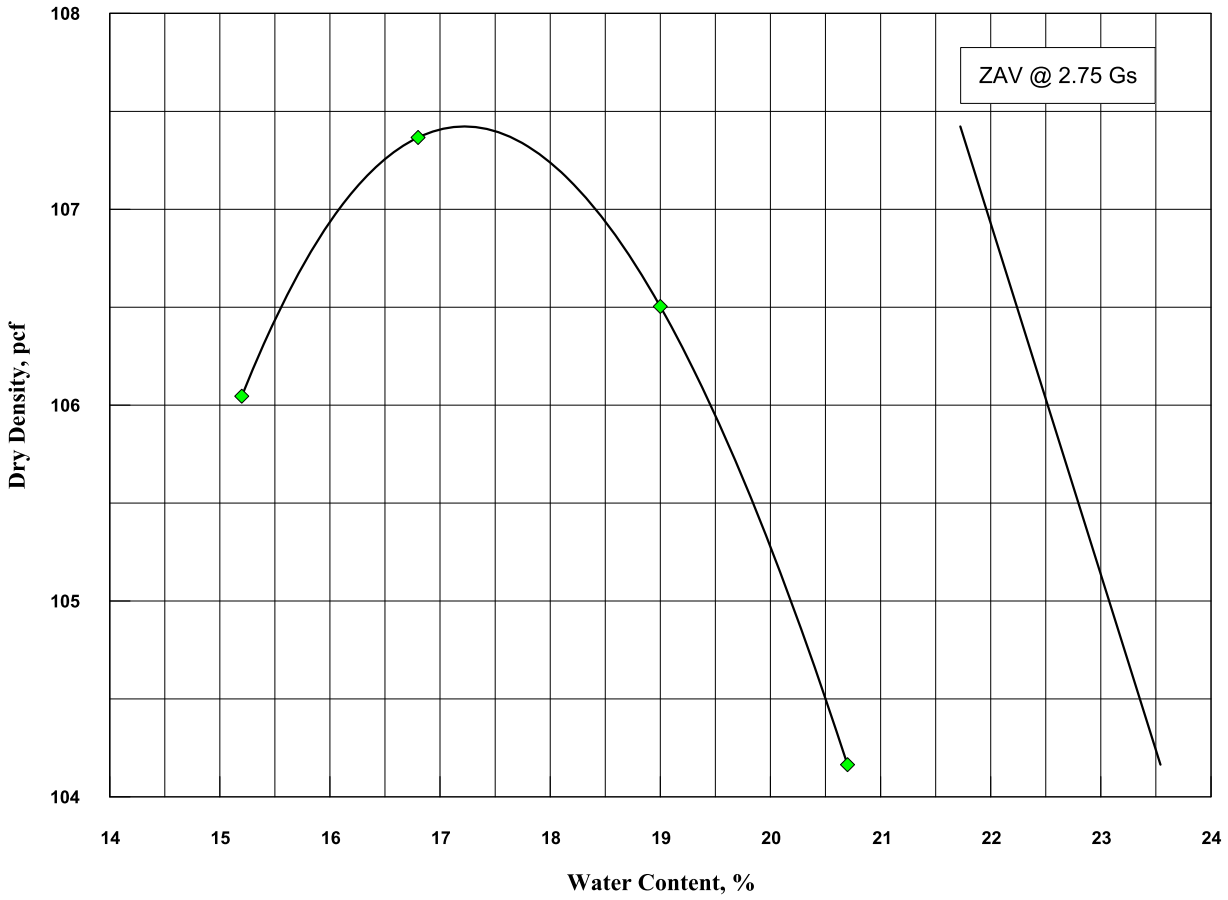
CQA Testing Laboratory

14194 Florida - Livingston, LA., 70754 Phone 225-435-0408 Mobile 812-603-6840

Lab ID: 05091

Laboratory Compaction Test
ASTM D698, Standard Compaction Test, Mechanical Rammer
Method B, Moist Method



Report Date:	10.08.2023	**Received Date:**	10.05.2023	**Ran by:**	JMB	**Checked by:**	BMG
Max. Dry Density, pcf:	**107.4**			**OMC, %:**	**17.2**		
Corrected for Oversize:	**N/A**			**Corrected:**	**N/A**		

Project: Eco-Vista Landfill, Cell 13 A **Client:** Waste Management of Arkansas

Project Number: 2330 **Sample Location:** 1002 D

Sample Description: Brown CL, lean clay,

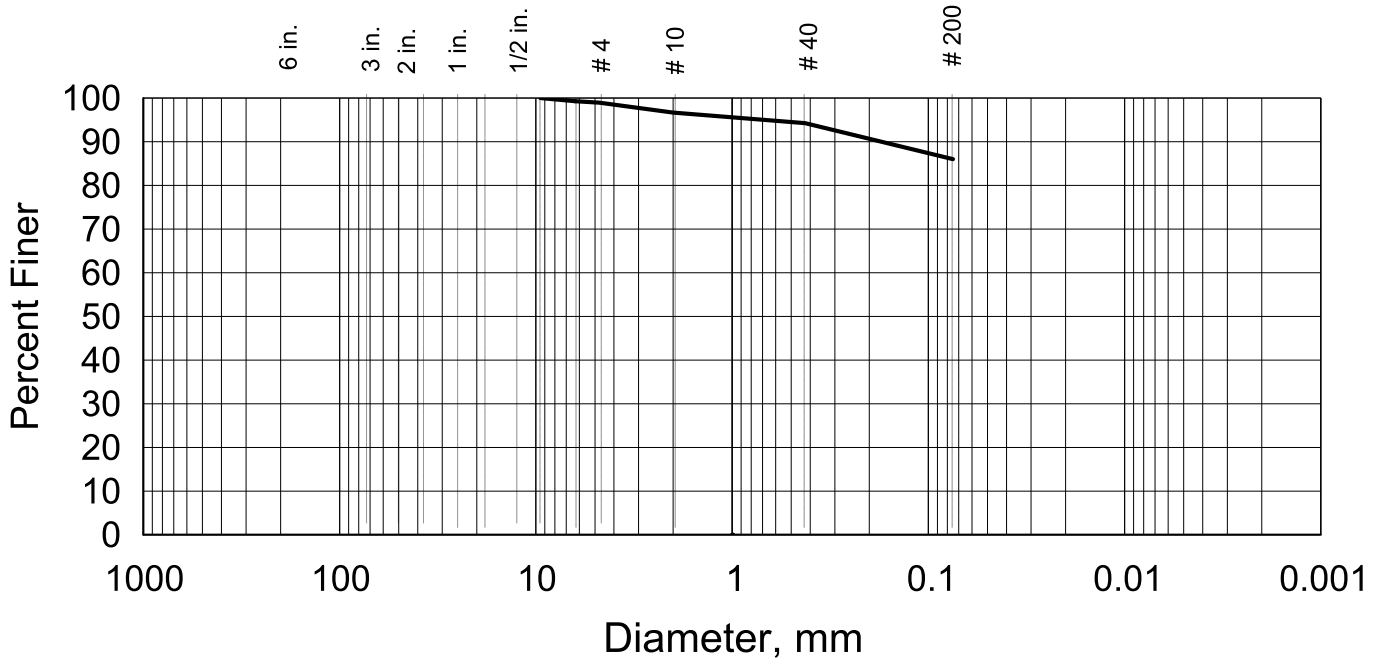
LL	PL	PI	NMC
45	20	25	11.2

Gravel, %	Sand, %	Clay, %	P-200
1.0	13.0	N/A	86.0

Traceability Items

Balance ID	Hammer ID	Mold ID	Other
1	1S	A	
2	**Page ID**	**1002 D**	**Compaction**

Particle Distribution Test Result



Grain-size Analysis ASTM D6913/D1140

Proj. Name: Eco-Vista Landfill, Cell 13 A	Gravel, %	Sand, %	Silt, %	Clay, %	LL	PI
Project No.: 2330	1.0	13.0			45	25
Report Date 10.10.2023 Log-in Date 10.05.2023	**Description and Classification**					
Project Loc. Arkansas	Brown	CL, lean clay,				
	Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type	6 "		2.5 "		3/8 "	100.0
1002 D Bulk Sample	5 "		2 "		1/4 "	99.3
Remarks: **NMC, %** **11.2**	4.5 "		1- 1/2 "		# 4	99.0
Moist Method, ASTM D6913 - D1140 Bulk	4 "		1 "		# 10	96.7
Sample wt., kg	3.5 "		3/4 "		# 40	94.3
20.19	3 "		1/2 "		# 200	86.0

Sedimentation ASTM D7928

Hygroscopic Moisture Content Data		Hydrometer Specimen Wet wt.	0.00	Traceability Items		
WS+t	0.00	Hydrometer Specimen Dry wt.	ERR	Balance ID	1	2
DS+T	0.00	Assumed Gs	2.75	Therm ID	58981	NA
Tare wt	0.00	Percent <#40 based on complete specimen	94.28	Flask ID	1	NA
Moist Ratio	ERR	Calculated biased weight	ERR	Bulb ID	1	152H
		Composite Correction at 20 deg C	-6	Sol Mix, ml	125	NA
		Meniscus Correction only	1	Tested By	JMB	BMG

Hydrometer Reading Data			Temp.	Corrected			Effective	Diameter, mm	Percent
Time, min.	Readings	Temp.	Correction, Ct	Reading, Rc	K	Rm	depth		finer
2	0	0		-6		1	16.13	0.0000	
5	0	0		-6		1	16.13	0.0000	
15	0	0		-6		1	16.13	0.0000	
30	0	0		-6		1	16.13	0.0000	
60	0	0		-6		1	16.13	0.0000	
240	0	0		-6		1	16.13	0.0000	
600	0	0		-6		1	16.13	0.0000	

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Recompacted Specimen

Project Number:	**2330**	**Specimen Received Date:**	**10.05.2023**	**Test Date:**	**10.13.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**10.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1002 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:
Recompacted Specimen

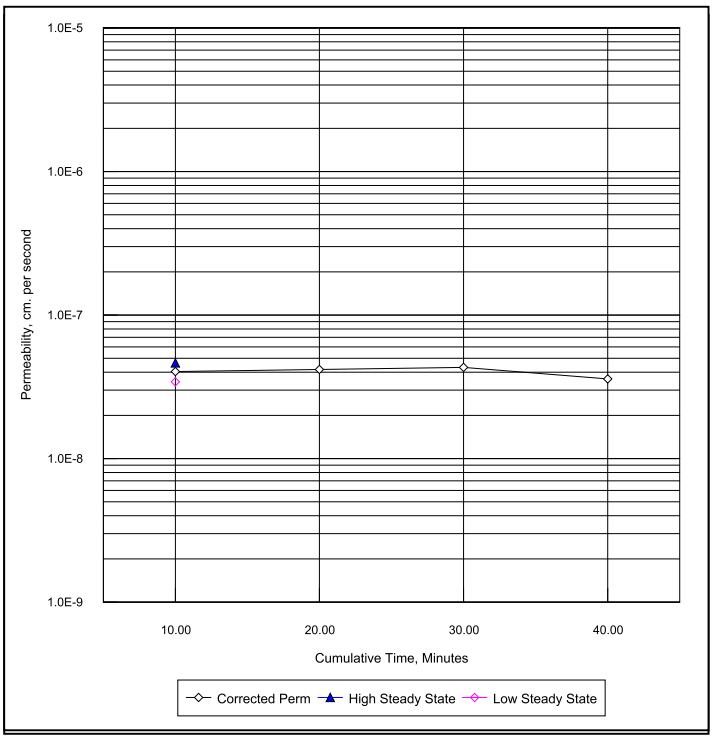
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.2	23.5	Maximum Dry Density, pcf		107.4	102.0	0.0
Percent Saturation	69.4	95.6	Optimum Moisture Content, (%)		17.2	20.2	-3.0
Wet Mass Density, (pcf)	119.6	126.4	**Percent Compacted:**	95.0		95.0	0.0
Dry Mass Density, (pcf)	102.0	102.4					
Height of Solids, (in)	1.783	1.783	**Test Pressures During Test**				
Void Ratio	0.683	0.678	Backpressure, psi		50		
Calculated Porosity, (%)	40.57	40.39	Effective Confining Stress, psi		5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	7.62	7.60
Specimen Diameter, cm	10.16	10.16
Specimen Area, cm^2	81.06	81.06
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	1183.3	1247.2
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	3	**Cell ID**	T-4
Balance ID	2	**CV Hg ID**	4
Thermo ID	2		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0940
Test Constant, C=(M1*S/G)	**0.000226**



Test Data			
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	4.0E-008	4.0E-008
10	20.00	4.2E-008	4.2E-008
10	30.00	4.3E-008	4.3E-008
10	40.00	3.6E-008	3.6E-008

Average Permeability, Corrected k:		**4.0E-008**
	15% of Average	6.0E-009
	High Steady State Limit:	4.6E-008
	Low Steady State Limit:	3.4E-008

	Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
10.13.2023	6.0500	0	1.000	15.400	25.625			0.072	20
10.13.2023	6.2167	600	1.057	14.000	23.032	1.000	1.400	0.080	20
10.13.2023	6.3833	600	1.111	12.700	20.624	1.000	1.300	0.090	20
10.13.2023	6.5500	600	1.160	11.500	18.401	1.000	1.200	0.101	20
10.13.2023	6.7167	600	1.196	10.600	16.734	1.000	0.900	0.111	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	16.86
Unmeasured Flow, cm:	1.46

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory

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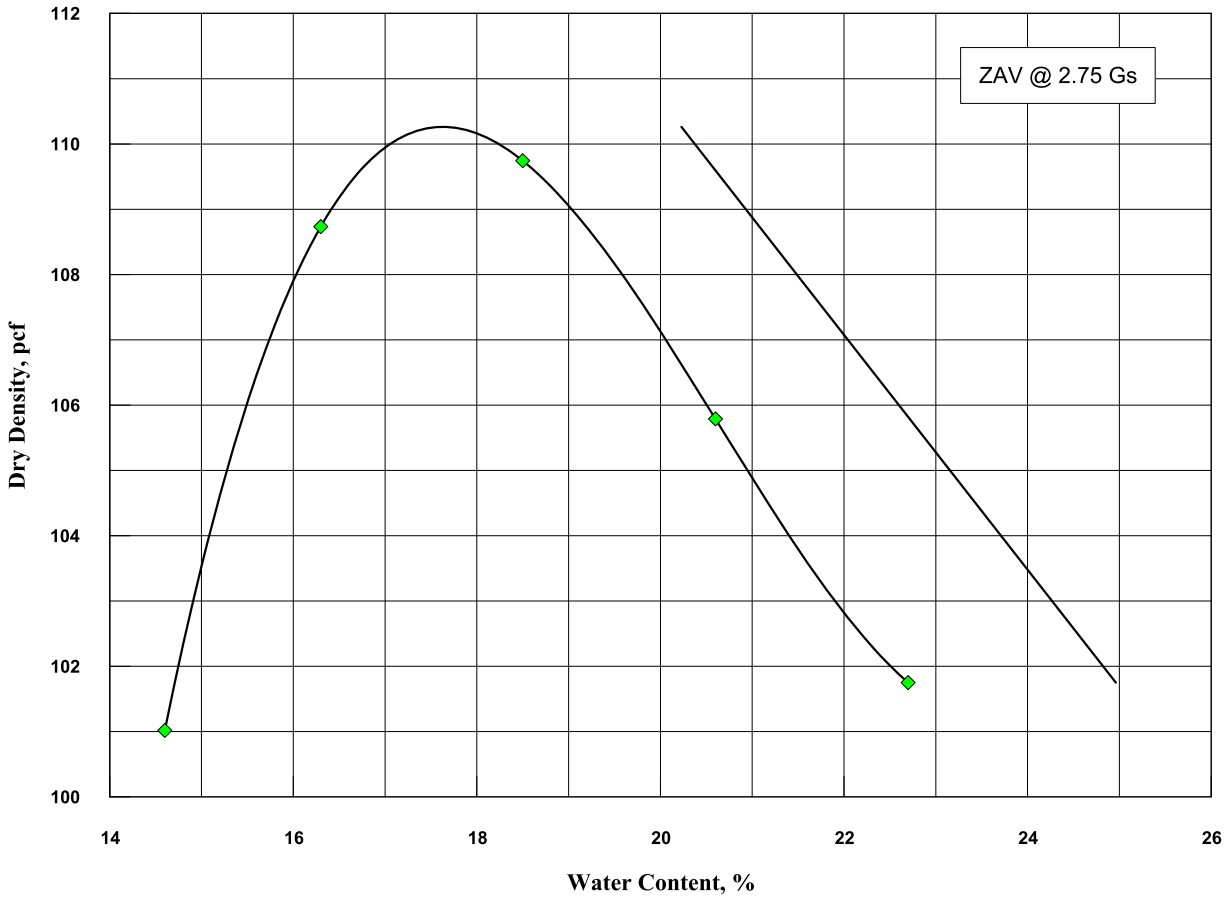
Lab ID: 05091

Laboratory Compaction Test
ASTM D698, Standard Compaction Test, Mechanical Rammer
Method B, Moist Method



Report Date:	11.25.2023	**Received Date:**	11.22.2023	**Ran by:**	JMB	**Checked by:**	BMG
Max. Dry Density, pcf:	**110.3**			**OMC, %:**	**17.6**		
Corrected for Oversize:	**N/A**			**Corrected:**	**N/A**		

Project: Eco-Vista Landfill, Cell 13 A **Client:** Waste Management of Arkansas

Project Number: 2330 **Sample Location:** 1118 A

Sample Description: Red/Brown CL, lean clay,

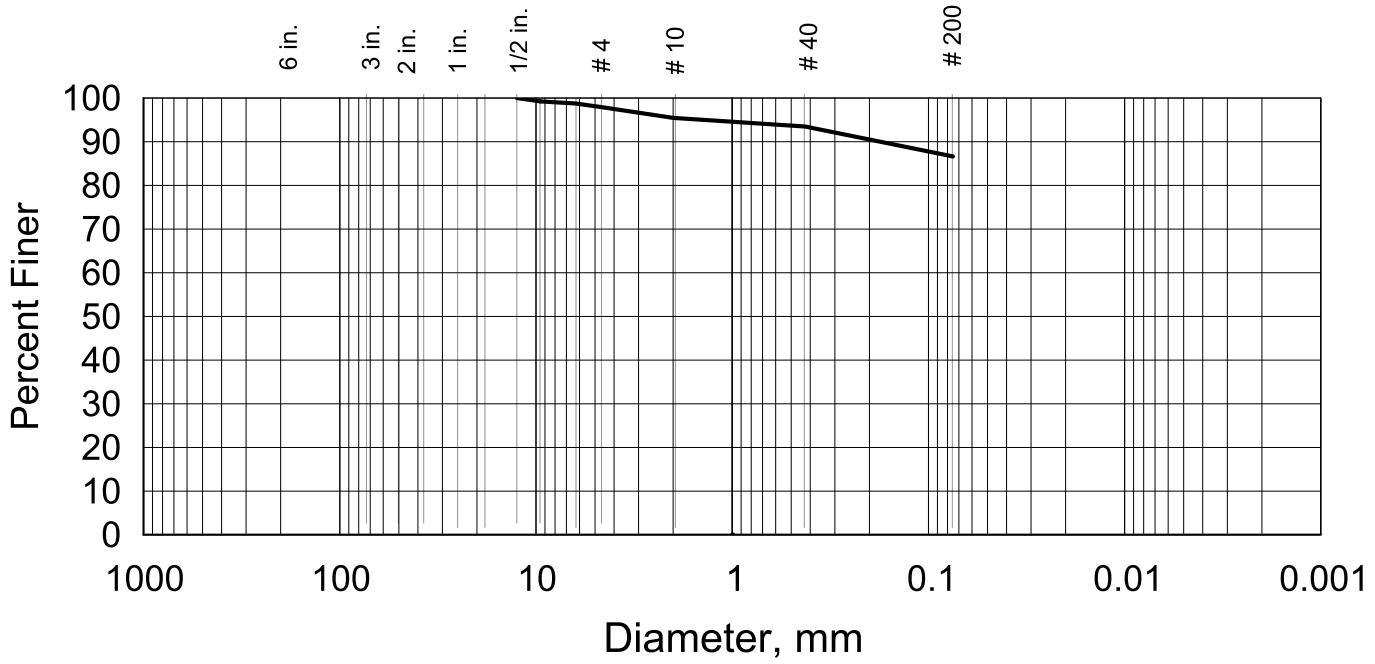
LL	PL	PI	NMC
44	20	24	18.6

Gravel, %	Sand, %	Clay, %	P-200
2.0	11.3	N/A	86.7

Traceability Items

Balance ID	Hammer ID	Mold ID	Other
1	1S	A	
2	**Page ID**	**1118 A**	**Compaction**

Particle Distribution Test Result



Grain-size Analysis ASTM D6913/D1140

Proj. Name: Eco-Vista Landfill, Cell 13 A	Gravel, %	Sand, %	Silt, %	Clay, %	LL	PI
Project No.: 2330	2.0	11.3			44	24
Report Date 11.26.2023 Log-in Date 11.22.2023	**Description and Classification**					
Project Loc. Arkansas	Red/Brown CL, lean clay,					
	Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type	6 "		2.5 "		3/8 "	99.3
1118 A Bulk Sample	5 "		2 "		1/4 "	98.8
Remarks: **NMC, %** **18.6**	4.5 "		1- 1/2 "		# 4	98.0
Moist Method, ASTM D6913 - D1140 Bulk	4 "		1 "		# 10	95.5
Sample wt., kg	3.5 "		3/4 "		# 40	93.5
25.50	3 "		1/2 "	100.0	# 200	86.7

Sedimentation ASTM D7928

Hygroscopic Moisture Content Data		Hydrometer Specimen Wet wt.	0.00	Traceability Items		
WS+t	0.00	Hydrometer Specimen Dry wt.	ERR	Balance ID	1	2
DS+T	0.00	Assumed Gs	2.75	Therm ID	58981	NA
Tare wt	0.00	Percent <#40 based on complete specimen	93.50	Flask ID	1	NA
Moist Ratio	ERR	Calculated biased weight	ERR	Bulb ID	1	152H
		Composite Correction at 20 deg C	-6	Sol Mix, ml	125	NA
		Meniscus Correction only	1	Tested By	JMB	BMG

Hydrometer Reading Data			Temp.	Corrected			Effective	Diameter, mm	Percent
Time, min.	Readings	Temp.	Correction, Ct	Reading, Rc	K	Rm	depth		finer
2	0	0		-6		1	16.13	0.0000	
5	0	0		-6		1	16.13	0.0000	
15	0	0		-6		1	16.13	0.0000	
30	0	0		-6		1	16.13	0.0000	
60	0	0		-6		1	16.13	0.0000	
240	0	0		-6		1	16.13	0.0000	
600	0	0		-6		1	16.13	0.0000	

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Recompacted Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.22.2023**	**Test Date:**	**11.30.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.26.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1118 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:
Recompacted Specimen

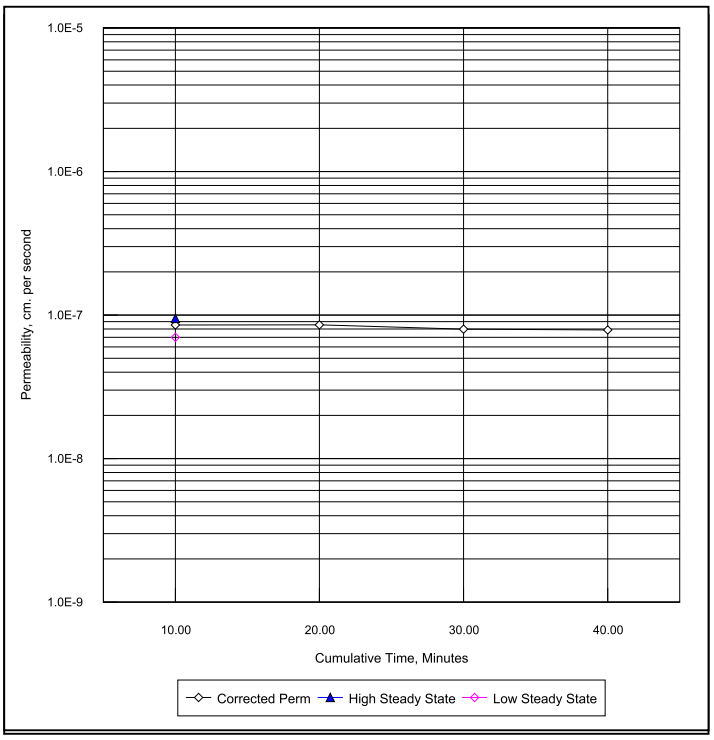
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.6	21.7	Maximum Dry Density, pcf		110.3	104.8	0.0
Percent Saturation	75.9	95.6	Optimum Moisture Content, (%)		17.6	17.6	0.0
Wet Mass Density, (pcf)	123.3	128.6	**Percent Compacted:**	95.0		95.0	0.0
Dry Mass Density, (pcf)	104.8	105.6					
Height of Solids, (in)	1.831	1.831	**Test Pressures During Test**				
Void Ratio	0.638	0.626	Backpressure, psi		50		
Calculated Porosity, (%)	38.96	38.49	Effective Confining Stress, psi		5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	7.62	7.56
Specimen Diameter, cm	10.16	10.16
Specimen Area, cm^2	81.06	81.06
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	1219.5	1262.3
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	3	**Cell ID**	T-1
Balance ID	2	**CV Hg ID**	1
Thermo ID	2		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0940
Test Constant, C=(M1*S/G)	**0.000226**



	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	8.5E-008	8.5E-008
10	20.00	8.5E-008	8.5E-008
10	30.00	7.9E-008	8.0E-008
10	40.00	7.8E-008	7.9E-008

Average Permeability, Corrected k:		**8.2E-008**
	15% of Average	1.2E-008
	High Steady State Limit:	9.5E-008
	Low Steady State Limit:	7.0E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.30.2023	10.0000	0	1.200	14.100	22.956			0.081	20
11.30.2023	10.1667	600	1.302	11.600	18.325	1.000	2.500	0.101	20
11.30.2023	10.3333	600	1.384	9.600	14.620	1.000	2.000	0.127	20
11.30.2023	10.5000	600	1.446	8.100	11.842	1.000	1.500	0.156	20
11.30.2023	10.6667	600	1.495	6.900	9.619	1.000	1.200	0.193	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	16.86
Unmeasured Flow, cm:	2.76

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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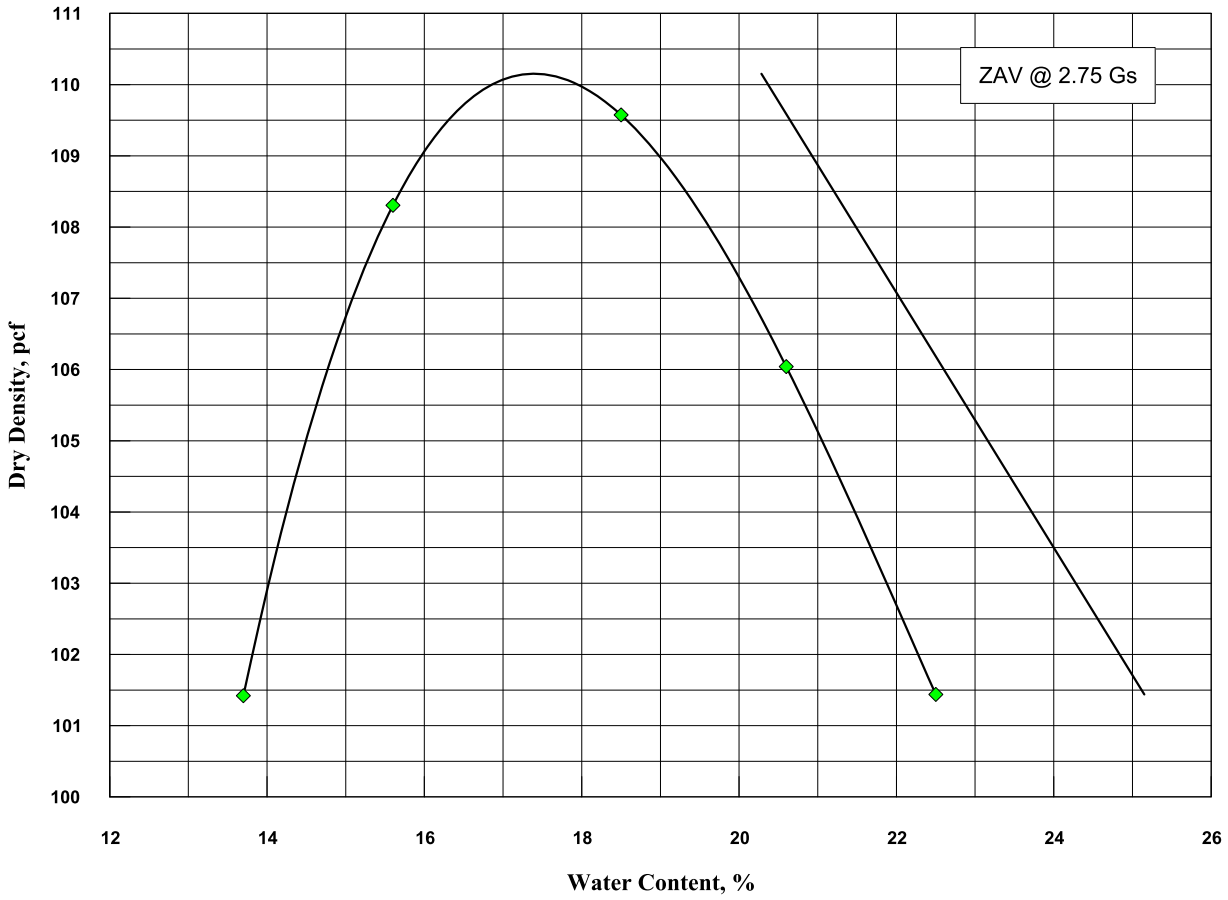
Lab ID: 05091

Laboratory Compaction Test
ASTM D698, Standard Compaction Test, Mechanical Rammer
Method B, Moist Method



Report Date:	11.25.2023	**Received Date:**	11.22.2023	**Ran by:**	JMB	**Checked by:**	BMG
Max. Dry Density, pcf:	**110.2**			**OMC, %:**	**17.4**		
Corrected for Oversize:	**N/A**			**Corrected:**	**N/A**		

Project: Eco-Vista Landfill, Cell 13 A **Client:** Waste Management of Arkansas

Project Number: 2330 **Sample Location:** 1118 B

Sample Description: Red/Brown CL, lean clay,

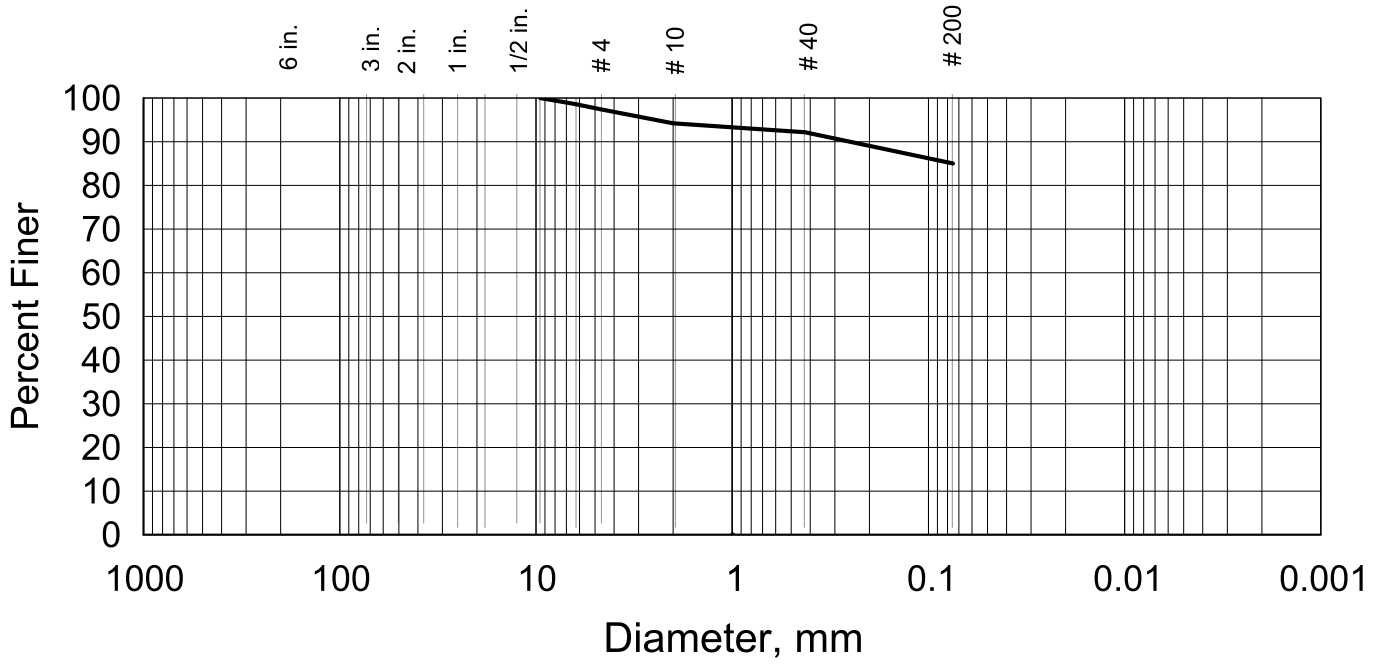
LL	PL	PI	NMC
45	20	25	18.5

Gravel, %	Sand, %	Clay, %	P-200
2.5	12.5	N/A	85.0

Traceability Items

Balance ID	Hammer ID	Mold ID	Other
1	1S	A	
2	**Page ID**	**1118 B**	**Compaction**

Particle Distribution Test Result



Grain-size Analysis ASTM D6913/D1140

Proj. Name: Eco-Vista Landfill, Cell 13 A	Gravel, %	Sand, %	Silt, %	Clay, %	LL	PI
Project No.: 2330	2.5	12.5			45	25
Report Date 11.26.2023 Log-in Date 11.22.2023	**Description and Classification**					
Project Loc. Arkansas	Red/Brown CL, lean clay,					
	Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type	6 "		2.5 "		3/8 "	100.0
1118 B Bulk Sample	5 "		2 "		1/4 "	98.6
Remarks: **NMC, %** **18.5**	4.5 "		1- 1/2 "		# 4	97.5
Moist Method, ASTM D6913 - D1140 Bulk	4 "		1 "		# 10	94.2
Sample wt., kg	3.5 "		3/4 "		# 40	92.2
26.00	3 "		1/2 "		# 200	85.0

Sedimentation ASTM D7928

Hygroscopic Moisture Content Data		Hydrometer Specimen Wet wt.	0.00	**Traceability Items**		
WS+t	0.00	Hydrometer Specimen Dry wt.	ERR	Balance ID	1	2
DS+T	0.00	Assumed Gs	2.75	Therm ID	58981	NA
Tare wt	0.00	Percent <#40 based on complete specimen	92.16	Flask ID	1	NA
Moist Ratio	ERR	Calculated biased weight	ERR	Bulb ID	1	152H
		Composite Correction at 20 deg C	-6	Sol Mix, ml	125	NA
		Meniscus Correction only	1	Tested By	JMB	BMG

Hydrometer Reading Data			Temp.	Corrected			Effective	Diameter, mm	Percent
Time, min.	Readings	Temp.	Correction, Ct	Reading, Rc	K	Rm	depth		finer
2	0	0		-6		1	16.13	0.0000	
5	0	0		-6		1	16.13	0.0000	
15	0	0		-6		1	16.13	0.0000	
30	0	0		-6		1	16.13	0.0000	
60	0	0		-6		1	16.13	0.0000	
240	0	0		-6		1	16.13	0.0000	
600	0	0		-6		1	16.13	0.0000	

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Recompacted Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.22.2023**	**Test Date:**	**11.30.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.26.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1118 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:
Recompacted Specimen

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.4	21.9	Maximum Dry Density, pcf		110.2	104.7	0.0
Percent Saturation	74.9	95.5	Optimum Moisture Content, (%)		17.4	17.4	0.0
Wet Mass Density, (pcf)	122.9	128.3	**Percent Compacted:**	95.0		95.0	0.0
Dry Mass Density, (pcf)	104.7	105.3					
Height of Solids, (in)	1.829	1.837	**Test Pressures During Test**				
Void Ratio	0.640	0.631	Backpressure, psi		50		
Calculated Porosity, (%)	39.02	38.69	Effective Confining Stress, psi		5		

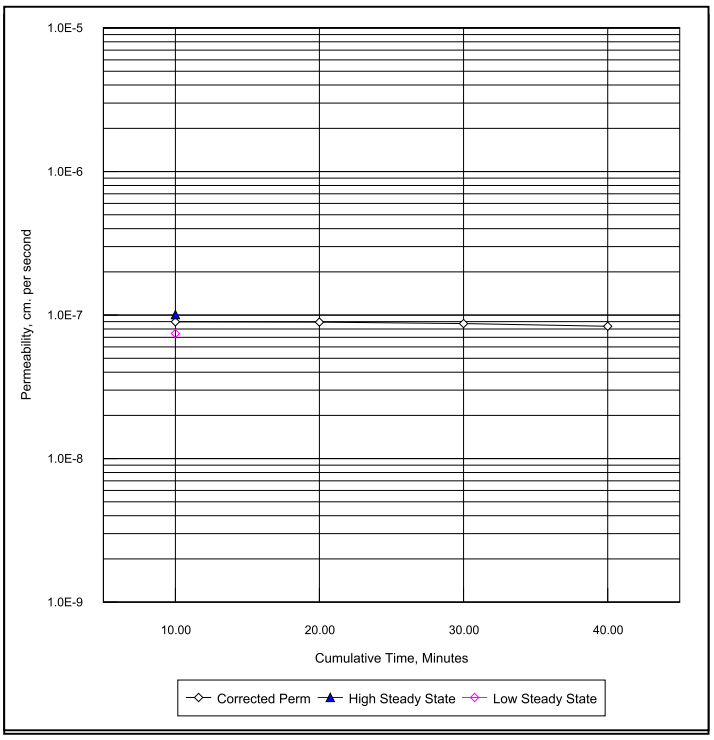
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	7.62	7.61
Specimen Diameter, cm	10.16	10.14
Specimen Area, cm^2	81.06	80.73
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	1216.3	1262.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	3	**Cell ID**	T-4
Balance ID	2	**CV Hg ID**	4
Thermo ID	2		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0940
Test Constant, C=(M1*S/G)	**0.000226**

Test Data			
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	8.9E-008	9.0E-008
10	20.00	8.9E-008	8.9E-008
10	30.00	8.7E-008	8.7E-008
10	40.00	8.3E-008	8.4E-008

Average Permeability, Corrected k:		**8.8E-008**
	15% of Average	1.3E-008
	High Steady State Limit:	1.0E-007
	Low Steady State Limit:	7.4E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.30.2023	10.0667	0	1.100	14.900	24.557			0.075	20
11.30.2023	10.2333	600	1.215	12.100	19.371	1.000	2.800	0.096	20
11.30.2023	10.4000	600	1.305	9.900	15.296	1.000	2.200	0.121	20
11.30.2023	10.5667	600	1.374	8.200	12.147	1.000	1.700	0.153	20
11.30.2023	10.7333	600	1.427	6.900	9.739	1.000	1.300	0.190	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	16.86
Unmeasured Flow, cm:	1.96

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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PROMUS ENGINEERING

HYDRAULIC CONDUCTIVITY

FLEXIBLE-WALL PERMEAMETER, CONSTANT VOLUME, FALLING-HEAD, ASTM D5084 Method F

PROJECT NO.: 230181 PROJECT: Eco Vista Landfill DATE: 10/27/2023

SAMPLE ID: 1018-A DESCRIPTION:

SAMPLE INFORMATION

Type (Remold/Und.):	UND
Diameter (in):	2.83
Height (in):	2.40
Moist Weight (g):	480.9
Unit Wt. (wet) (pcf):	121.2
Unit Wt. (dry) (pcf):	100.5
% Max DD:	#DIV/0!

MOISTURE CONTENT

	Initial	Final
Tare ID	ST26	ST39
Tare Wt (g)	14.16	14.07
Wet Wt (g)	52.71	62.45
Dry Wt (g)	46.12	52.89
Moisture Content	20.6%	24.6%
+/- OMC	20.6%	24.6%
Sample Saturation:	85%	101%

QUALITY CONTROL

Setup By:	JDY
Calc By:	JDY
Appr. By:	JDY

SOIL PROPERTIES

Specific Gravity:	2.65	*
Max DD:		
OMC:		

* assumed

DATA

Consol. Press. (psi)	10.0
Back Press. (psi):	65.0
Hyd. Gradient:	28
Equil. Menisci, R_{eq}:	1.6
Pipette Menisci, Rp:	14.6

TEST EQUIP. DATA

Board ID:	1M
Permometer ID:	1
Pipete Area, a_p (cm^2):	0.031416
Annulus Area, a_a (cm^2):	0.76712
Permeant:	Tap Water

TEST READINGS

	Date	Elapsed t	Z	ΔZp	Temp.	R_T	Perm., k_{20}	Acceptance	
	(m/d)	(sec)	(pipet @t)	(cm)	°C	(T corr.)	(cm/sec)	Vm	OK?
1	10/30	300	14.1	0.5154	23.4	0.92	4.49E-8	1.8%	OK
2	10/30	600	13.6	1.0154	23.4	0.92	4.50E-8	2.0%	OK
3	10/30	900	13.2	1.4154	23.4	0.92	4.25E-8	3.6%	OK
4	10/30	1200	12.7	1.9154	23.4	0.92	4.41E-8	0.1%	OK
		1500		14.6154	23.4	0.92	#NUM!	#NUM!	#NUM!
		1800			23.4	0.92			

Average of selected 4 consecutive values, k_a: 4.41E-8

Acceptance Criteria (4 consecutive readings):

Vm ≤ 15% for ka ≥ 1.00E-8

Vm < 50% for ka < 1.00E-8

Vm Acc: 15%

AVERAGE CORRECTED HYDRAULIC CONDUCTIVITY, k_{20}: 4.41E-08

Comments/Qualifiers:

PROMUS ENGINEERING

HYDRAULIC CONDUCTIVITY

FLEXIBLE-WALL PERMEAMETER, CONSTANT VOLUME, FALLING-HEAD, ASTM D5084 Method F

PROJECT NO.: 230181 PROJECT: Eco Vista Landfill DATE: 10/27/2023

SAMPLE ID: 1018-B DESCRIPTION:

SAMPLE INFORMATION

Type (Remold/Und.):	UND
Diameter (in):	2.83
Height (in):	2.19
Moist Weight (g):	448.7
Unit Wt. (wet) (pcf):	124.0
Unit Wt. (dry) (pcf):	102.0
% Max DD:	#DIV/0!

MOISTURE CONTENT

	Initial	Final
Tare ID	ST03	ST41
Tare Wt (g)	14.05	14.11
Wet Wt (g)	55.20	58.89
Dry Wt (g)	47.92	50.44
Moisture Content	21.5%	23.3%
+/- OMC	21.5%	23.3%
Sample Saturation:	92%	99%

QUALITY CONTROL

Setup By:	JDY
Calc By:	JDY
Appr. By:	JDY

SOIL PROPERTIES

Specific Gravity:	2.65	*
Max DD:		
OMC:		

* assumed

DATA

Consol. Press. (psi)	10.0
Back Press. (psi):	65.0
Hyd. Gradient:	28
Equil. Menisci, R_{eq}:	1.6
Pipette Menisci, Rp:	13.5

TEST EQUIP. DATA

Board ID:	1M
Permometer ID:	1
Pipete Area, a_p (cm^2):	0.031416
Annulus Area, a_a (cm^2):	0.76712
Permeant:	Tap Water

TEST READINGS

	Date (m/d)	Elapsed t (sec)	Z (pipet @t)	ΔZp (cm)	Temp. °C	R_T (T corr.)	Perm., k_{20} (cm/sec)	Acceptance Vm	Acceptance OK?
1	10/30	300	13.1	0.3766	23.2	0.93	3.26E-8	0.0%	OK
2	10/30	600	12.7	0.7766	23.2	0.93	3.44E-8	5.4%	OK
3	10/30	900	12.4	1.0766	23.2	0.93	3.22E-8	1.3%	OK
4	10/30	1200	12.1	1.3766	23.2	0.93	3.13E-8	4.0%	OK
		1500		13.4766	23.2	0.93	#NUM!	#NUM!	#NUM!
		1800			23.2	0.93			

Average of selected 4 consecutive values, k_a: 3.26E-8

Acceptance Criteria (4 consecutive readings):

Vm ≤ 15% for ka ≥ 1.00E-8

Vm < 50% for ka < 1.00E-8

Vm Acc: 15%

AVERAGE CORRECTED HYDRAULIC CONDUCTIVITY, k_{20}: 3.26E-08

Comments/Qualifiers:

CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.7	19.1	Maximum Dry Density, pcf			
Percent Saturation	93.8	103.4	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	132.9	135.5	**Percent Compacted:**			
Dry Mass Density, (pcf)	112.9	113.8				
Height of Solids, (in)	1.619	1.618	**Test Pressures During Test**			
Void Ratio	0.521	0.509	Backpressure, psi	50		
Calculated Porosity, (%)	34.26	33.74	Effective Confining Stress, psi	5		

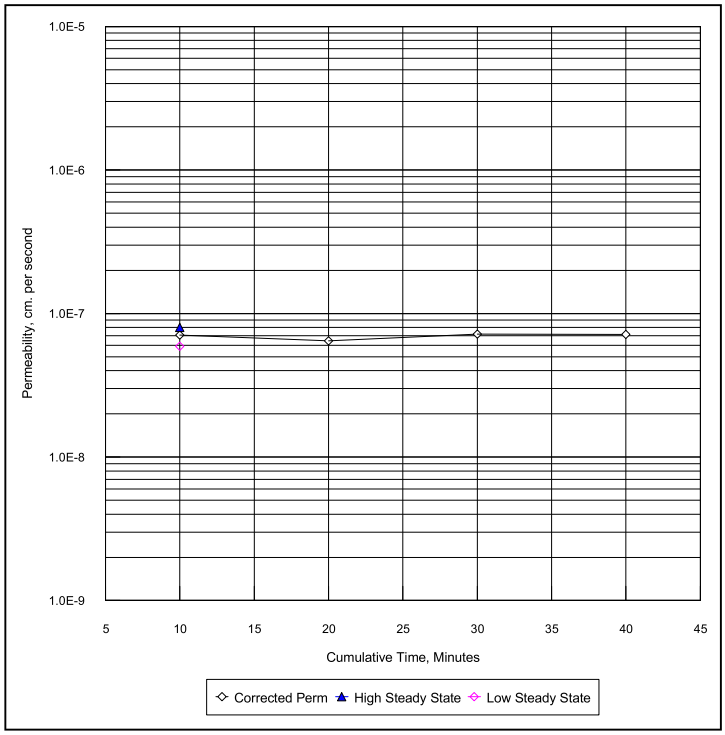
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.26	6.20
Specimen Diameter, cm	7.12	7.12
Specimen Area, cm^2	39.83	39.86
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	530.5	536.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	1
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1571
Test Constant, C=(M1*S/G)	**0.000378**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	7.1E-008	7.1E-008
10	20.00	6.4E-008	6.5E-008
10	30.00	7.2E-008	7.2E-008
10	40.00	7.1E-008	7.2E-008

Average Permeability, Corrected k:		**7.0E-008**
	15% of Average	1.0E-008
	High Steady State Limit:	8.0E-008
	Low Steady State Limit:	5.9E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0000	0	1.200	12.000	23.409			0.096	20
11.19.2023	9.1667	600	1.245	10.900	20.927	1.000	1.100	0.108	20
11.19.2023	9.3333	600	1.282	10.000	18.897	1.000	0.900	0.119	20
11.19.2023	9.5000	600	1.319	9.100	16.866	1.000	0.900	0.134	20
11.19.2023	9.6667	600	1.351	8.300	15.061	1.000	0.800	0.150	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	13.84
Unmeasured Flow, cm:	1.84

Remarks: **k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)**

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Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.5	19.8	Maximum Dry Density, pcf				
Percent Saturation	84.8	103.3	Optimum Moisture Content, (%)				
Wet Mass Density, (pcf)	128.6	134.6	**Percent Compacted:**				
Dry Mass Density, (pcf)	109.4	112.3					
Height of Solids, (in)	1.463	1.481	**Test Pressures During Test**				
Void Ratio	0.569	0.529	Backpressure, psi		50		
Calculated Porosity, (%)	36.28	34.59	Effective Confining Stress, psi		5		

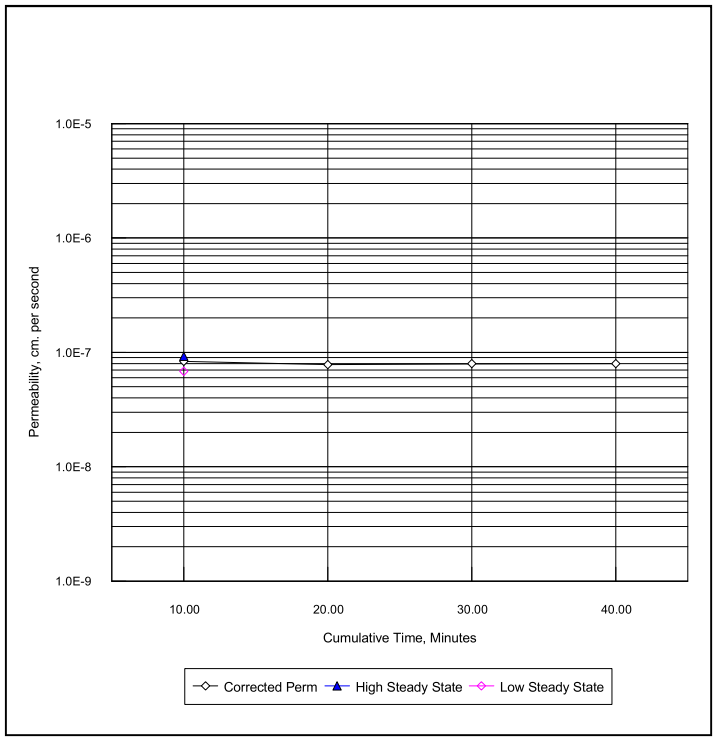
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.83	5.75
Specimen Diameter, cm	7.16	7.11
Specimen Area, cm^2	40.23	39.75
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	483.3	492.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	2
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1450
Test Constant, C=(M1*S/G)	**0.00034855**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	8.3E-008	8.3E-008
10	20.00	7.8E-008	7.8E-008
10	30.00	7.9E-008	8.0E-008
10	40.00	8.0E-008	8.0E-008

Average Permeability, Corrected k:		**8.0E-008**
	15% of Average	1.2E-008
	High Steady State Limit:	9.2E-008
	Low Steady State Limit:	6.8E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0167	0	1.200	9.800	19.996			0.121	20
11.19.2023	9.1833	600	1.245	8.700	17.334	1.000	1.100	0.140	20
11.19.2023	9.3500	600	1.282	7.800	15.156	1.000	0.900	0.160	20
11.19.2023	9.5167	600	1.315	7.000	13.219	1.000	0.800	0.183	20
11.19.2023	9.6833	600	1.343	6.300	11.525	1.000	0.700	0.210	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	12.90
Unmeasured Flow, cm:	3.10

Remarks: **k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)**

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

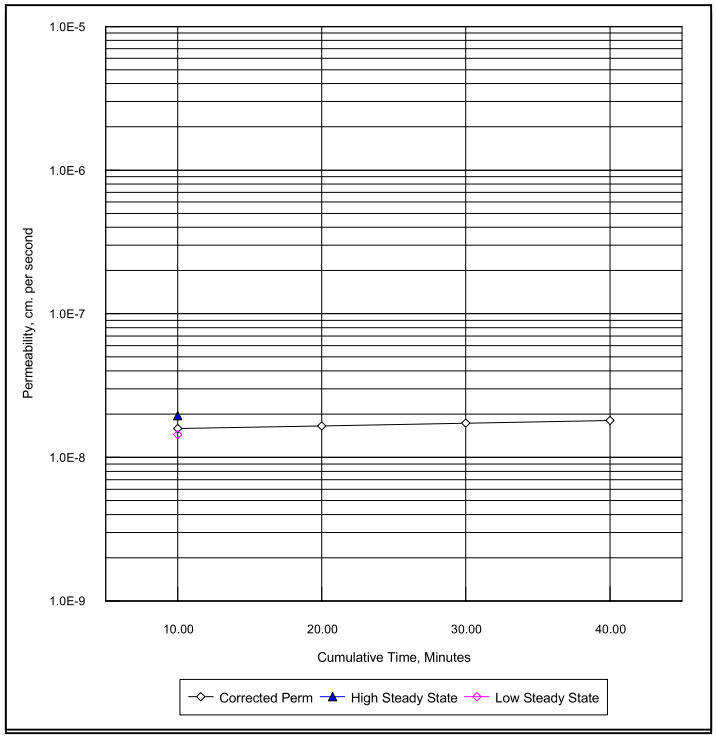
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.9	22.3	Maximum Dry Density, pcf			
Percent Saturation	91.2	95.3	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.2	127.7	**Percent Compacted:**			
Dry Mass Density, (pcf)	105.2	104.4				
Height of Solids, (in)	0.973	0.965	**Test Pressures During Test**			
Void Ratio	0.632	0.644	Backpressure, psi	50		
Calculated Porosity, (%)	38.72	39.19	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.03	4.03
Specimen Diameter, cm	7.24	7.26
Specimen Area, cm^2	41.12	41.44
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	337.83	341.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	3
Balance ID	3	**CV Hg ID**	3
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0980
Test Constant, C=(M1*S/G)	**0.000236**



	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	1.6E-008	1.6E-008
10	20.00	1.7E-008	1.7E-008
10	30.00	1.7E-008	1.7E-008
10	40.00	1.8E-008	1.8E-008

Average Permeability, Corrected k:		**1.7E-008**
	15% of Average	2.5E-009
	High Steady State Limit:	2.0E-008
	Low Steady State Limit:	1.4E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0333	0	1.300	9.200	26.575			0.132	20
11.19.2023	9.2000	600	1.312	8.900	25.525	1.000	0.300	0.137	20
11.19.2023	9.3667	600	1.325	8.600	24.474	1.000	0.300	0.143	20
11.19.2023	9.5333	600	1.337	8.300	23.424	1.000	0.300	0.150	20
11.19.2023	9.7000	600	1.349	8.000	22.373	1.000	0.300	0.157	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	8.92
Unmeasured Flow, cm:	-0.28

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	18.5	19.6	Maximum Dry Density, pcf				
Percent Saturation	94.9	95.2	Optimum Moisture Content, (%)				
Wet Mass Density, (pcf)	132.4	131.0	**Percent Compacted:**				
Dry Mass Density, (pcf)	111.7	109.5					
Height of Solids, (in)	1.506	1.465	**Test Pressures During Test**				
Void Ratio	0.537	0.568	Backpressure, psi		50		
Calculated Porosity, (%)	34.93	36.21	Effective Confining Stress, psi		5		

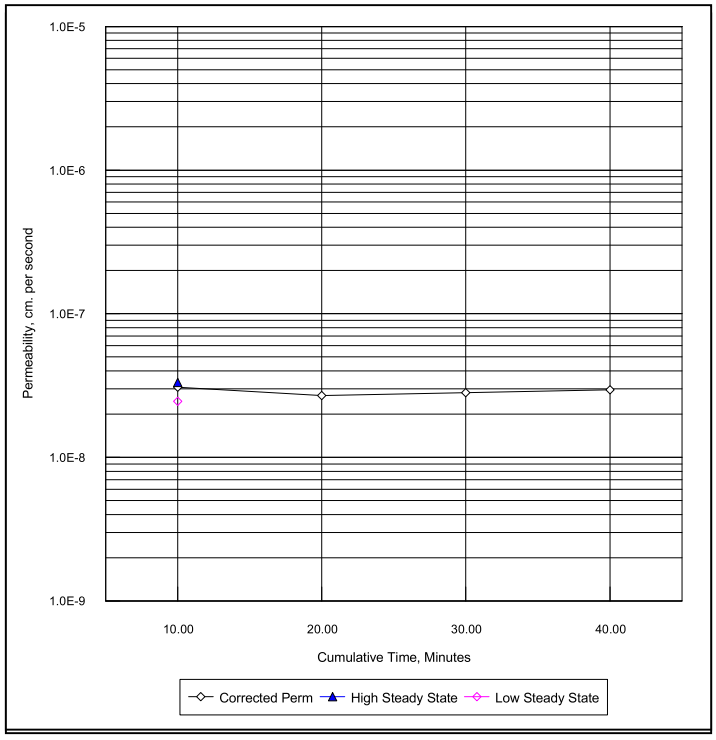
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.88	5.83
Specimen Diameter, cm	7.11	7.21
Specimen Area, cm^2	39.75	40.86
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	495.4	500.1
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	4
Balance ID	3	**CV Hg ID**	4
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1479
Test Constant, C=(M1*S/G)	**0.000356**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	3.1E-008	3.1E-008
10	20.00	2.7E-008	2.7E-008
10	30.00	2.8E-008	2.8E-008
10	40.00	2.9E-008	3.0E-008

Average Permeability, Corrected k:		**2.9E-008**
	15% of Average	4.3E-009
	High Steady State Limit:	3.3E-008
	Low Steady State Limit:	2.5E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0500	0	1.000	13.400	28.608			0.084	20
11.19.2023	9.2167	600	1.025	12.800	27.167	1.000	0.600	0.088	20
11.19.2023	9.3833	600	1.045	12.300	25.966	1.000	0.500	0.092	20
11.19.2023	9.5500	600	1.065	11.800	24.765	1.000	0.500	0.097	20
11.19.2023	9.7167	600	1.086	11.300	23.565	1.000	0.500	0.102	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	13.00
Unmeasured Flow, cm:	-0.40

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 E**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

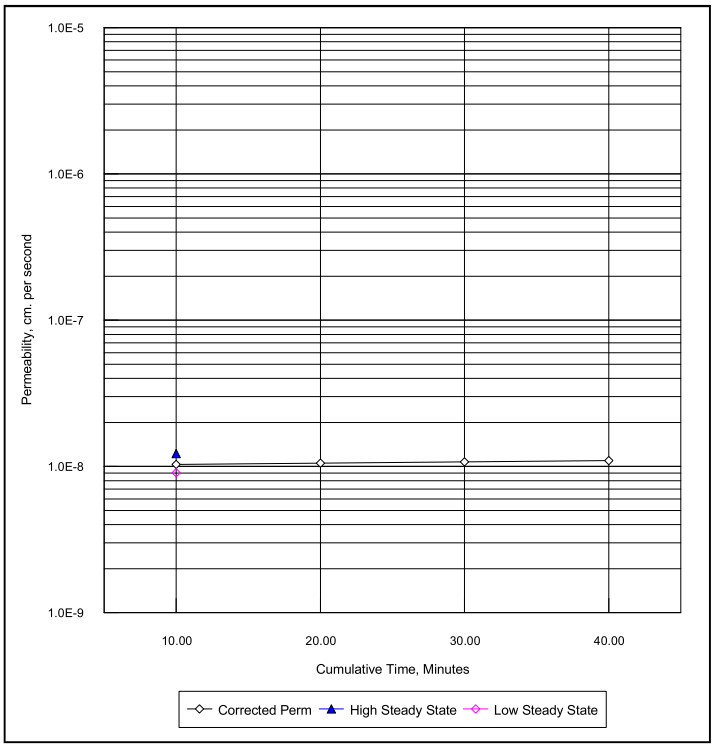
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.9	21.9	Maximum Dry Density, pcf			
Percent Saturation	89.1	102.6	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	126.2	131.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	104.4	108.2				
Height of Solids, (in)	1.280	1.347	**Test Pressures During Test**			
Void Ratio	0.645	0.588	Backpressure, psi	50		
Calculated Porosity, (%)	39.19	37.01	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.35	5.43
Specimen Diameter, cm	7.19	7.01
Specimen Area, cm^2	40.57	38.56
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	438.5	442.2
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	5
Balance ID	3	**CV Hg ID**	5
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1318
Test Constant, C=(M1*S/G)	**0.000317**



	Test Data		
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	1.0E-008	1.0E-008
10	20.00	1.0E-008	1.1E-008
10	30.00	1.1E-008	1.1E-008
10	40.00	1.1E-008	1.1E-008

Average Permeability, Corrected k:		**1.1E-008**
	15% of Average	1.6E-009
	High Steady State Limit:	1.2E-008
	Low Steady State Limit:	9.0E-009

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0667	0	1.000	11.800	27.390			0.096	20
11.19.2023	9.2333	600	1.008	11.600	26.862	1.000	0.200	0.098	20
11.19.2023	9.4000	600	1.016	11.400	26.334	1.000	0.200	0.100	20
11.19.2023	9.5667	600	1.025	11.200	25.806	1.000	0.200	0.102	20
11.19.2023	9.7333	600	1.033	11.000	25.278	1.000	0.200	0.104	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.83
Unmeasured Flow, cm:	0.03

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.11.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1109 F**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

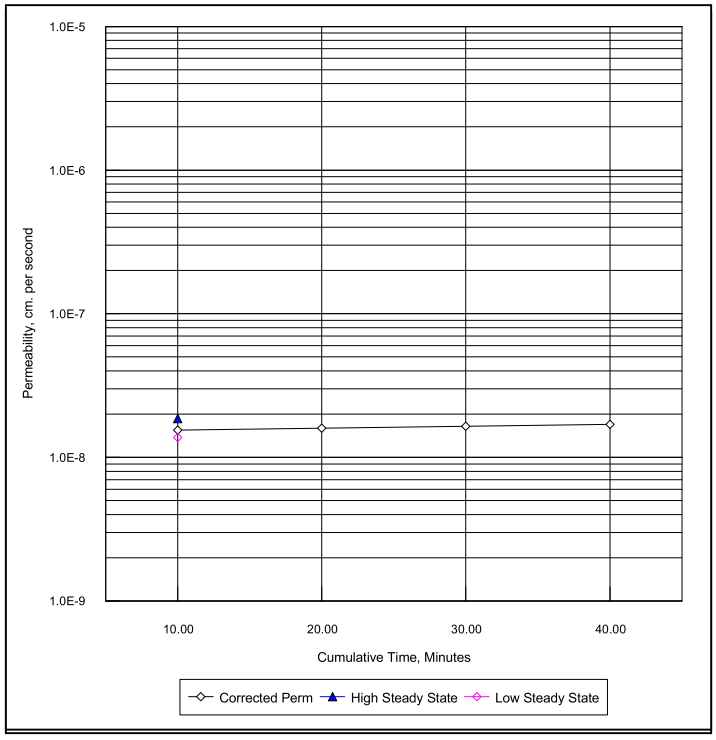
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.2	21.2	Maximum Dry Density, pcf			
Percent Saturation	97.3	98.7	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	132.6	130.7	**Percent Compacted:**			
Dry Mass Density, (pcf)	111.2	107.8				
Height of Solids, (in)	1.443	1.424	**Test Pressures During Test**			
Void Ratio	0.543	0.592	Backpressure, psi	50		
Calculated Porosity, (%)	35.21	37.20	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.66	5.76
Specimen Diameter, cm	7.24	7.28
Specimen Area, cm^2	41.12	41.67
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	494.1	502.5
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	6
Balance ID	3	**CV Hg ID**	7
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1376
Test Constant, C=(M1*S/G)	**0.000331**



	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.5E-008	1.6E-008
10	20.00	1.6E-008	1.6E-008
10	30.00	1.6E-008	1.6E-008
10	40.00	1.7E-008	1.7E-008

Average Permeability, Corrected k:		**1.6E-008**
	15% of Average	2.4E-009
	High Steady State Limit:	1.9E-008
	Low Steady State Limit:	1.4E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.0833	0	0.700	12.000	27.088			0.092	20
11.19.2023	9.2500	600	0.712	11.700	26.340	1.000	0.300	0.095	20
11.19.2023	9.4167	600	0.725	11.400	25.591	1.000	0.300	0.098	20
11.19.2023	9.5833	600	0.737	11.100	24.843	1.000	0.300	0.100	20
11.19.2023	9.7500	600	0.749	10.800	24.094	1.000	0.300	0.104	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	12.51
Unmeasured Flow, cm:	0.51

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory

Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.12.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13..2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1110 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.3	21.9	Maximum Dry Density, pcf			
Percent Saturation	95.4	96.4	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.2	128.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.2	105.7				
Height of Solids, (in)	1.449	1.449	**Test Pressures During Test**			
Void Ratio	0.587	0.625	Backpressure, psi	50		
Calculated Porosity, (%)	36.98	38.46	Effective Confining Stress, psi	5		

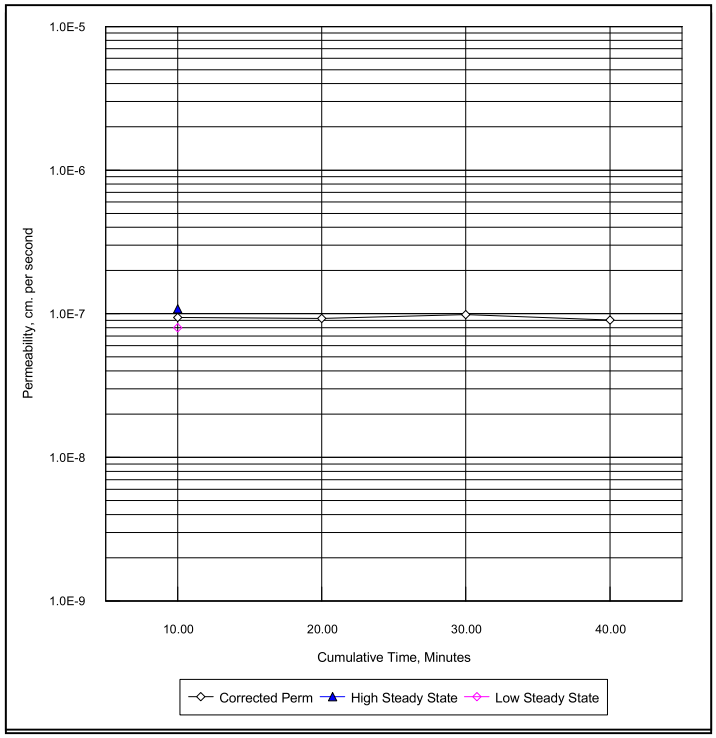
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.84	5.98
Specimen Diameter, cm	7.24	7.24
Specimen Area, cm^2	41.18	41.18
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	501.5	507.9
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	7
Balance ID	3	**CV Hg ID**	6
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1418
Test Constant, C=(M1*S/G)	**0.000341**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	9.4E-008	9.4E-008
10	20.00	9.2E-008	9.3E-008
10	30.00	9.8E-008	9.9E-008
10	40.00	9.0E-008	9.0E-008

Average Permeability, Corrected k:		**9.4E-008**
	15% of Average	1.4E-008
	High Steady State Limit:	1.1E-007
	Low Steady State Limit:	8.0E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	9.1000	0	1.200	9.400	19.041			0.127	20
11.19.2023	9.2667	600	1.249	8.200	16.141	1.000	1.200	0.150	20
11.19.2023	9.4333	600	1.290	7.200	13.724	1.000	1.000	0.176	20
11.19.2023	9.6000	600	1.327	6.300	11.548	1.000	0.900	0.209	20
11.19.2023	9.7667	600	1.356	5.600	9.856	1.000	0.700	0.245	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	12.92
Unmeasured Flow, cm:	3.52

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.12.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1110 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

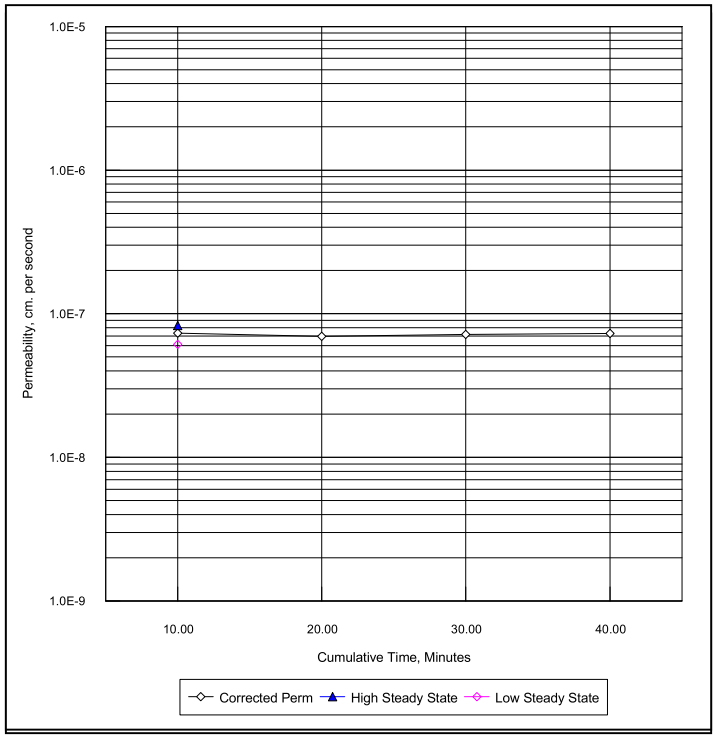
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**		**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.9	22.6	Maximum Dry Density, pcf				
Percent Saturation	92.5	99.1	Optimum Moisture Content, (%)				
Wet Mass Density, (pcf)	128.0	129.3	**Percent Compacted:**				
Dry Mass Density, (pcf)	105.9	105.4					
Height of Solids, (in)	1.176	1.174	**Test Pressures During Test**				
Void Ratio	0.621	0.629	Backpressure, psi		50		
Calculated Porosity, (%)	38.33	38.62	Effective Confining Stress, psi		5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.84	4.86
Specimen Diameter, cm	7.18	7.19
Specimen Area, cm^2	40.46	40.55
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	401.8	407.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	8
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1197
Test Constant, C=(M1*S/G)	**0.000288**



	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	7.3E-008	7.3E-008
10	20.00	6.9E-008	7.0E-008
10	30.00	7.1E-008	7.2E-008
10	40.00	7.3E-008	7.3E-008

Average Permeability, Corrected k:		**7.2E-008**
	15% of Average	1.1E-008
	High Steady State Limit:	8.3E-008
	Low Steady State Limit:	6.1E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	10.0000	0	1.300	9.400	22.676			0.129	20
11.19.2023	10.1667	600	1.345	8.300	19.470	1.000	1.100	0.150	20
11.19.2023	10.3333	600	1.382	7.400	16.848	1.000	0.900	0.173	20
11.19.2023	10.5000	600	1.415	6.600	14.516	1.000	0.800	0.201	20
11.19.2023	10.6667	600	1.443	5.900	12.476	1.000	0.700	0.234	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.72
Unmeasured Flow, cm:	1.32

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.12.2023**	**Test Date:**	**11.19.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.13.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1110 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.7	22.2	Maximum Dry Density, pcf			
Percent Saturation	93.4	102.3	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	128.7	131.3	**Percent Compacted:**			
Dry Mass Density, (pcf)	106.7	107.4				
Height of Solids, (in)	1.228	1.225	**Test Pressures During Test**			
Void Ratio	0.610	0.598	Backpressure, psi	50		
Calculated Porosity, (%)	37.88	37.44	Effective Confining Stress, psi	5		

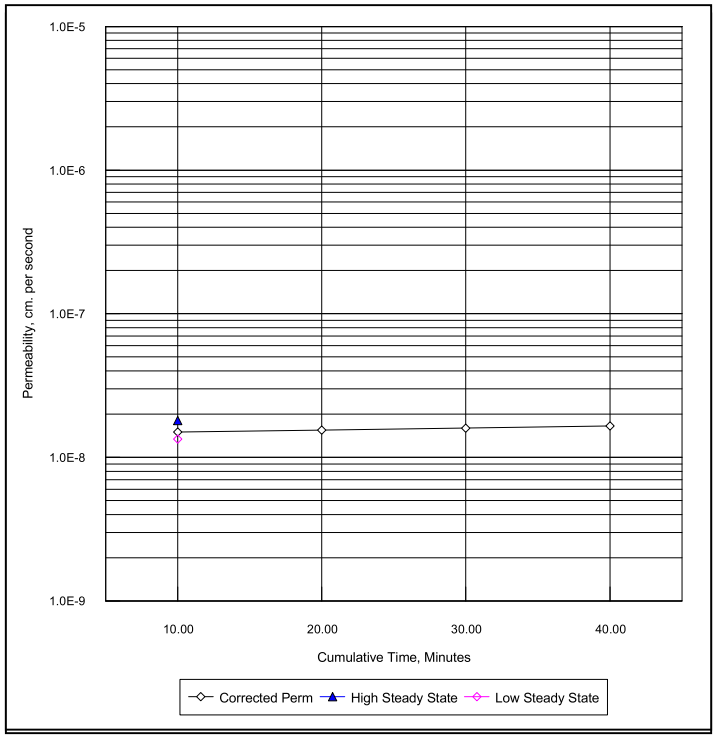
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.02	4.97
Specimen Diameter, cm	7.23	7.24
Specimen Area, cm^2	41.06	41.15
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	425	430.4
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	9
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1222
Test Constant, C=(M1*S/G)	**0.000294**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	1.5E-008	1.5E-008
10	20.00	1.5E-008	1.5E-008
10	30.00	1.6E-008	1.6E-008
10	40.00	1.6E-008	1.7E-008

Average Permeability, Corrected k:		**1.6E-008**
	15% of Average	2.4E-009
	High Steady State Limit:	1.8E-008
	Low Steady State Limit:	1.3E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.19.2023	10.0167	0	1.200	11.600	28.098			0.100	20
11.19.2023	10.1833	600	1.212	11.300	27.254	1.000	0.300	0.103	20
11.19.2023	10.3500	600	1.225	11.000	26.410	1.000	0.300	0.106	20
11.19.2023	10.5167	600	1.237	10.700	25.567	1.000	0.300	0.110	20
11.19.2023	10.6833	600	1.249	10.400	24.723	1.000	0.300	0.114	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.10
Unmeasured Flow, cm:	-0.50

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1112 A**	**Location:**	**N/A**	**Elevation:**	**NA**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

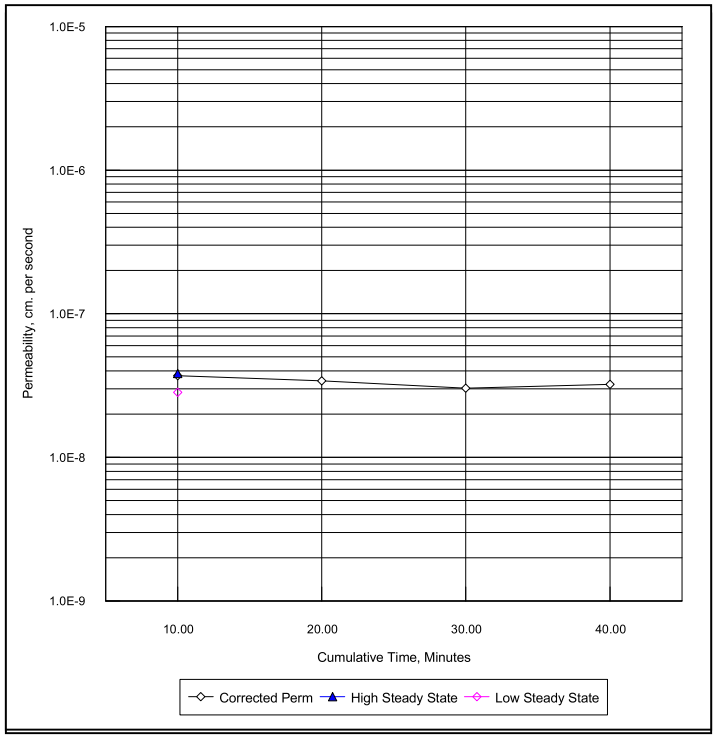
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.1	21.4	Maximum Dry Density, pcf			
Percent Saturation	85.9	97.5	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	126.9	129.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	106.5	106.9				
Height of Solids, (in)	1.248	1.251	**Test Pressures During Test**			
Void Ratio	0.612	0.606	Backpressure, psi	50		
Calculated Porosity, (%)	37.95	37.74	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.11	5.11
Specimen Diameter, cm	7.24	7.23
Specimen Area, cm^2	41.18	41.06
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	427.5	436
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	1
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1240
Test Constant, C=(M1*S/G)	**0.000298**



	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	3.7E-008	3.7E-008
10	20.00	3.4E-008	3.4E-008
10	30.00	3.0E-008	3.0E-008
10	40.00	3.2E-008	3.2E-008

Average Permeability, Corrected k:		**3.3E-008**
	15% of Average	5.0E-009
	High Steady State Limit:	3.8E-008
	Low Steady State Limit:	2.8E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0000	0	1.100	11.300	27.078			0.102	20
11.24.2023	11.1667	600	1.129	10.600	25.143	1.000	0.700	0.110	20
11.24.2023	11.3333	600	1.153	10.000	23.485	1.000	0.600	0.118	20
11.24.2023	11.5000	600	1.174	9.500	22.104	1.000	0.500	0.125	20
11.24.2023	11.6667	600	1.194	9.000	20.722	1.000	0.500	0.133	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.30
Unmeasured Flow, cm:	0.00

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1112 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	21.0	23.2	Maximum Dry Density, pcf			
Percent Saturation	84.4	95.4	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	123.2	126.7	**Percent Compacted:**			
Dry Mass Density, (pcf)	101.8	102.8				
Height of Solids, (in)	1.146	1.148	**Test Pressures During Test**			
Void Ratio	0.687	0.671	Backpressure, psi	50		
Calculated Porosity, (%)	40.72	40.14	Effective Confining Stress, psi	5		

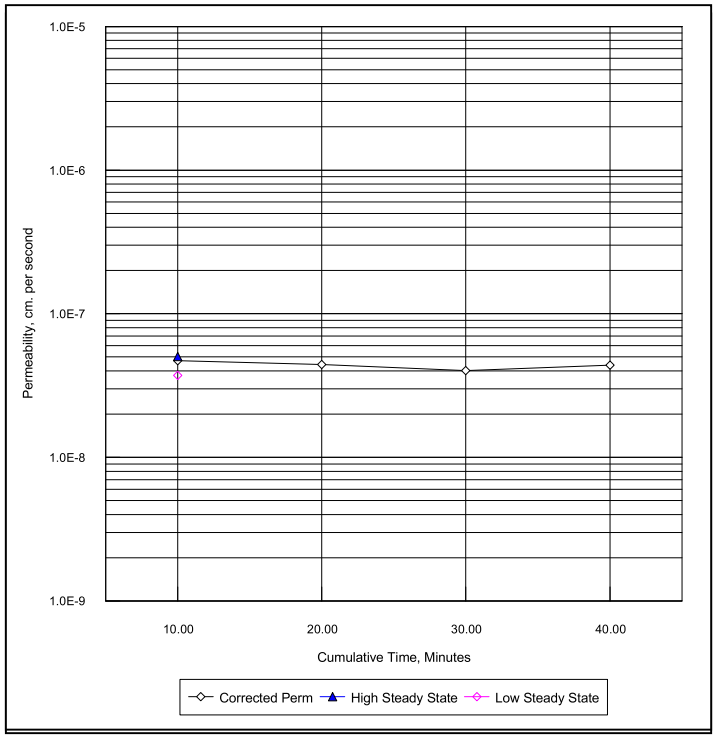
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.91	4.87
Specimen Diameter, cm	7.14	7.13
Specimen Area, cm^2	40.03	39.97
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	388.11	395.1
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	2
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1227
Test Constant, C=(M1*S/G)	**0.000295**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	4.7E-008	4.7E-008
10	20.00	4.4E-008	4.4E-008
10	30.00	4.0E-008	4.0E-008
10	40.00	4.4E-008	4.4E-008

Average Permeability, Corrected k:		**4.4E-008**
	15% of Average	6.6E-009
	High Steady State Limit:	5.1E-008
	Low Steady State Limit:	3.7E-008



		Trial	**Flow**	**Readings**				**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0167	0	1.300	9.300	22.083			0.130	20
11.24.2023	11.1833	600	1.329	8.600	20.072	1.000	0.700	0.143	20
11.24.2023	11.3500	600	1.353	8.000	18.348	1.000	0.600	0.157	20
11.24.2023	11.5167	600	1.374	7.500	16.911	1.000	0.500	0.170	20
11.24.2023	11.6833	600	1.394	7.000	15.474	1.000	0.500	0.186	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.87
Unmeasured Flow, cm:	1.57

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1112 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.3	20.9	Maximum Dry Density, pcf			
Percent Saturation	89.2	108.8	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	128.4	135.7	**Percent Compacted:**			
Dry Mass Density, (pcf)	107.6	112.2				
Height of Solids, (in)	1.605	1.666	**Test Pressures During Test**			
Void Ratio	0.595	0.530	Backpressure, psi	50		
Calculated Porosity, (%)	37.31	34.66	Effective Confining Stress, psi	5		

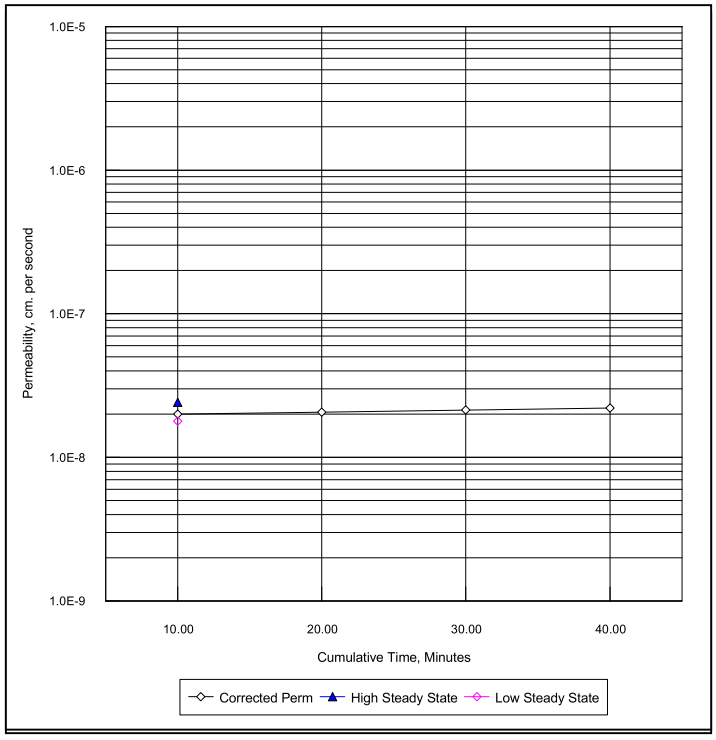
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.50	6.48
Specimen Diameter, cm	7.25	7.11
Specimen Area, cm^2	41.27	39.75
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	551.9	559.6
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	3	**Cell ID**	3
Balance ID	3	**CV Hg ID**	3
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1576
Test Constant, C=(M1*S/G)	**0.000379**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	2.0E-008	2.0E-008
10	20.00	2.1E-008	2.1E-008
10	30.00	2.1E-008	2.1E-008
10	40.00	2.2E-008	2.2E-008

Average Permeability, Corrected k:		**2.1E-008**
	15% of Average	3.2E-009
	High Steady State Limit:	2.4E-008
	Low Steady State Limit:	1.8E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0333	0	1.000	14.400	27.944			0.078	20
11.24.2023	11.2000	600	1.016	14.000	27.076	1.000	0.400	0.080	20
11.24.2023	11.3667	600	1.033	13.600	26.208	1.000	0.400	0.083	20
11.24.2023	11.5333	600	1.049	13.200	25.339	1.000	0.400	0.086	20
11.24.2023	11.7000	600	1.065	12.800	24.471	1.000	0.400	0.089	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	14.39
Unmeasured Flow, cm:	-0.01

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1112 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	21.0	23.5	Maximum Dry Density, pcf			
Percent Saturation	98.5	105.7	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.9	131.5	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.2	106.5				
Height of Solids, (in)	0.758	0.740	**Test Pressures During Test**			
Void Ratio	0.586	0.612	Backpressure, psi	50		
Calculated Porosity, (%)	36.96	37.95	Effective Confining Stress, psi	5		

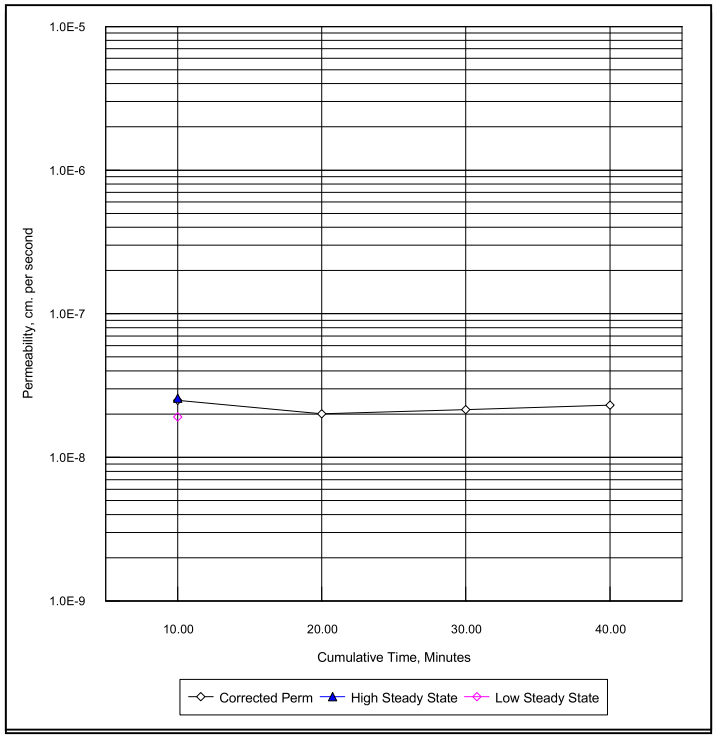
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	3.06	3.03
Specimen Diameter, cm	7.09	7.18
Specimen Area, cm^2	39.49	40.46
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	253.12	258.35
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	4
Balance ID	3	**CV Hg ID**	4
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0774
Test Constant, C=(M1*S/G)	**0.000186**

Test Data			
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	2.5E-008	2.5E-008
10	20.00	2.0E-008	2.0E-008
10	30.00	2.1E-008	2.2E-008
10	40.00	2.3E-008	2.3E-008

Average Permeability, Corrected k:		**2.2E-008**
	15% of Average	3.4E-009
	High Steady State Limit:	2.6E-008
	Low Steady State Limit:	1.9E-008



	Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0500	0	1.200	6.600	23.964			0.193	20
11.24.2023	11.2167	600	1.216	6.200	22.116	1.000	0.400	0.209	20
11.24.2023	11.3833	600	1.229	5.900	20.730	1.000	0.300	0.223	20
11.24.2023	11.5500	600	1.241	5.600	19.344	1.000	0.300	0.239	20
11.24.2023	11.7167	600	1.253	5.300	17.959	1.000	0.300	0.257	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	6.76
Unmeasured Flow, cm:	0.16

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory

Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1112 E**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.6	22.9	Maximum Dry Density, pcf			
Percent Saturation	80.3	95.8	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	122.7	127.2	**Percent Compacted:**			
Dry Mass Density, (pcf)	102.6	103.5				
Height of Solids, (in)	1.264	1.269	**Test Pressures During Test**			
Void Ratio	0.674	0.659	Backpressure, psi	50		
Calculated Porosity, (%)	40.25	39.73	Effective Confining Stress, psi	5		

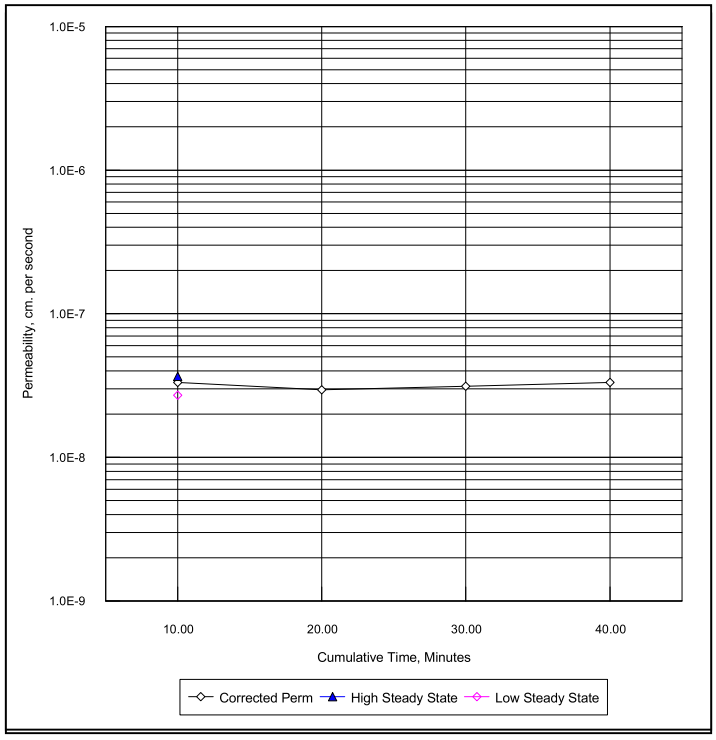
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.37	5.35
Specimen Diameter, cm	7.23	7.21
Specimen Area, cm^2	41.01	40.86
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	433.3	445.2
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	5
Balance ID	3	**CV Hg ID**	5
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1311
Test Constant, C=(M1*S/G)	**0.000315**

Test Data			
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	3.3E-008	3.3E-008
10	20.00	2.9E-008	2.9E-008
10	30.00	3.1E-008	3.1E-008
10	40.00	3.3E-008	3.3E-008

Average Permeability, Corrected k:		**3.2E-008**
	15% of Average	4.8E-009
	High Steady State Limit:	3.7E-008
	Low Steady State Limit:	2.7E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0667	0	1.100	11.300	25.734			0.102	20
11.24.2023	11.2333	600	1.125	10.700	24.158	1.000	0.600	0.109	20
11.24.2023	11.4000	600	1.145	10.200	22.845	1.000	0.500	0.115	20
11.24.2023	11.5667	600	1.165	9.700	21.532	1.000	0.500	0.122	20
11.24.2023	11.7333	600	1.186	9.200	20.219	1.000	0.500	0.130	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.89
Unmeasured Flow, cm:	0.59

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory

Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1116 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

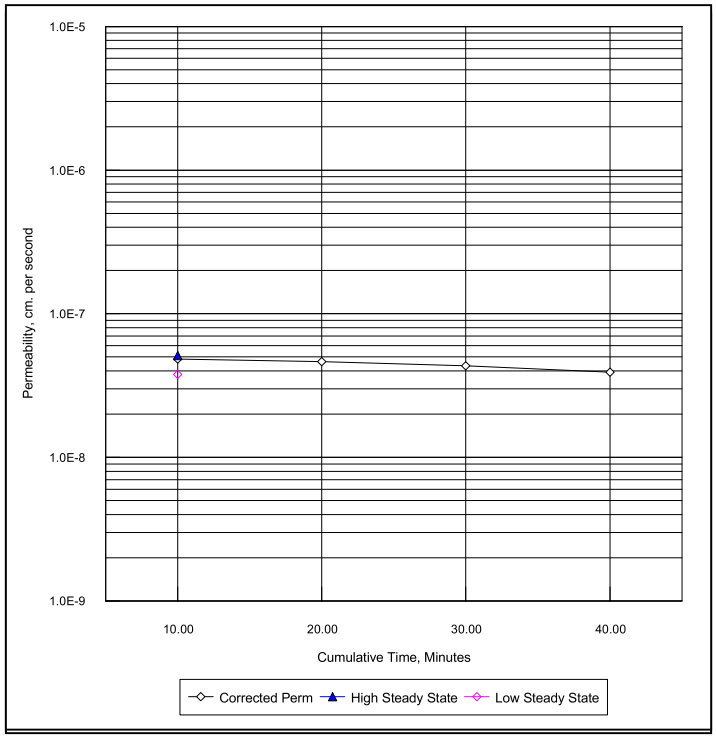
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.5	21.5	Maximum Dry Density, pcf			
Percent Saturation	92.9	110.1	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.1	135.6	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.8	111.6				
Height of Solids, (in)	1.296	1.320	**Test Pressures During Test**			
Void Ratio	0.578	0.538	Backpressure, psi	50		
Calculated Porosity, (%)	36.61	34.98	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.19	5.16
Specimen Diameter, cm	7.18	7.11
Specimen Area, cm^2	40.46	39.72
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	437.6	445
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	6
Balance ID	3	**CV Hg ID**	7
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1283
Test Constant, C=(M1*S/G)	**0.000309**



	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	4.8E-008	4.8E-008
10	20.00	4.6E-008	4.6E-008
10	30.00	4.3E-008	4.3E-008
10	40.00	3.9E-008	3.9E-008

Average Permeability, Corrected k:		**4.4E-008**
	15% of Average	6.7E-009
	High Steady State Limit:	5.1E-008
	Low Steady State Limit:	3.8E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.0833	0	0.700	10.000	24.290			0.112	20
11.24.2023	11.2500	600	0.733	9.200	22.115	1.000	0.800	0.123	20
11.24.2023	11.4167	600	0.761	8.500	20.212	1.000	0.700	0.135	20
11.24.2023	11.5833	600	0.786	7.900	18.581	1.000	0.600	0.146	20
11.24.2023	11.7500	600	0.806	7.400	17.221	1.000	0.500	0.158	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.49
Unmeasured Flow, cm:	1.49

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1116 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

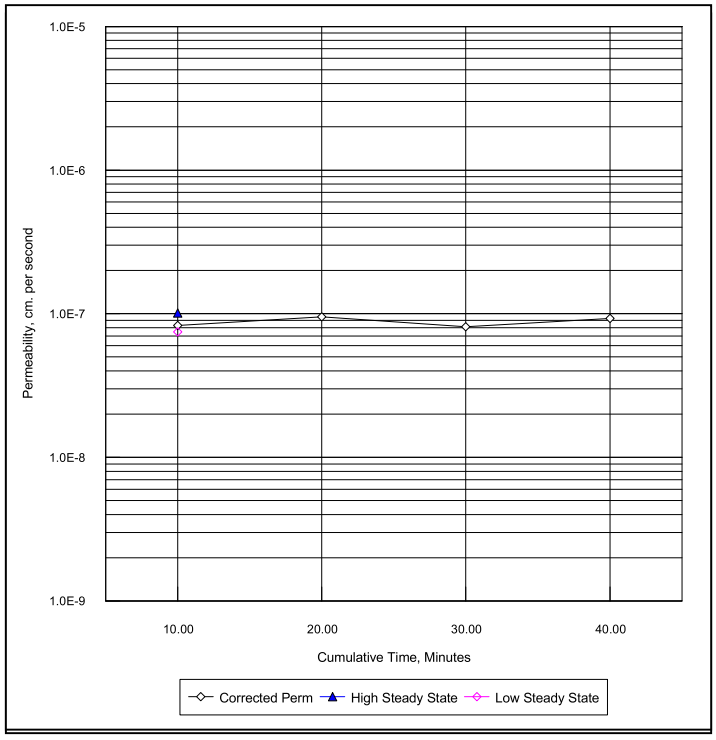
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	21.5	23.0	Maximum Dry Density, pcf			
Percent Saturation	86.4	95.4	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	123.7	126.9	**Percent Compacted:**			
Dry Mass Density, (pcf)	101.8	103.2				
Height of Solids, (in)	1.557	1.554	**Test Pressures During Test**			
Void Ratio	0.686	0.664	Backpressure, psi	50		
Calculated Porosity, (%)	40.69	39.90	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.67	6.57
Specimen Diameter, cm	7.18	7.19
Specimen Area, cm^2	40.52	40.60
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	535.5	542
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	7
Balance ID	3	**CV Hg ID**	6
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1646
Test Constant, C=(M1*S/G)	**0.000396**



	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	8.3E-008	8.3E-008
10	20.00	9.5E-008	9.5E-008
10	30.00	8.1E-008	8.1E-008
10	40.00	9.2E-008	9.3E-008

Average Permeability, Corrected k:		**8.8E-008**
	15% of Average	1.3E-008
	High Steady State Limit:	1.0E-007
	Low Steady State Limit:	7.5E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	11.1000	0	1.100	11.700	21.558			0.098	20
11.24.2023	11.2667	600	1.149	10.500	19.017	1.000	1.200	0.111	20
11.24.2023	11.4333	600	1.198	9.300	16.477	1.000	1.200	0.128	20
11.24.2023	11.6000	600	1.235	8.400	14.572	1.000	0.900	0.145	20
11.24.2023	11.7667	600	1.272	7.500	12.666	1.000	0.900	0.167	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	14.75
Unmeasured Flow, cm:	3.05

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1116 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

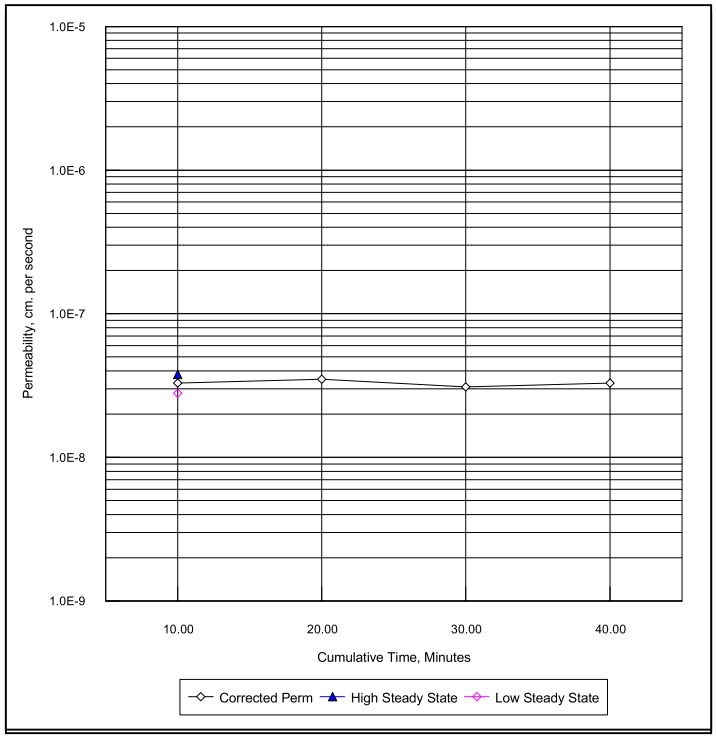
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.6	21.5	Maximum Dry Density, pcf			
Percent Saturation	94.9	99.5	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.9	130.7	**Percent Compacted:**			
Dry Mass Density, (pcf)	109.5	107.6				
Height of Solids, (in)	1.323	1.296	**Test Pressures During Test**			
Void Ratio	0.569	0.596	Backpressure, psi	50		
Calculated Porosity, (%)	36.25	37.35	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.27	5.25
Specimen Diameter, cm	7.03	7.10
Specimen Area, cm^2	38.79	39.60
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	428.7	435.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	8
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1359
Test Constant, C=(M1*S/G)	**0.000327**



	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	3.3E-008	3.3E-008
10	20.00	3.5E-008	3.5E-008
10	30.00	3.1E-008	3.1E-008
10	40.00	3.3E-008	3.3E-008

Average Permeability, Corrected k:		**3.3E-008**
	15% of Average	4.9E-009
	High Steady State Limit:	3.8E-008
	Low Steady State Limit:	2.8E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0000	0	1.100	11.800	27.529			0.097	20
11.24.2023	14.1667	600	1.125	11.200	25.922	1.000	0.600	0.103	20
11.24.2023	14.3333	600	1.149	10.600	24.315	1.000	0.600	0.110	20
11.24.2023	14.5000	600	1.170	10.100	22.976	1.000	0.500	0.117	20
11.24.2023	14.6667	600	1.190	9.600	21.637	1.000	0.500	0.124	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.66
Unmeasured Flow, cm:	-0.14

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1116 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	16.7	18.5	Maximum Dry Density, pcf			
Percent Saturation	96.3	98.5	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	135.6	134.1	**Percent Compacted:**			
Dry Mass Density, (pcf)	116.2	113.1				
Height of Solids, (in)	1.090	1.070	**Test Pressures During Test**			
Void Ratio	0.477	0.518	Backpressure, psi	50		
Calculated Porosity, (%)	32.32	34.14	Effective Confining Stress, psi	5		

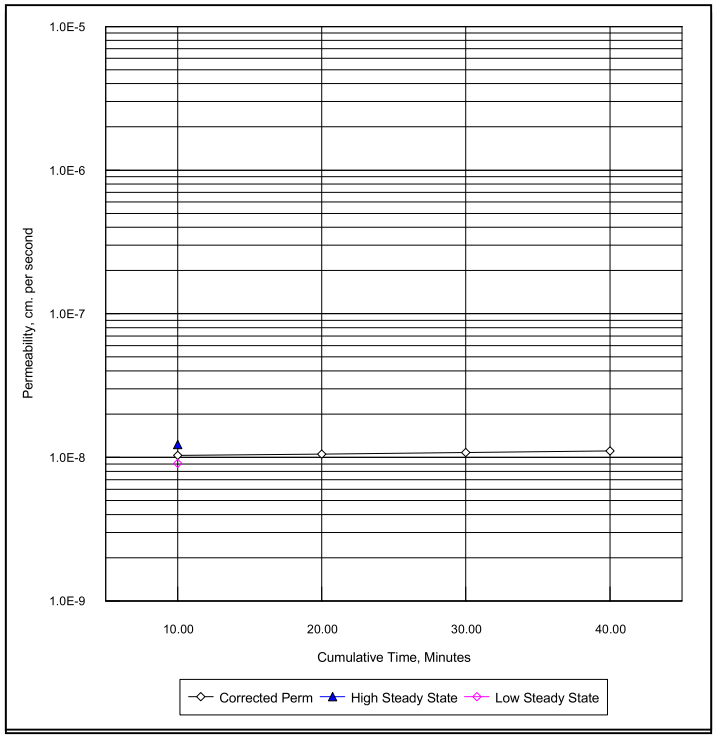
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.09	4.13
Specimen Diameter, cm	7.06	7.13
Specimen Area, cm^2	39.18	39.92
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	348.3	353.8
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	9
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1044
Test Constant, C=(M1*S/G)	**0.000251**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.0E-008	1.0E-008
10	20.00	1.1E-008	1.1E-008
10	30.00	1.1E-008	1.1E-008
10	40.00	1.1E-008	1.1E-008

Average Permeability, Corrected k:		**1.1E-008**
	15% of Average	1.6E-009
	High Steady State Limit:	1.2E-008
	Low Steady State Limit:	9.1E-009



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0167	0	1.300	9.900	28.499			0.121	20
11.24.2023	14.1833	600	1.308	9.700	27.809	1.000	0.200	0.124	20
11.24.2023	14.3500	600	1.316	9.500	27.119	1.000	0.200	0.127	20
11.24.2023	14.5167	600	1.325	9.300	26.429	1.000	0.200	0.131	20
11.24.2023	14.6833	600	1.333	9.100	25.739	1.000	0.200	0.134	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	9.05
Unmeasured Flow, cm:	-0.85

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1116 E**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	18.2	20.0	Maximum Dry Density, pcf			
Percent Saturation	92.4	105.7	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	131.5	135.4	**Percent Compacted:**			
Dry Mass Density, (pcf)	111.2	112.9				
Height of Solids, (in)	0.982	0.983	**Test Pressures During Test**			
Void Ratio	0.544	0.522	Backpressure, psi	50		
Calculated Porosity, (%)	35.23	34.28	Effective Confining Stress, psi	5		

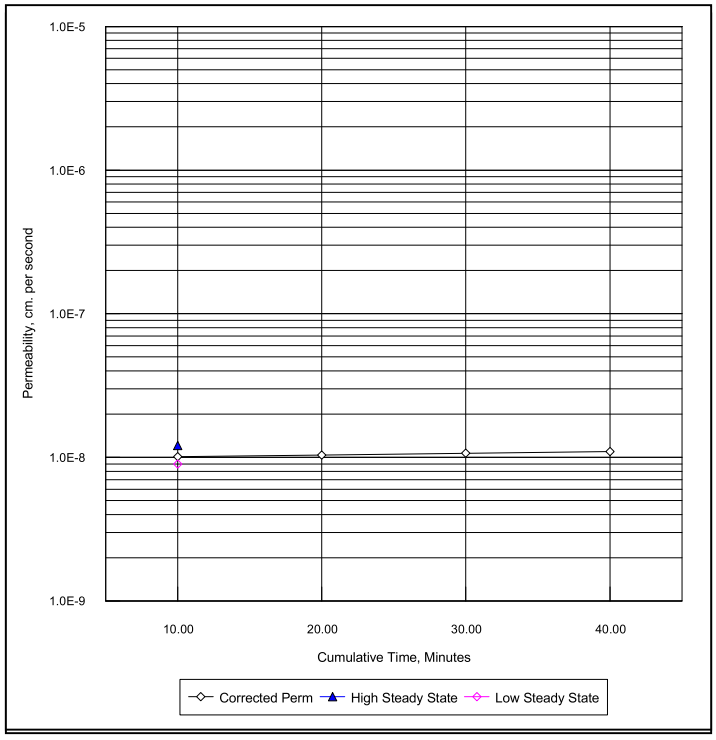
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	3.85	3.80
Specimen Diameter, cm	7.17	7.17
Specimen Area, cm^2	40.37	40.34
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	327.48	332.36
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	10
Balance ID	3	**CV Hg ID**	3
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0954
Test Constant, C=(M1*S/G)	**0.000229**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.0E-008	1.0E-008
10	20.00	1.0E-008	1.0E-008
10	30.00	1.1E-008	1.1E-008
10	40.00	1.1E-008	1.1E-008

Average Permeability, Corrected k:		**1.1E-008**
	15% of Average	1.6E-009
	High Steady State Limit:	1.2E-008
	Low Steady State Limit:	9.0E-009



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0333	0	1.200	9.200	28.172			0.130	20
11.24.2023	14.2000	600	1.208	9.000	27.439	1.000	0.200	0.134	20
11.24.2023	14.3667	600	1.216	8.800	26.706	1.000	0.200	0.137	20
11.24.2023	14.5333	600	1.225	8.600	25.973	1.000	0.200	0.141	20
11.24.2023	14.7000	600	1.233	8.400	25.239	1.000	0.200	0.145	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	8.52
Unmeasured Flow, cm:	-0.68

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.4	22.0	Maximum Dry Density, pcf			
Percent Saturation	94.3	98.7	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	129.5	129.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	107.6	106.4				
Height of Solids, (in)	1.561	1.530	**Test Pressures During Test**			
Void Ratio	0.596	0.614	Backpressure, psi	50		
Calculated Porosity, (%)	37.34	38.03	Effective Confining Stress, psi	5		

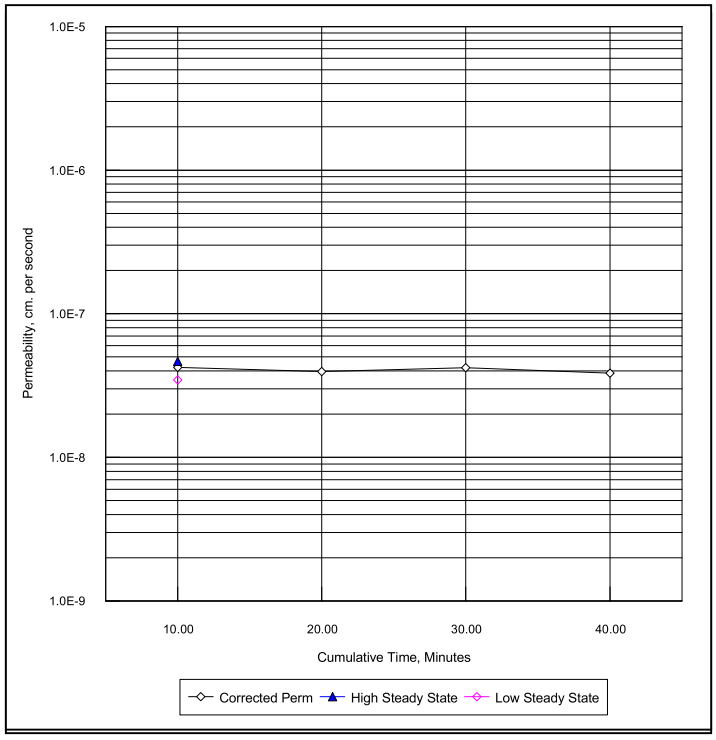
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.33	6.27
Specimen Diameter, cm	7.21	7.28
Specimen Area, cm^2	40.83	41.67
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	536.3	543.4
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	11
Balance ID	3	**CV Hg ID**	4
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1550
Test Constant, C=(M1*S/G)	**0.000373**

Test Data			
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	4.2E-008	4.2E-008
10	20.00	3.9E-008	4.0E-008
10	30.00	4.2E-008	4.2E-008
10	40.00	3.8E-008	3.9E-008

Average Permeability, Corrected k:		**4.1E-008**
	15% of Average	6.1E-009
	High Steady State Limit:	4.7E-008
	Low Steady State Limit:	3.5E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0500	0	1.000	13.700	27.207			0.082	20
11.24.2023	14.2167	600	1.033	12.900	25.423	1.000	0.800	0.088	20
11.24.2023	14.3833	600	1.061	12.200	23.862	1.000	0.700	0.093	20
11.24.2023	14.5500	600	1.090	11.500	22.301	1.000	0.700	0.100	20
11.24.2023	14.7167	600	1.115	10.900	20.963	1.000	0.600	0.106	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	14.00
Unmeasured Flow, cm:	0.30

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**0**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.6	21.7	Maximum Dry Density, pcf			
Percent Saturation	93.2	105.5	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.0	133.4	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.7	109.6				
Height of Solids, (in)	1.292	1.289	**Test Pressures During Test**			
Void Ratio	0.580	0.567	Backpressure, psi	50		
Calculated Porosity, (%)	36.71	36.17	Effective Confining Stress, psi	5		

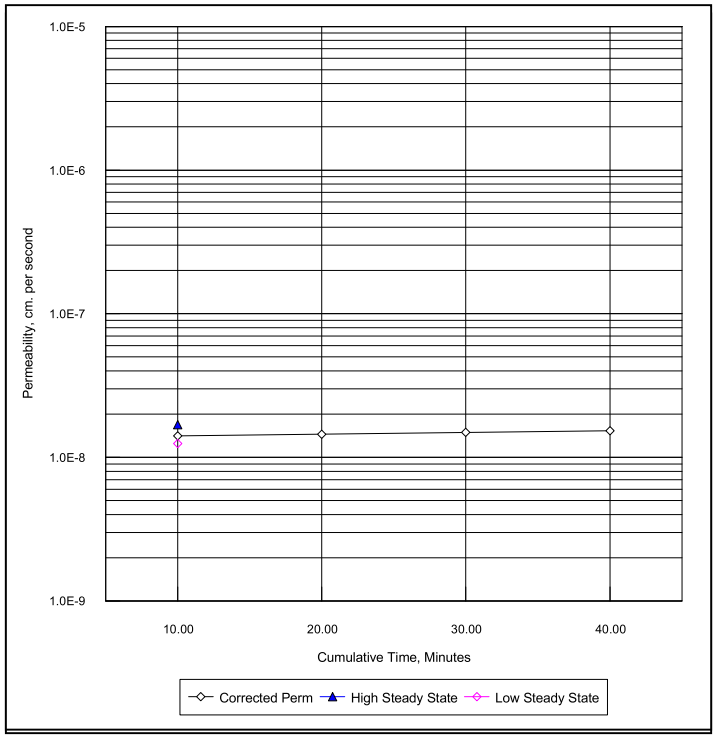
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.19	5.13
Specimen Diameter, cm	7.14	7.15
Specimen Area, cm^2	40.06	40.17
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	432.7	440.2
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	12
Balance ID	3	**CV Hg ID**	5
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1295
Test Constant, C=(M1*S/G)	**0.000311**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.4E-008	1.4E-008
10	20.00	1.4E-008	1.4E-008
10	30.00	1.5E-008	1.5E-008
10	40.00	1.5E-008	1.5E-008

Average Permeability, Corrected k:		**1.5E-008**
	15% of Average	2.2E-009
	High Steady State Limit:	1.7E-008
	Low Steady State Limit:	1.3E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0667	0	1.000	12.700	30.588			0.089	20
11.24.2023	14.2333	600	1.012	12.400	29.772	1.000	0.300	0.091	20
11.24.2023	14.4000	600	1.025	12.100	28.956	1.000	0.300	0.094	20
11.24.2023	14.5667	600	1.037	11.800	28.139	1.000	0.300	0.097	20
11.24.2023	14.7333	600	1.049	11.500	27.323	1.000	0.300	0.100	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.47
Unmeasured Flow, cm:	-1.23

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.2	22.8	Maximum Dry Density, pcf			
Percent Saturation	86.6	97.3	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	125.6	128.1	**Percent Compacted:**			
Dry Mass Density, (pcf)	104.4	104.3				
Height of Solids, (in)	1.181	1.155	**Test Pressures During Test**			
Void Ratio	0.644	0.646	Backpressure, psi	50		
Calculated Porosity, (%)	39.17	39.25	Effective Confining Stress, psi	5		

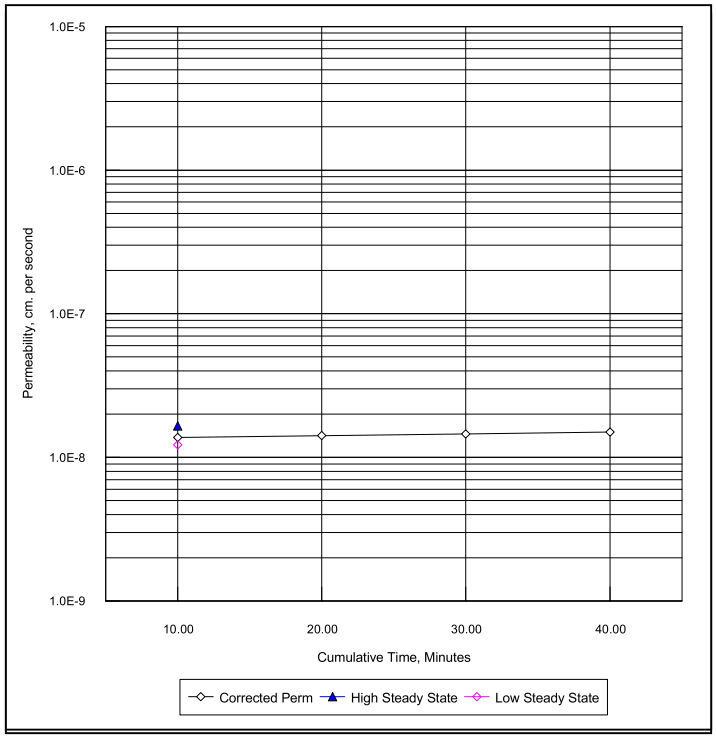
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.93	4.83
Specimen Diameter, cm	7.17	7.25
Specimen Area, cm^2	40.40	41.32
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	400.9	409.5
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	13
Balance ID	3	**CV Hg ID**	7
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1221
Test Constant, C=(M1*S/G)	**0.000294**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.4E-008	1.4E-008
10	20.00	1.4E-008	1.4E-008
10	30.00	1.5E-008	1.5E-008
10	40.00	1.5E-008	1.5E-008

Average Permeability, Corrected k:		**1.4E-008**
	15% of Average	2.2E-009
	High Steady State Limit:	1.7E-008
	Low Steady State Limit:	1.2E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	14.0833	0	0.600	11.900	31.064			0.092	20
11.24.2023	14.2500	600	0.612	11.600	30.205	1.000	0.300	0.095	20
11.24.2023	14.4167	600	0.625	11.300	29.347	1.000	0.300	0.098	20
11.24.2023	14.5833	600	0.637	11.000	28.488	1.000	0.300	0.100	20
11.24.2023	14.7500	600	0.649	10.700	27.630	1.000	0.300	0.104	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.91
Unmeasured Flow, cm:	-0.99

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

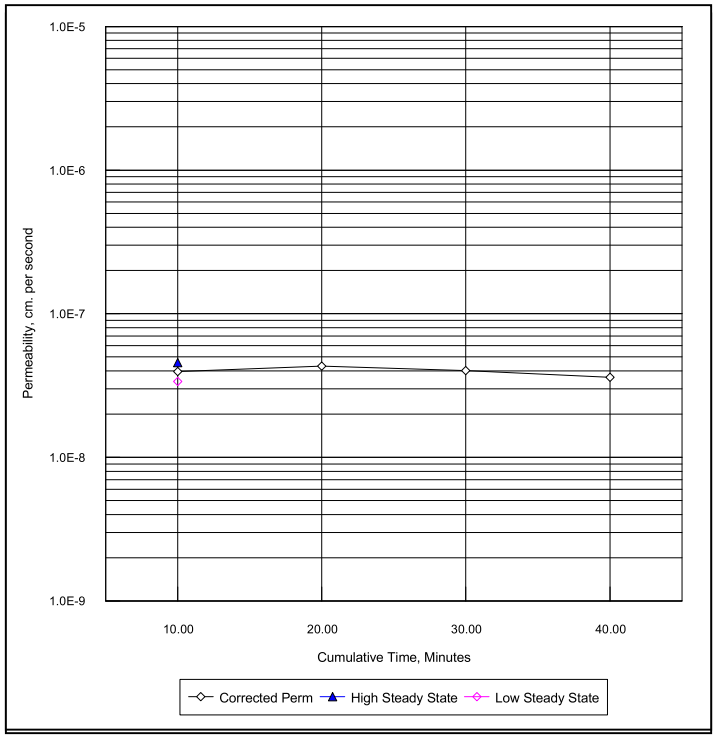
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.2	21.8	Maximum Dry Density, pcf			
Percent Saturation	89.2	102.4	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	128.5	131.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	107.7	108.2				
Height of Solids, (in)	1.261	1.254	**Test Pressures During Test**			
Void Ratio	0.594	0.587	Backpressure, psi	50		
Calculated Porosity, (%)	37.25	36.98	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.10	5.05
Specimen Diameter, cm	7.25	7.27
Specimen Area, cm^2	41.29	41.53
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	433.6	443
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	14
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1236
Test Constant, C=(M1*S/G)	**0.000297**



	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	4.0E-008	4.0E-008
10	20.00	4.3E-008	4.3E-008
10	30.00	4.0E-008	4.0E-008
10	40.00	3.6E-008	3.6E-008

Average Permeability, Corrected k:		**4.0E-008**
	15% of Average	6.0E-009
	High Steady State Limit:	4.6E-008
	Low Steady State Limit:	3.4E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	16.0000	0	1.200	10.700	25.245			0.110	20
11.24.2023	16.1667	600	1.229	10.000	23.308	1.000	0.700	0.119	20
11.24.2023	16.3333	600	1.257	9.300	21.372	1.000	0.700	0.129	20
11.24.2023	16.5000	600	1.282	8.700	19.712	1.000	0.600	0.140	20
11.24.2023	16.6667	600	1.302	8.200	18.329	1.000	0.500	0.151	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.29
Unmeasured Flow, cm:	0.59

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 E**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

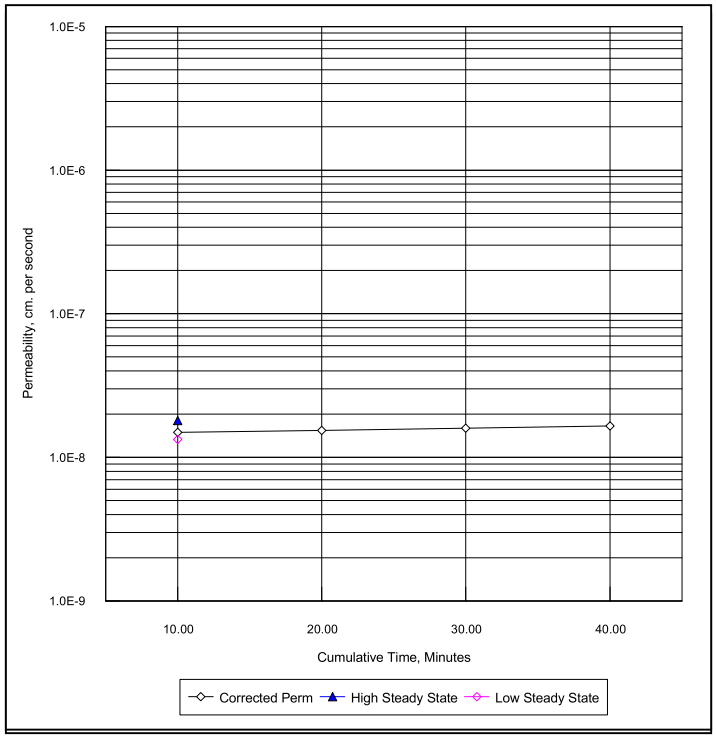
Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.7	22.1	Maximum Dry Density, pcf			
Percent Saturation	93.3	108.7	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.0	134.4	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.6	110.0				
Height of Solids, (in)	1.157	1.157	**Test Pressures During Test**			
Void Ratio	0.581	0.561	Backpressure, psi	50		
Calculated Porosity, (%)	36.76	35.92	Effective Confining Stress, psi	5		

Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.65	4.59
Specimen Diameter, cm	7.23	7.23
Specimen Area, cm^2	41.09	41.09
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	397.61	405.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	15
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1131
Test Constant, C=(M1*S/G)	**0.000272**



	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.5E-008	1.5E-008
10	20.00	1.5E-008	1.5E-008
10	30.00	1.6E-008	1.6E-008
10	40.00	1.6E-008	1.7E-008

Average Permeability, Corrected k:		**1.6E-008**
	15% of Average	2.4E-009
	High Steady State Limit:	1.8E-008
	Low Steady State Limit:	1.3E-008

		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	16.0167	0	1.100	10.800	28.297			0.107	20
11.24.2023	16.1833	600	1.112	10.500	27.386	1.000	0.300	0.111	20
11.24.2023	16.3500	600	1.125	10.200	26.475	1.000	0.300	0.115	20
11.24.2023	16.5167	600	1.137	9.900	25.564	1.000	0.300	0.119	20
11.24.2023	16.6833	600	1.149	9.600	24.653	1.000	0.300	0.123	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.28
Unmeasured Flow, cm:	-0.52

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 F**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.4	22.5	Maximum Dry Density, pcf			
Percent Saturation	89.7	101.5	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.1	130.6	**Percent Compacted:**			
Dry Mass Density, (pcf)	105.6	106.6				
Height of Solids, (in)	1.188	1.192	**Test Pressures During Test**			
Void Ratio	0.626	0.610	Backpressure, psi	50		
Calculated Porosity, (%)	38.50	37.91	Effective Confining Stress, psi	5		

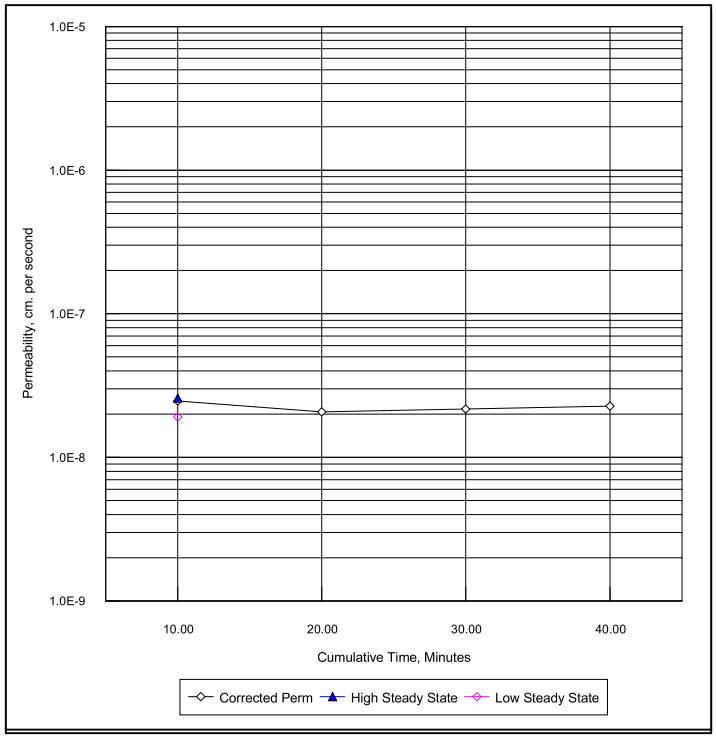
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.91	4.87
Specimen Diameter, cm	7.23	7.22
Specimen Area, cm^2	41.01	40.89
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	409.8	417
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	16
Balance ID	3	**CV Hg ID**	3
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1197
Test Constant, C=(M1*S/G)	**0.000288**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	2.5E-008	2.5E-008
10	20.00	2.1E-008	2.1E-008
10	30.00	2.2E-008	2.2E-008
10	40.00	2.3E-008	2.3E-008

Average Permeability, Corrected k:		**2.2E-008**
	15% of Average	3.4E-009
	High Steady State Limit:	2.6E-008
	Low Steady State Limit:	1.9E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	16.0333	0	1.100	11.500	28.738			0.100	20
11.24.2023	16.2000	600	1.120	11.000	27.300	1.000	0.500	0.105	20
11.24.2023	16.3667	600	1.137	10.600	26.149	1.000	0.400	0.110	20
11.24.2023	16.5333	600	1.153	10.200	24.998	1.000	0.400	0.115	20
11.24.2023	16.7000	600	1.170	9.800	23.848	1.000	0.400	0.121	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.86
Unmeasured Flow, cm:	-0.64

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 G**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	19.3	21.6	Maximum Dry Density, pcf			
Percent Saturation	88.2	100.8	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.8	131.3	**Percent Compacted:**			
Dry Mass Density, (pcf)	107.1	108.0				
Height of Solids, (in)	1.076	1.080	**Test Pressures During Test**			
Void Ratio	0.604	0.590	Backpressure, psi	50		
Calculated Porosity, (%)	37.65	37.10	Effective Confining Stress, psi	5		

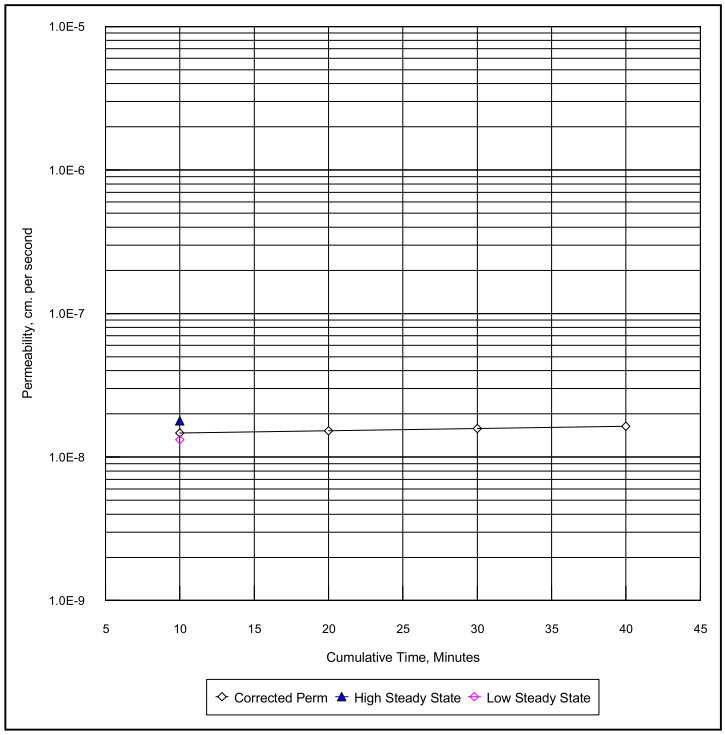
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.38	4.36
Specimen Diameter, cm	7.23	7.22
Specimen Area, cm^2	41.03	40.89
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	368.17	375.13
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	17
Balance ID	3	**CV Hg ID**	4
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1068
Test Constant, C=(M1*S/G)	**0.000257**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.5E-008	1.5E-008
10	20.00	1.5E-008	1.5E-008
10	30.00	1.6E-008	1.6E-008
10	40.00	1.6E-008	1.6E-008

Average Permeability, Corrected k:		**1.6E-008**
	15% of Average	2.3E-009
	High Steady State Limit:	1.8E-008
	Low Steady State Limit:	1.3E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	16.0500	0	1.200	10.500	28.765			0.112	20
11.24.2023	16.2167	600	1.212	10.200	27.799	1.000	0.300	0.116	20
11.24.2023	16.3833	600	1.225	9.900	26.833	1.000	0.300	0.120	20
11.24.2023	16.5500	600	1.237	9.600	25.868	1.000	0.300	0.124	20
11.24.2023	16.7167	600	1.249	9.300	24.902	1.000	0.300	0.129	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	9.70
Unmeasured Flow, cm:	-0.80

Remarks: **k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)**

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**11.18.2023**	**Test Date:**	**11.24.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**11.21.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1117 H**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	21.5	23.7	Maximum Dry Density, pcf			
Percent Saturation	93.1	108.6	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.5	132.6	**Percent Compacted:**			
Dry Mass Density, (pcf)	105.0	107.2				
Height of Solids, (in)	0.843	0.842	**Test Pressures During Test**			
Void Ratio	0.636	0.602	Backpressure, psi	50		
Calculated Porosity, (%)	38.88	37.56	Effective Confining Stress, psi	5		

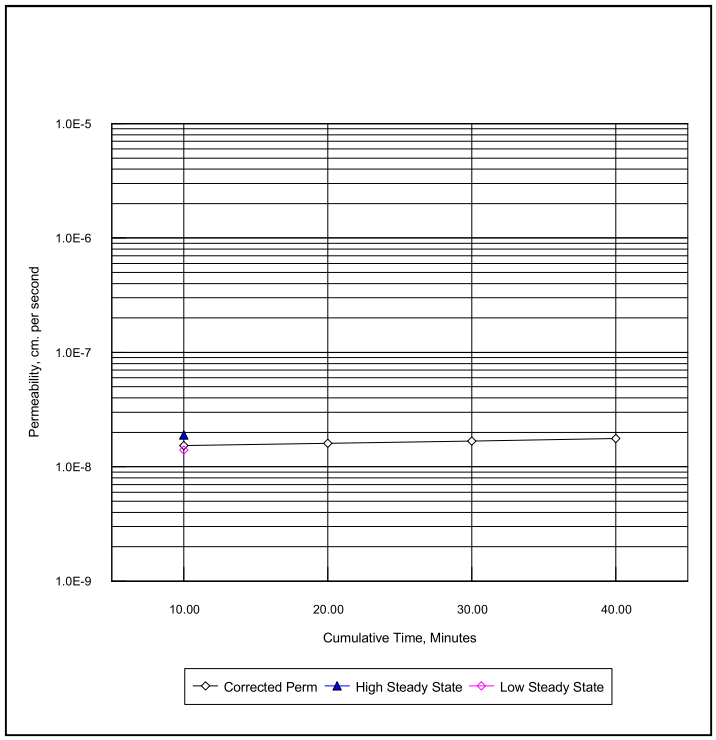
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	3.50	3.43
Specimen Diameter, cm	7.26	7.27
Specimen Area, cm^2	41.44	41.47
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	296.47	301.91
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	18
Balance ID	3	**CV Hg ID**	5
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.0845
Test Constant, C=(M1*S/G)	**0.00020324**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.5E-008	1.5E-008
10	20.00	1.6E-008	1.6E-008
10	30.00	1.7E-008	1.7E-008
10	40.00	1.8E-008	1.8E-008

Average Permeability, Corrected k:		**1.6E-008**
	15% of Average	2.5E-009
	High Steady State Limit:	1.9E-008
	Low Steady State Limit:	1.4E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
11.24.2023	16.0667	0	1.200	8.300	27.487			0.147	20
11.24.2023	16.2333	600	1.212	8.000	26.278	1.000	0.300	0.153	20
11.24.2023	16.4000	600	1.225	7.700	25.069	1.000	0.300	0.161	20
11.24.2023	16.5667	600	1.237	7.400	23.860	1.000	0.300	0.169	20
11.24.2023	16.7333	600	1.249	7.100	22.651	1.000	0.300	0.178	20

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	7.75
Unmeasured Flow, cm:	-0.55

Remarks: **k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)**

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.07.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1206 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing	**After Testing**			
Specimen Condition:	**good**	**good**			

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	20.1	21.4	Maximum Dry Density, pcf			
Percent Saturation	87.0	100.0	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	126.0	131.1	**Percent Compacted:**			
Dry Mass Density, (pcf)	104.8	108.0				
Height of Solids, (in)	1.201	1.180	**Test Pressures During Test**			
Void Ratio	0.638	0.591	Backpressure, psi	50		
Calculated Porosity, (%)	38.94	37.13	Effective Confining Stress, psi	5		

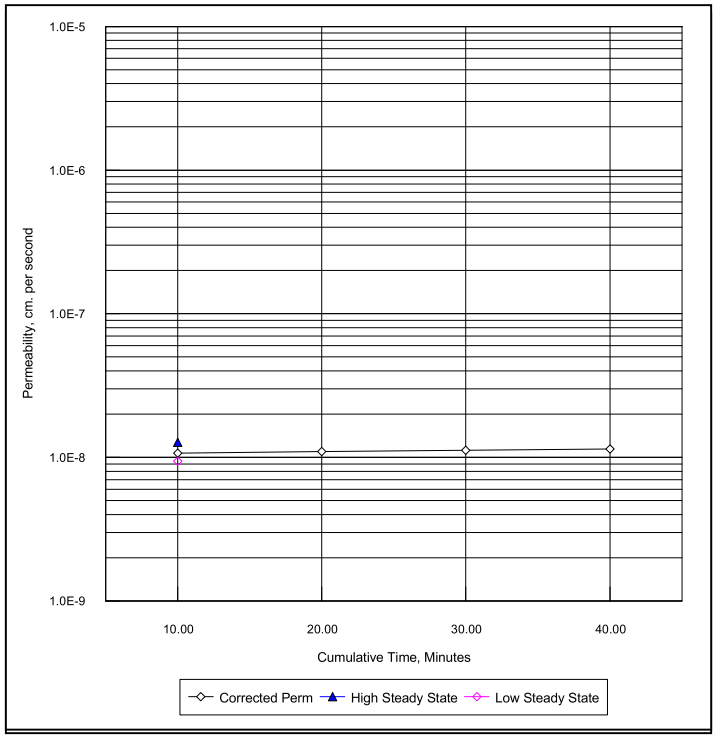
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.00	4.77
Specimen Diameter, cm	7.18	7.24
Specimen Area, cm^2	40.49	41.21
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	408.2	412.6
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	1
Balance ID	3	**CV Hg ID**	1
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1234
Test Constant, C=(M1*S/G)	**0.000297**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.0E-008	1.1E-008
10	20.00	1.1E-008	1.1E-008
10	30.00	1.1E-008	1.1E-008
10	40.00	1.1E-008	1.1E-008

Average Permeability, Corrected k:		**1.1E-008**
	15% of Average	1.7E-009
	High Steady State Limit:	1.3E-008
	Low Steady State Limit:	9.4E-009



		Trial	**Flow**	**Readings**				**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0000	0	1.200	11.300	27.412			0.103	18.5
12.11.2023	6.1667	600	1.208	11.100	26.847	1.000	0.200	0.105	18.5
12.11.2023	6.3333	600	1.216	10.900	26.282	1.000	0.200	0.108	18.5
12.11.2023	6.5000	600	1.225	10.700	25.717	1.000	0.200	0.110	18.5
12.11.2023	6.6667	600	1.233	10.500	25.152	1.000	0.200	0.112	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.05
Unmeasured Flow, cm:	-0.25

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.07.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1206 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.3	21.5	Maximum Dry Density, pcf			
Percent Saturation	80.8	99.1	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	126.6	130.6	**Percent Compacted:**			
Dry Mass Density, (pcf)	107.9	107.5				
Height of Solids, (in)	1.129	1.124	**Test Pressures During Test**			
Void Ratio	0.591	0.598	Backpressure, psi	50		
Calculated Porosity, (%)	37.15	37.41	Effective Confining Stress, psi	5		

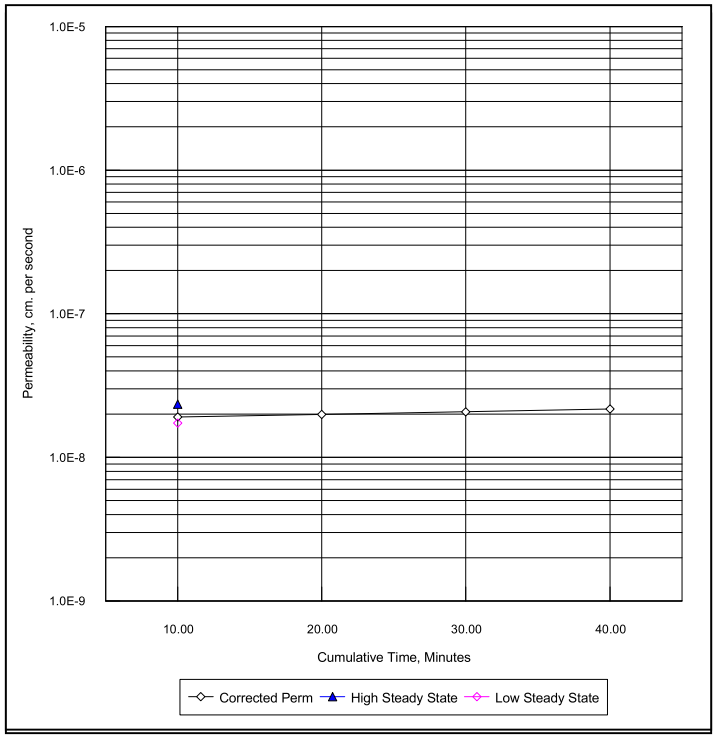
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	4.56	4.56
Specimen Diameter, cm	7.21	7.22
Specimen Area, cm^2	40.80	40.98
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	377.61	391.02
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	2
Balance ID	3	**CV Hg ID**	2
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1118
Test Constant, C=(M1*S/G)	**0.000269**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	1.8E-008	1.9E-008
10	20.00	1.9E-008	2.0E-008
10	30.00	2.0E-008	2.1E-008
10	40.00	2.1E-008	2.2E-008

Average Permeability, Corrected k:		**2.0E-008**
	15% of Average	3.1E-009
	High Steady State Limit:	2.3E-008
	Low Steady State Limit:	1.7E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0167	0	1.400	6.600	15.457			0.200	18.5
12.11.2023	6.1833	600	1.408	6.400	14.838	1.000	0.200	0.209	18.5
12.11.2023	6.3500	600	1.416	6.200	14.219	1.000	0.200	0.218	18.5
12.11.2023	6.5167	600	1.425	6.000	13.600	1.000	0.200	0.228	18.5
12.11.2023	6.6833	600	1.433	5.800	12.982	1.000	0.200	0.238	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	10.09
Unmeasured Flow, cm:	3.49

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.07.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1206 C**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.4	21.9	Maximum Dry Density, pcf			
Percent Saturation	74.9	97.0	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	122.8	129.0	**Percent Compacted:**			
Dry Mass Density, (pcf)	104.6	105.8				
Height of Solids, (in)	1.362	1.373	**Test Pressures During Test**			
Void Ratio	0.642	0.622	Backpressure, psi	50		
Calculated Porosity, (%)	39.09	38.36	Effective Confining Stress, psi	5		

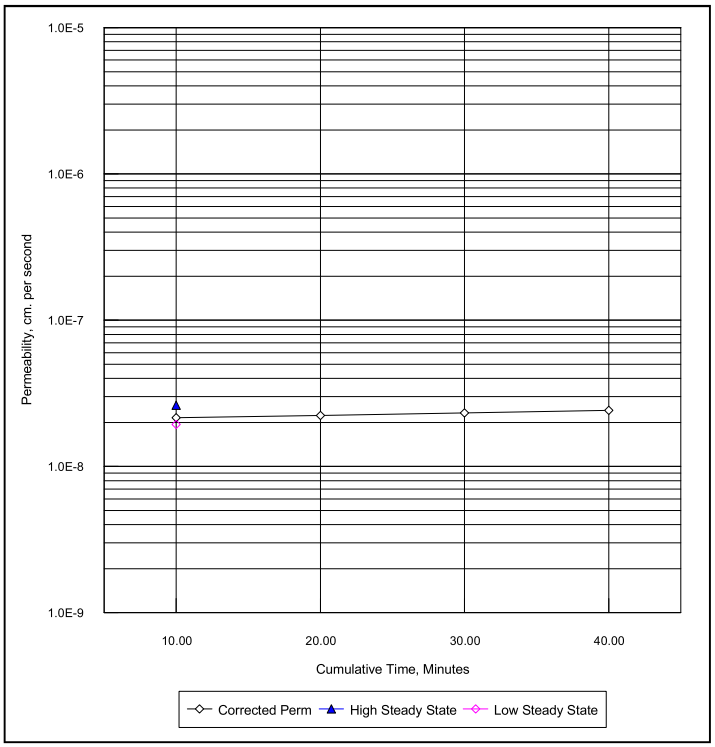
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.68	5.66
Specimen Diameter, cm	7.23	7.20
Specimen Area, cm^2	41.01	40.66
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	458.2	475.6
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	3
Balance ID	3	**CV Hg ID**	3
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1385
Test Constant, C=(M1*S/G)	**0.000333**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	2.1E-008	2.2E-008
10	20.00	2.1E-008	2.2E-008
10	30.00	2.2E-008	2.3E-008
10	40.00	2.3E-008	2.4E-008

Average Permeability, Corrected k:		**2.3E-008**
	15% of Average	3.4E-009
	High Steady State Limit:	2.6E-008
	Low Steady State Limit:	1.9E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0333	0	1.300	7.000	13.609			0.183	18.5
12.11.2023	6.2000	600	1.308	6.800	13.112	1.000	0.200	0.190	18.5
12.11.2023	6.3667	600	1.316	6.600	12.615	1.000	0.200	0.197	18.5
12.11.2023	6.5333	600	1.325	6.400	12.118	1.000	0.200	0.205	18.5
12.11.2023	6.7000	600	1.333	6.200	11.621	1.000	0.200	0.214	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	12.57
Unmeasured Flow, cm:	5.57

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.07.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1206 D**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	18.2	20.8	Maximum Dry Density, pcf			
Percent Saturation	85.5	102.1	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.9	132.9	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.2	110.0				
Height of Solids, (in)	1.303	1.298	**Test Pressures During Test**			
Void Ratio	0.587	0.561	Backpressure, psi	50		
Calculated Porosity, (%)	37.01	35.96	Effective Confining Stress, psi	5		

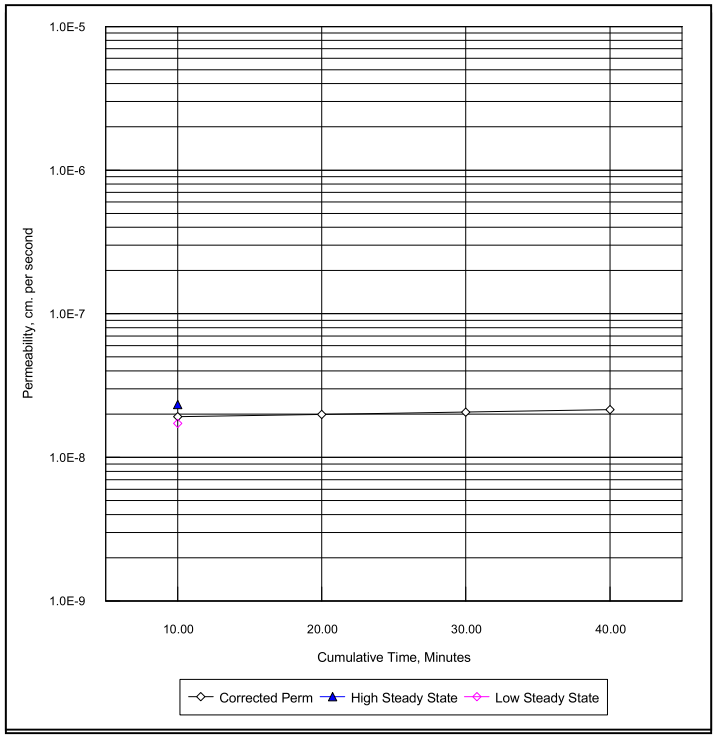
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	5.25	5.15
Specimen Diameter, cm	7.23	7.24
Specimen Area, cm^2	41.06	41.21
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	441.9	451.5
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	4
Balance ID	3	**CV Hg ID**	4
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1279
Test Constant, C=(M1*S/G)	**0.000308**

	Test	**Data**	
Elapsed Time (Minutes)	Cumulative Time (Minutes)	Permeability, k (cm/sec) (Uncorrected)	Corrected k For 20 c (cm/sec)
0	0.00		
10	10.00	1.8E-008	1.9E-008
10	20.00	1.9E-008	2.0E-008
10	30.00	2.0E-008	2.1E-008
10	40.00	2.1E-008	2.1E-008

Average Permeability, Corrected k:		**2.0E-008**
	15% of Average	3.0E-009
	High Steady State Limit:	2.3E-008
	Low Steady State Limit:	1.7E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0500	0	1.100	7.000	15.231			0.176	18.5
12.11.2023	6.2167	600	1.108	6.800	14.694	1.000	0.200	0.183	18.5
12.11.2023	6.3833	600	1.116	6.600	14.156	1.000	0.200	0.190	18.5
12.11.2023	6.5500	600	1.125	6.400	13.619	1.000	0.200	0.197	18.5
12.11.2023	6.7167	600	1.133	6.200	13.081	1.000	0.200	0.205	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	11.62
Unmeasured Flow, cm:	4.62

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.08.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1207 A**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	18.4	20.4	Maximum Dry Density, pcf			
Percent Saturation	91.1	101.2	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	130.6	132.9	**Percent Compacted:**			
Dry Mass Density, (pcf)	110.2	110.4				
Height of Solids, (in)	1.547	1.570	**Test Pressures During Test**			
Void Ratio	0.558	0.556	Backpressure, psi	50		
Calculated Porosity, (%)	35.80	35.73	Effective Confining Stress, psi	5		

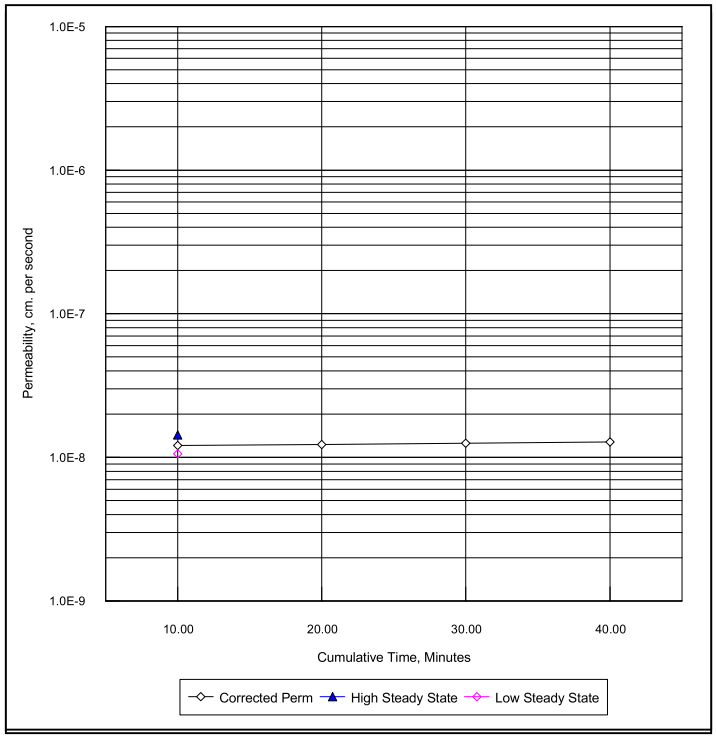
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.12	6.21
Specimen Diameter, cm	7.24	7.19
Specimen Area, cm^2	41.15	40.55
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	526.8	535.6
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	5
Balance ID	3	**CV Hg ID**	5
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1488
Test Constant, C=(M1*S/G)	**0.000358**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.2E-008	1.2E-008
10	20.00	1.2E-008	1.2E-008
10	30.00	1.2E-008	1.3E-008
10	40.00	1.2E-008	1.3E-008

Average Permeability, Corrected k:		**1.2E-008**
	15% of Average	1.9E-009
	High Steady State Limit:	1.4E-008
	Low Steady State Limit:	1.1E-008



		Trial	**Flow**	**Readings**					**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0667	0	1.000	11.800	23.924			0.096	18.5
12.11.2023	6.2333	600	1.008	11.600	23.463	1.000	0.200	0.098	18.5
12.11.2023	6.4000	600	1.016	11.400	23.002	1.000	0.200	0.100	18.5
12.11.2023	6.5667	600	1.025	11.200	22.540	1.000	0.200	0.102	18.5
12.11.2023	6.7333	600	1.033	11.000	22.079	1.000	0.200	0.104	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	13.54
Unmeasured Flow, cm:	1.74

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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CQA Testing Laboratory Lab ID: 05091

Results of Falling Head Permeability, ASTM D5084
Undisturbed Specimen

Project Number:	**2330**	**Specimen Received Date:**	**12.08.2023**	**Test Date:**	**12.11.2023**
Project Name:	**Eco-Vista Landfill, Cell 13 A**	**Specimen Loaded into Cell:**	**12.08.2023**	**Tested By:**	**JMB**
Client:	**Waste Management of Arkansas**			**Reviewed By:**	**BMG**

Sample Id.	**1207 B**	**Location:**	**N/A**	**Elevation:**	**N/A**
	Before Testing		**After Testing**		
Specimen Condition:	**good**		**good**		

Special Selection or Preparation if Any:

Permeant: **D/A Water**

Specimen Data	**Initial**	**Final**	**Compaction Data**	**Proctor**	**Target**	**Difference**
Moisture Content, (%)	17.9	23.0	Maximum Dry Density, pcf			
Percent Saturation	83.6	99.1	Optimum Moisture Content, (%)			
Wet Mass Density, (pcf)	127.4	128.8	**Percent Compacted:**			
Dry Mass Density, (pcf)	108.1	104.7				
Height of Solids, (in)	1.687	1.634	**Test Pressures During Test**			
Void Ratio	0.589	0.640	Backpressure, psi	50		
Calculated Porosity, (%)	37.07	39.04	Effective Confining Stress, psi	5		

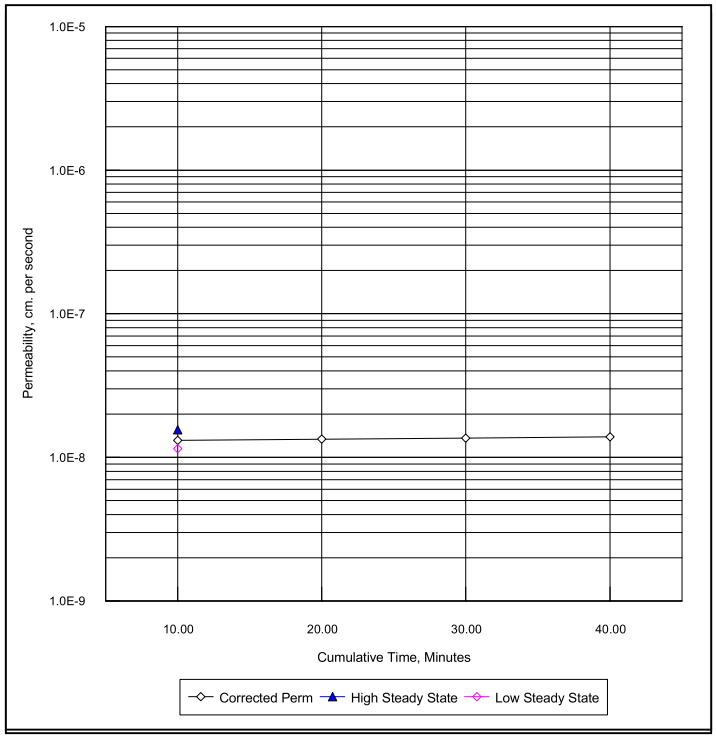
Specimen Dimensions	**Initial**	**Final**
Specimen Height, cm	6.81	6.81
Specimen Diameter, cm	7.12	7.24
Specimen Area, cm^2	39.83	41.12
Specimen Mass	**Initial**	**Final**
Initial Wet Mass, gms	553.4	577.7
Specific Gravity (Assumed):	2.75	

Traceability Items			
Caliper ID	2	**Cell ID**	6
Balance ID	3	**CV Hg ID**	7
Thermo ID	1		

Constants During Testing and Equipment	
Inflow Buret, (cm ^2, ain)	0.7671
Outflow Buret, (cm ^2, aout)	0.0314
Specific Gravity, (GHg - Gw) = (13.56 - 1)	12.56
Manometer, M1, (ain*aout/ain+aout)	0.0302
Manometer, M2, (1+[aout/ain])	1.041
Sample, S=(Sample Length/ Sample Area)	0.1710
Test Constant, C=(M1*S/G)	**0.000411**

	Test	**Data**	
Elapsed	Cumulative	Permeability, k	Corrected k
Time	Time	(cm/sec)	For 20 c
(Minutes)	(Minutes)	(Uncorrected)	(cm/sec)
0	0.00		
10	10.00	1.3E-008	1.3E-008
10	20.00	1.3E-008	1.3E-008
10	30.00	1.3E-008	1.4E-008
10	40.00	1.3E-008	1.4E-008

Average Permeability, Corrected k:		**1.4E-008**
	15% of Average	2.0E-009
	High Steady State Limit:	1.6E-008
	Low Steady State Limit:	1.2E-008



		Trial	**Flow**	**Readings**				**Test Fluid**
Date	**Clock Time**	**Elapsed**	**Inflow**	**Outflow**	**Gradient**	**Out/Inflow**	**Z out**	**T**	**Temp, c**
	(hh+mm/60)	**t, sec.**			**During Test**	**Ratio**			
12.11.2023	6.0833	0	0.700	12.100	22.700			0.091	18.5
12.11.2023	6.2500	600	0.708	11.900	22.286	1.000	0.200	0.093	18.5
12.11.2023	6.4167	600	0.716	11.700	21.871	1.000	0.200	0.095	18.5
12.11.2023	6.5833	600	0.725	11.500	21.457	1.000	0.200	0.097	18.5
12.11.2023	6.7500	600	0.733	11.300	21.042	1.000	0.200	0.099	18.5

Initial Gradient;	30.00
Height of Mercury in Center Column, cm:	15.07
Unmeasured Flow, cm:	2.97

Remarks: k = C/t ln [1-(Zout T)] and Corrected k for temp @ 20 C = k x (-0.02452 x temp. + 1.495)

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Table C-3

Eco-Vista Class 1 Landfill, Cell 13A

Field Compaction Test Results - Compacted Clay Liner

Identification					Field Test Results			Reference Proctor Data			Evaluations				Retest		Remarks
Test ID	Lift No.	General Area	Site Coordinate Location		Test Depth	w (%)	γ_d (pcf)	Curve No.	w_{opt} (%)	$\gamma_{d(max)}$ (pcf)	$w-w_{opt}$ (%)	P/F	Compaction (%)	P/F	at:	of:	
			Northing	Easting													
1018-1	1	Cell floor	664,925	645,950	6	22.3	105.4	0927A	17.7	106.2	4.6	P	99.2	P			
1018-2	1	Cell floor	664,925	645,900	6	19.3	102.3	0927A	17.7	106.2	1.6	P	96.3	P			
1018-3	1	Cell floor	664,900	645,850	6	21.1	101.3	0927A	17.7	106.2	3.4	P	95.4	P			1018A
1018-4	1	Cell floor	664,875	645,800	6	20.4	101.4	0927A	17.7	106.2	2.7	P	95.5	P			
1018-5	1	Cell floor	664,850	645,700	6	22.1	102.4	0927A	17.7	106.2	4.4	P	96.4	P			
1018-6	1	Cell floor	664,800	645,550	6	21.0	103.5	0927A	17.7	106.2	3.3	P	97.5	P			
1018-7	1	Cell floor	664,725	645,500	6	21.7	104.1	0927A	17.7	106.2	4.0	P	98.0	P			1018B
1018-8	1	Cell floor	664,650	645,475	6	21.0	102.6	0927A	17.7	106.2	3.3	P	96.6	P			
1109-1	2	Cell floor	664,625	645,450	6	20.9	101.0	0927A	17.7	106.2	3.2	P	95.1	P			
1109-2	2	Cell floor	664,675	645,450	6	21.3	104.6	1002D	17.2	107.4	4.1	P	97.4	P			1109A
1109-3	2	Cell floor	664,675	645,525	6	20.5	105.4	1002D	17.2	107.4	3.3	P	98.1	P			1109B
1109-4	2	Cell floor	664,750	645,475	6	18.1	108.4	1002D	17.2	107.4	0.9	P	100.9	P			1109C
1109-5	2	Cell floor	664,800	645,450	6	18.1	102.1	0927A	17.7	106.2	0.4	P	96.1	P			1109D
1109-6	2	Cell floor	664,775	645,550	6	17.9	102.0	0927A	17.7	106.2	0.2	P	96.0	P			1109E
1109-7	2	Cell floor	664,800	645,525	6	18.2	101.9	0927A	17.7	106.2	0.5	P	96.0	P			
1109-8	2	Cell floor	664,825	645,600	6	20.1	102.6	0927A	17.7	106.2	2.4	P	96.6	P			
1109-9	2	Cell floor	664,850	645,700	6	20.2	105.0	0927A	17.7	106.2	2.5	P	98.9	P			1109F
1109-10	2	Cell floor	664,850	645,800	6	18.1	105.4	0927A	17.7	106.2	0.4	P	99.2	P			
1110-1	1	West Slope	664,575	645,425	6	21.9	103.5	0927A	17.7	106.2	4.2	P	97.5	P			
1110-2	1	West Slope	664,700	645,400	6	22.1	103.5	0927A	17.7	106.2	4.4	P	97.5	P			1110A
1110-3	1	West Slope	664,825	645,400	6	20.5	105.8	0927A	17.7	106.2	2.8	P	99.6	P			1110B
1110-4	1	North Slope	664,840	645,475	6	20.1	105.6	0927A	17.7	106.2	2.4	P	99.4	P			1110C
1110-5	1	North Slope	664,875	645,600	6	20.1	103.2	0927A	17.7	106.2	2.4	P	97.2	P			
1110-6	1	North Slope	664,900	645,725	6	22.7	103.4	0927A	17.7	106.2	5.0	P	97.4	P			
1110-7	2	West Slope	664,600	645,415	6	20.6	104.5	0927A	17.7	106.2	2.9	P	98.4	P			
1110-8	2	West Slope	664,725	645,415	6	20.2	105.2	0927A	17.7	106.2	2.5	P	99.1	P			
1110-9	2	West Slope	664,800	645,415	6	21.7	105.0	0927A	17.7	106.2	4.0	P	98.9	P			
1110-10	2	North Slope	664,835	645,435	6	22.7	103.6	0927A	17.7	106.2	5.0	P	97.6	P			
1110-11	2	North Slope	664,850	645,575	6	22.0	103.2	0927A	17.7	106.2	4.3	P	97.2	P			
1110-12	2	North Slope	664,900	645,750	6	21.6	103.5	0927A	17.7	106.2	3.9	P	97.5	P			
1111-1	1	South Slope	664,575	645,475	6	21.5	103.5	0927A	17.7	106.2	3.8	P	97.5	P			
1111-2	1	South Slope	664,670	645,550	6	20.0	104.1	0927A	17.7	106.2	2.3	P	98.0	P			
1111-3	1	South Slope	664,775	645,600	6	21.7	103.6	0927A	17.7	106.2	4.0	P	97.6	P			
1111-4	1	South Slope	664,825	645,750	6	20.9	103.5	0927A	17.7	106.2	3.2	P	97.5	P			
1111-5	2	South Slope	664,600	645,480	6	21.3	103.8	0927A	17.7	106.2	3.6	P	97.7	P			
1111-6	2	South Slope	664,675	645,560	6	21.4	104.1	0927A	17.7	106.2	3.7	P	98.0	P			

Table C-3

Eco-Vista Class 1 Landfill, Cell 13A

Field Compaction Test Results - Compacted Clay Liner

Identification					Field Test Results			Reference Proctor Data			Evaluations				Retest		Remarks
Test ID	Lift No.	General Area	Site Coordinate Location		Test Depth	w (%)	γ_d (pcf)	Curve No.	w_{opt} (%)	$\gamma_{d(max)}$ (pcf)	$w-w_{opt}$ (%)	P/F	Compaction (%)	P/F	at:	of:	
			Northing	Easting													
1111-7	2	South Slope	664,800	645,675	6	20.5	105.0	0927A	17.7	106.2	2.8	P	98.9	P			
1111-8	2	South Slope	664,885	645,925	6	22.5	103.5	0927A	17.7	106.2	4.8	P	97.5	P			
1111-9	3	West Slope	664,600	645,425	6	20.3	106.0	0927A	17.7	106.2	2.6	P	99.8	P			
1111-10	3	West Slope	664,675	645,425	6	22.5	103.9	0927A	17.7	106.2	4.8	P	97.8	P			
1111-11	3	West Slope	664,750	645,400	6	21.4	103.6	0927A	17.7	106.2	3.7	P	97.6	P			
1111-12	3	West Slope	664,825	645,400	6	21.9	103.5	0927A	17.7	106.2	4.2	P	97.5	P			
1112-1	3	North Slope	664,825	645,450	6	20.4	106.7	1002B	18.0	108.0	2.4	P	98.8	P			1112A
1112-2	3	North Slope	664,850	645,590	6	21.3	102.0	0927A	17.7	106.2	3.6	P	96.0	P			
1112-3	3	North Slope	664,955	645,925	6	22.5	102.0	0927A	17.7	106.2	4.8	P	96.0	P			
1112-4	3	North Slope	664,950	646,100	6	19.6	104.7	0927A	17.7	106.2	1.9	P	98.6	P			
1112-5	3	Cell floor	664,855	645,700	6	21.1	105.8	1002B	18.0	108.0	3.1	P	98.0	P			
1112-6	3	Cell floor	664,795	645,500	6	20.8	105.9	1002B	18.0	108.0	2.8	P	98.1	P			1112B
1112-7	3	Cell floor	664,850	645,825	6	20.2	107.9	1002B	18.0	108.0	2.2	P	99.9	P			
1112-8	3	South Slope	664,800	645,650	6	21.2	107.3	1002B	18.0	108.0	3.2	P	99.4	P			
1112-9	3	South Slope	664,740	645,575	6	19.4	106.5	1002B	18.0	108.0	1.4	P	98.6	P			1112C
1112-10	3	South Slope	664,625	645,550	6	19.9	105.9	1002B	18.0	108.0	1.9	P	98.1	P			
1112-11	3	South Slope	664,580	645,500	6	22.3	103.9	1002B	18.0	108.0	4.3	P	96.2	P			
1112-12	3	South Slope	664,560	645,450	6	20.7	106.4	1002B	18.0	108.0	2.7	P	98.5	P			1112D
1112-13	4	West Slope	664,625	645,395	6	20.7	107.1	0927A	17.7	106.2	3.0	P	100.8	P			1112E
1112-14	4	West Slope	664,755	645,390	6	22.9	103.3	0927A	17.7	106.2	5.2	P	97.3	P			
1116-1	4	South Slope	664,625	645,500	6	20.7	105.4	0927A	17.7	106.2	3.0	P	99.2	P			1116A
1116-2	4	South Slope	664,660	645,550	6	19.4	107.9	0927A	17.7	106.2	1.7	P	101.6	P			
1116-3	4	South Slope	664,800	645,650	6	21.0	107.3	0927A	17.7	106.2	3.3	P	101.0	P			
1116-4	4	South Slope	664,900	645,925	6	19.5	105.8	0927A	17.7	106.2	1.8	P	99.6	P			1116B
1116-5	4	North Slope	664,900	645,810	6	23.5	102.1	0927A	17.7	106.2	5.8	P	96.1	P			
1116-6	4	North Slope	665,000	646,200	6	22.5	103.0	0927A	17.7	106.2	4.8	P	97.0	P			1116C
1116-7	4	North Slope	664,890	645,675	6	24.9	100.3	0927A	17.7	106.2	7.2	F	94.4	F	1116-11		
1116-8	4	Cell floor	664,830	645,550	6	19.6	108.7	1118A	17.6	110.3	2.0	P	98.5	P			1116D
1116-9	4	Cell floor	664,780	645,460	6	18.0	112.4	1118A	17.6	110.3	0.4	P	101.9	P			1116E
1116-10	4	Cell floor	664,725	645,525	6	21.1	105.8	1118A	17.6	110.3	3.5	P	95.9	P			
1116-11	4	North Slope	664,860	645,650	6	20.9	101.1	0927A	17.7	106.2	3.2	P	95.2	P		1116-7	
1117-1	4	Cell floor	664,960	645,915	6	20.1	105.3	0927A	17.7	106.2	2.4	P	99.2	P			1117A
1117-2	4	South Slope	665,000	646,320	6	18.8	104.9	1118A	17.6	110.3	1.2	P	95.1	P			1117B
1117-3	1	Cell floor	664,950	646,025	6	19.7	103.4	0927A	17.7	106.2	2.0	P	97.4	P			
1117-4	4	Cell floor	664,925	646,050	6	18.1	106.9	1118A	17.6	110.3	0.5	P	96.9	P			
1117-5	1	Cell floor	664,950	646,450	6	18.9	109.2	1118A	17.6	110.3	1.3	P	99.0	P			1117C

Table C-3

Eco-Vista Class 1 Landfill, Cell 13A

Field Compaction Test Results - Compacted Clay Liner

Identification					Field Test Results			Reference Proctor Data			Evaluations				Retest		Remarks
Test ID	Lift No.	General Area	Site Coordinate Location		Test Depth	w (%)	γ_d (pcf)	Curve No.	w_{opt} (%)	$\gamma_{d(max)}$ (pcf)	$w-w_{opt}$ (%)	P/F	Compaction (%)	P/F	at:	of:	
			Northing	Easting													
1117-6	4	North Slope	664,970	646,035	6	22.5	102.7	0927A	17.7	106.2	4.8	P	96.7	P			1117D
1117-7	1	North Slope	665,025	646,350	6	23.1	101.8	0927A	17.7	106.2	5.4	P	95.9	P			
1117-8	1	South Slope	664,950	646,200	6	19.7	104.4	0927A	17.7	106.2	2.0	P	98.3	P			1117E
1117-9	1	South Slope	664,925	646,050	6	21.3	103.7	0927A	17.7	106.2	3.6	P	97.6	P			
1117-10	4	South Slope	664,900	646,015	6	18.3	101.6	0927A	17.7	106.2	0.6	P	95.7	P			
1117-11	2	South Slope	665,000	646,350	6	22.3	106.7	0927A	17.7	106.2	4.6	P	100.5	P			1117F
1117-12	2	South Slope	664,935	646,175	6	19.8	100.9	0927A	17.7	106.2	2.1	P	95.0	P			
1117-13	4	Cell floor	664,950	646,125	6	20.0	102.4	0927A	17.7	106.2	2.3	P	96.4	P			
1117-14	2	North Slope	665,000	646,135	6	22.2	101.8	0927A	17.7	106.2	4.5	P	95.9	P			
1117-15	2	North Slope	664,950	646,000	6	19.1	105.7	0927A	17.7	106.2	1.4	P	99.5	P			1117G
1117-16	3	North Slope	665,025	646,225	6	24.0	100.7	0927A	17.7	106.2	6.3	F	94.8	F	1117-16		
1117-17	3	North Slope	665,050	646,575	6	21.9	101.9	0927A	17.7	106.2	4.2	P	96.0	P		1117-16	
1117-18	3	Cell floor	665,025	646,300	6	18.7	108.2	1118A	17.6	110.3	1.1	P	98.1	P			1117H
1117-19	3	Cell floor	665,010	646,200	6	19.6	107.5	1118A	17.6	110.3	2.0	P	97.5	P			
1117-20	3	South Slope	664,970	646,500	6	20.1	103.7	0927A	17.7	106.2	2.4	P	97.6	P			
1205-1	1	South Slope	664,975	646,600	6	18.8	108.1	1118A	17.6	110.3	1.2	P	98.0	P			
1205-2	1	Cell floor	665,050	646,600	6	18.5	109.7	1118A	17.6	110.3	0.9	P	99.5	P			
1205-3	2	North Slope	665,035	646,500	6	18.7	99.4	0927A	17.7	106.2	1.0	P	93.6	F	1205-4		
1205-4	2	North Slope	664,925	646,490	6	20.2	107.5	1118A	17.6	110.3	2.6	P	97.5	P		1205-3	
1206-1	1	South Slope	664,975	646,490	6	26.0	100.0	0927A	17.7	106.2	8.3	F	94.2	F	1206-2		
1206-2	1	South Slope	665,035	646,750	6	23.1	103.4	0927A	17.7	106.2	5.4	P	97.4	P		1206-1	1206A
1206-3	2	Cell floor	665,025	646,745	6	22.4	107.3	1118A	17.6	110.3	4.8	P	97.3	P			1206B
1206-4	2	North Slope	665,050	646,600	6	20.9	101.1	0927A	17.7	106.2	3.2	P	95.2	P			1206C
1206-5	3	Cell floor	665,010	646,710	6	19.3	102.7	0927A	17.7	106.2	1.6	P	96.7	P			
1206-6	3	South Slope	664,950	646,625	6	21.3	104.4	0927A	17.7	106.2	3.6	P	98.3	P			
1206-7	3	North Slope	665,075	646,745	6	18.9	103.8	0927A	17.7	106.2	1.2	P	97.7	P			
1206-8	3	North Slope	664,995	646,840	6	21.0	106.5	1118B	17.4	110.2	3.6	P	96.6	P			1206D
1207-1	4	South Slope	664,960	646,435	6	19.1	110.0	1118B	17.4	110.2	1.7	P	99.8	P			1207A
1207-2	4	Cell floor	664,995	646,610	6	18.3	109.4	1118B	17.4	110.2	0.9	P	99.3	P			
1207-3	4	North Slope	665,050	646,525	6	19.2	110.3	1118B	17.4	110.2	1.8	P	100.1	P			
1207-4	4	North Slope	665,100	646,700	6	18.8	110.7	1118B	17.4	110.2	1.4	P	100.5	P			1207B

Table C-3

Eco-Vista Class 1 Landfill, Cell 13A

Field Compaction Test Results - Compacted Clay Liner

Identification					Field Test Results			Reference Proctor Data			Evaluations				Retest		Remarks
Test ID	Lift No.	General Area	Site Coordinate Location		Test Depth	w (%)	γ_d (pcf)	Curve No.	w_{opt} (%)	$\gamma_{d(max)}$ (pcf)	$w-w_{opt}$ (%)	P/F	Compaction (%)	P/F	at:	of:	
			Northing	Easting													

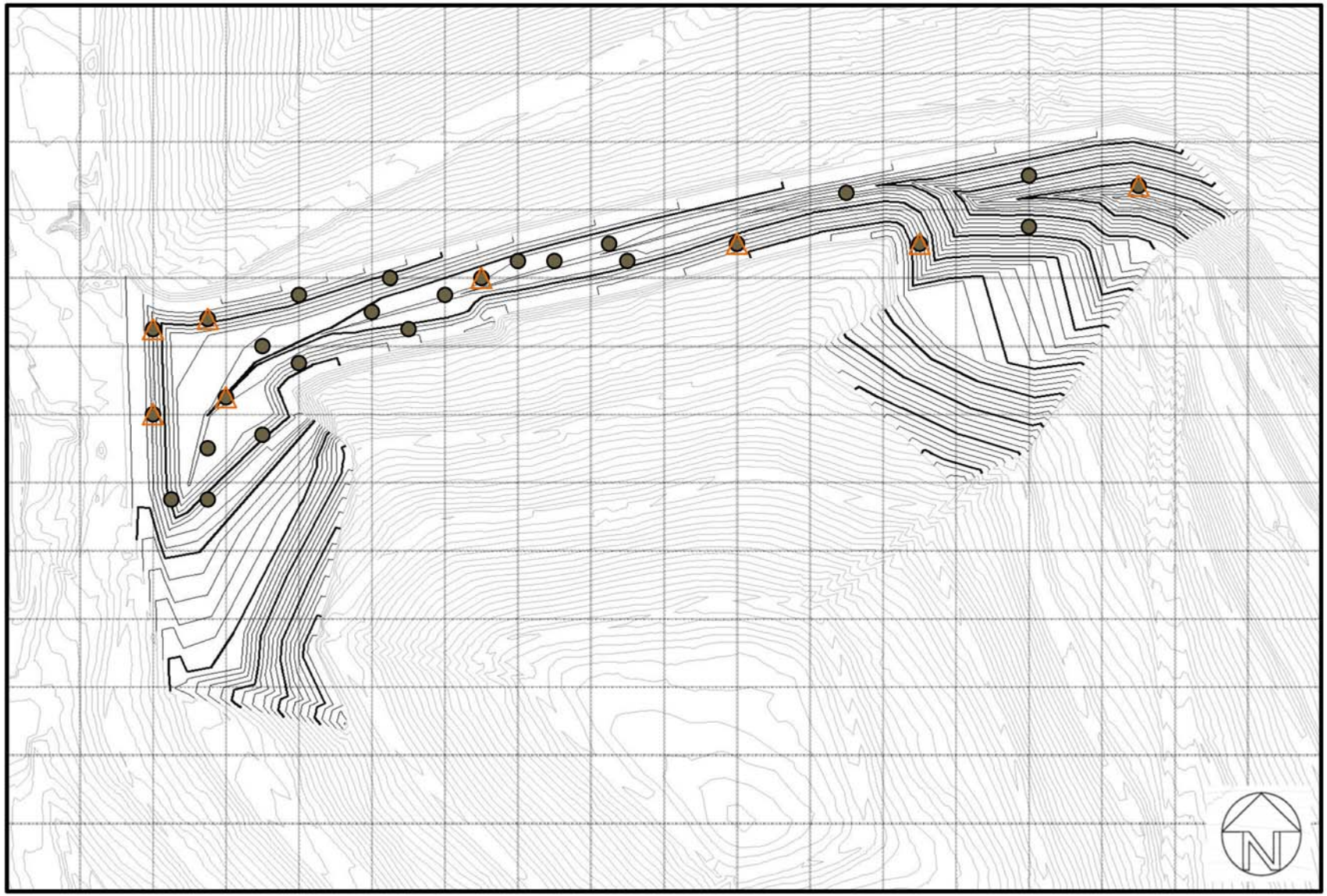
Statistical Summary

Minimum	-	17.9	99.4			0.2	93.6
Maximum	-	26.0	112.4			8.3	101.9
Average	-	20.7	104.6			3.0	97.7
Standard Deviation	-	1.6	2.6			1.6	1.7
Requirements	-	-	-			0.0 to 6.0	≥ 95
Total Number of Tests	-	103					
Required Frequency	1/10000 SF/lift						
Actual Frequency	1/8458.25242718447 SF/lift						

Notes: (1) Test frequency based on lined area of 217800 SF and total Compacted Soil Liner volume of approximately 18550 CY

Easting

Northing



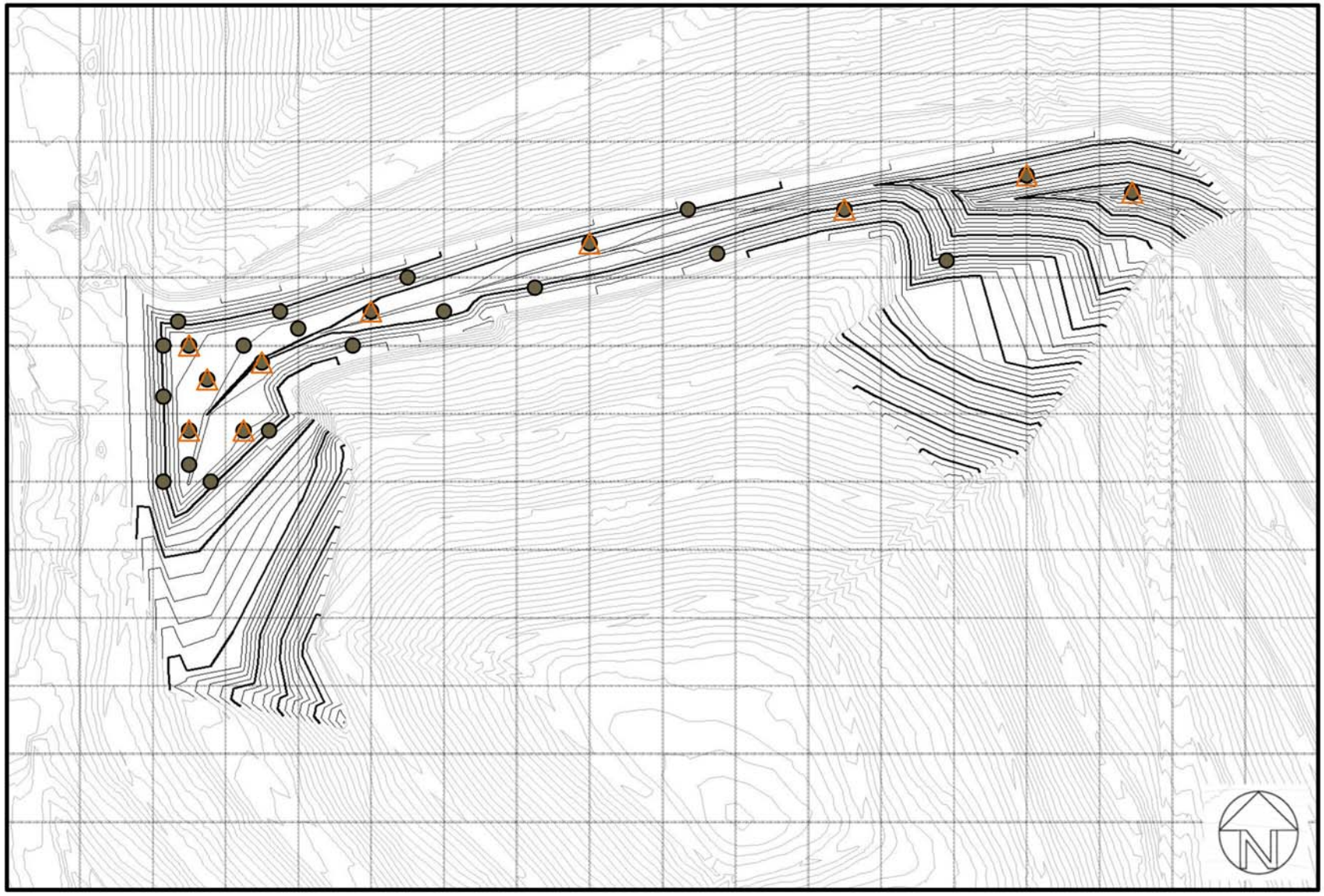
NOT TO SCALE

Note: This figure is not a survey. The test locations, grid coordinates and other items depicted are only approximate. The purpose of this figure is for illustrating approximate test locations only.

Legend	*Field Compaction Test Location Plan*	Eco-Vista Class 1 Landfill	PROMUS ENGINEERING	Figure
● Moisture/Density Tests ▲ Permeability	Soil Liner	Cell 13A Project No.230181		C-1

Easting

Northing



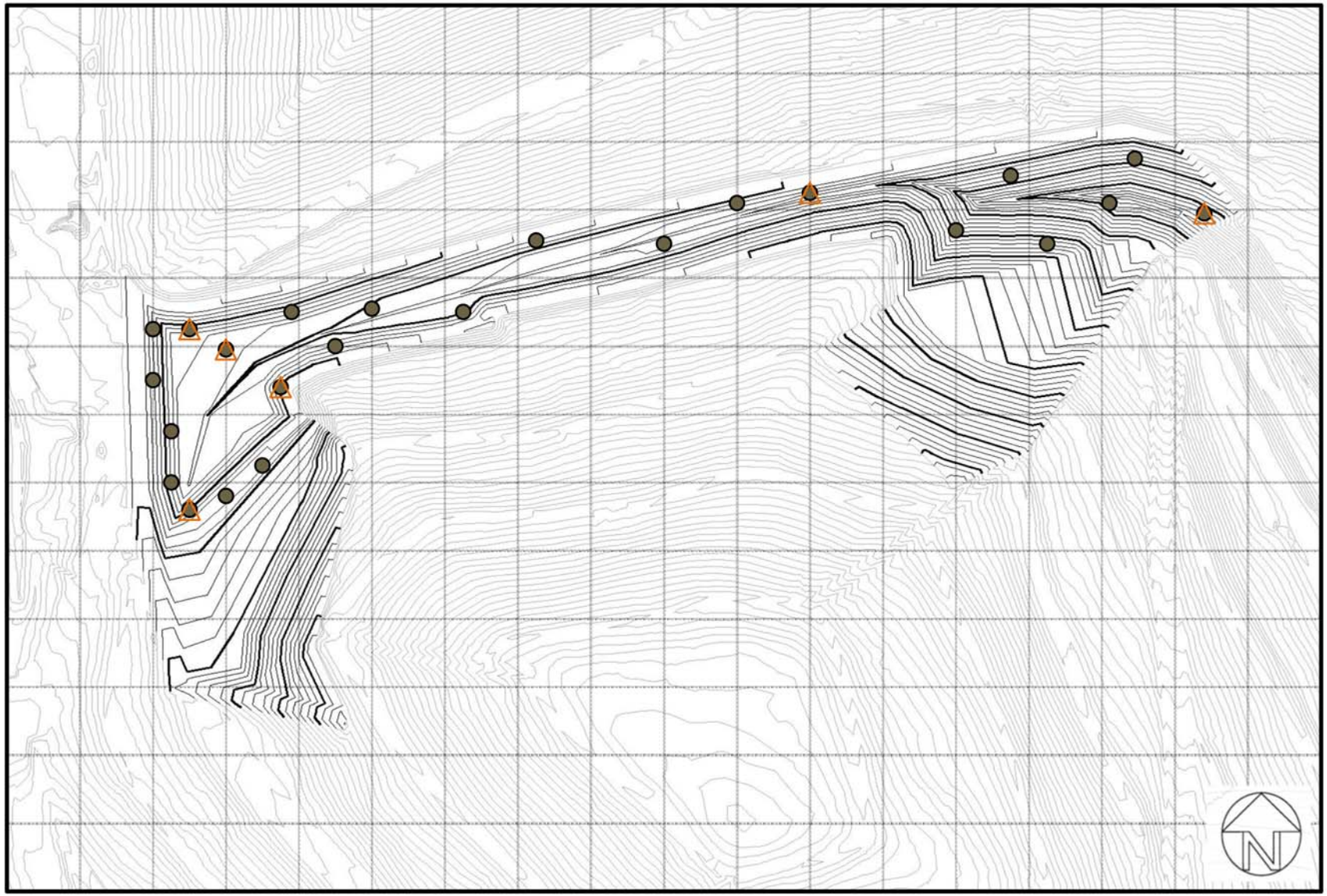
NOT TO SCALE

Note: This figure is not a survey. The test locations, grid coordinates and other items depicted are only approximate. The purpose of this figure is for illustrating approximate test locations only.

Legend	*Field Compaction Test Location Plan*	Eco-Vista Class 1 Landfill	PROMUS ENGINEERING	Figure
● Moisture/Density Tests ▲ Permeability	Soil Liner	Cell 13A Project No.230181		C-2

Easting

Northing



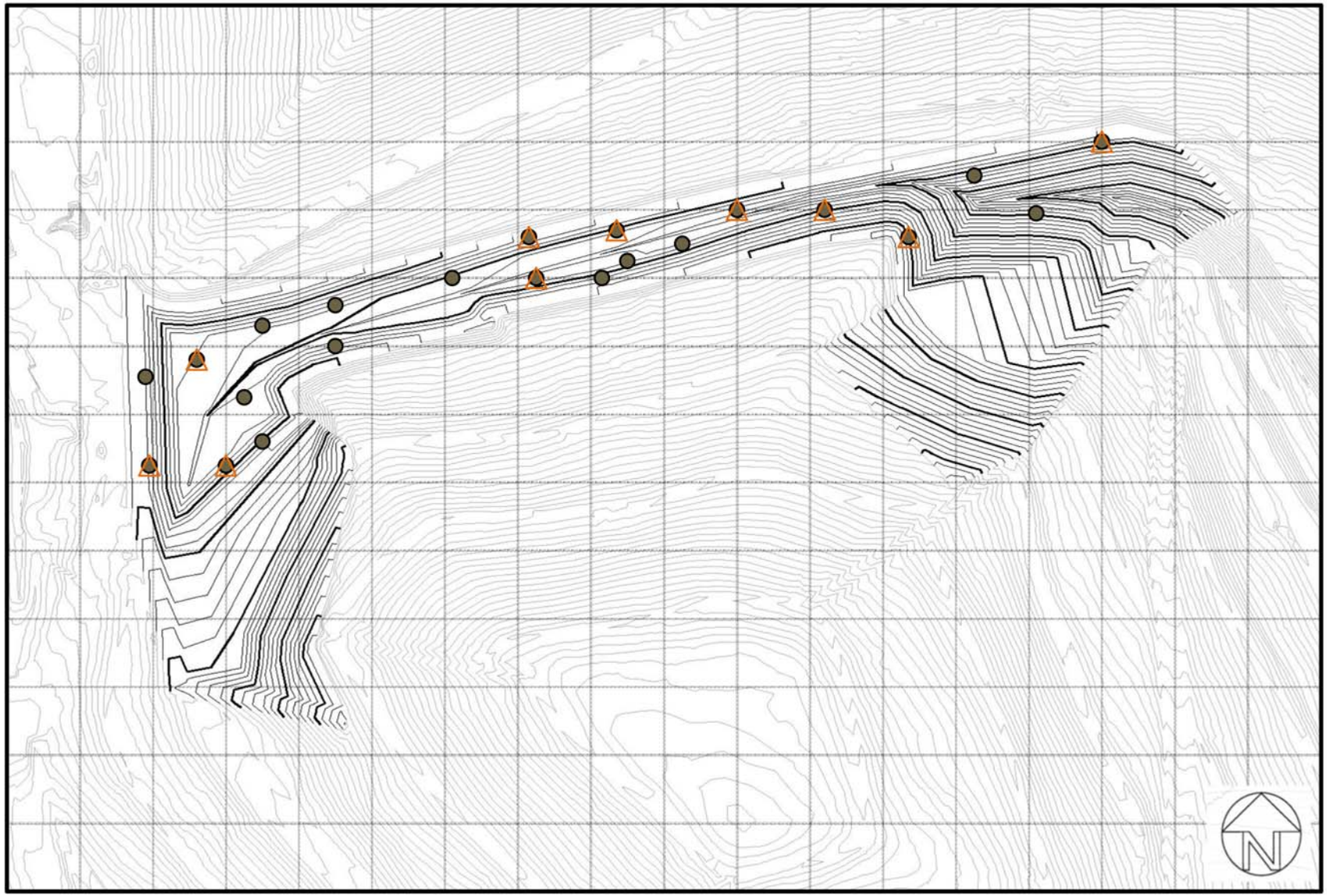
NOT TO SCALE

Note: This figure is not a survey. The test locations, grid coordinates and other items depicted are only approximate. The purpose of this figure is for illustrating approximate test locations only.

Legend	*Field Compaction Test Location Plan*	Eco-Vista Class 1 Landfill	PROMUS ENGINEERING	Figure
● Moisture/Density Tests ▲ Permeability	Soil Liner	Cell 13A Project No.230181		C-3

Easting

Northing



NOT TO SCALE

Note: This figure is not a survey. The test locations, grid coordinates and other items depicted are only approximate. The purpose of this figure is for illustrating approximate test locations only.

Legend	*Field Compaction Test Location Plan*	Eco-Vista Class 1 Landfill	PROMUS ENGINEERING	Figure
● Moisture/Density Tests ▲ Permeability	Soil Liner	Cell 13A Project No.230181		C-4

APPENDIX D

GEOSYNTHETIC CLAY LINER (GCL)

Laboratory Testing
GCL MQC Conformance Data

MANUFACTURING QUALITY CONTROL

SOLMAX APPROVED QUALITY ASSURANCE

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

ROLL NUMBER	MANUFACT. DATE	BENTONITE LOT NUMBER	TOP LAYER 1	BOTTOM LAYER 1
Product Code : 1109263-41284-1				
Bentoliner 0.75 lbs/ft² - 3.66 kg/m², NS, Peel 35				
TRI Austin Pickup - Nicole Saucedo 1 ft x RW, 1/100,000 sf, min 1/Lot One bag (500 gr) of loose bentonite One additional 2 ft x RW sample for interface testing. Roll List to be emailed to <sampling@tri-env.com> and <nsaucedo@tri-env.com>				
2335-131129	2023-09-29	30820231A	2027528765	2012831520
2335-131130	2023-09-29	30820231A	2027528765	2012831520
2335-131131	2023-09-29	30820231A	2027528765	2012831520
2335-131132	2023-09-29	30820231A	2027528765	2012831520
2335-131133	2023-09-29	30820231A	2027528765	2012831520
2335-131134	2023-09-29	30820231A	2027528765	2012831520
2335-131135	2023-09-29	30820231A	2027528765	2012831520
2335-131136	2023-09-29	30820231A	2027528765	2012831520
2335-131137	2023-09-29	30820231A	2027589558	2012831520
2335-131138	2023-09-29	30820231A	2027589558	2012831520
2335-131139	2023-09-29	30820231A	2027589558	2012831520
2335-131140	2023-09-29	30820231A	2027589558	2012831520
2335-131141	2023-09-29	30820231A	2027589558	2012831520
2335-131142	2023-09-29	30820231A	2027589558	2012831520
2335-131143	2023-09-29	30820231A	2027589558	2012831520

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

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MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131144	2023-09-29	30820231A	2027589558	2012831520
2335-131145	2023-09-29	30820231A	2027589558	2012831520
2335-131146	2023-09-29	30820231A	2027589558	2012831520
2335-131147	2023-09-29	30820231A	2027601886	2012831520
2335-131148	2023-09-29	30820231A	2027601886	2012831520
2335-131149	2023-09-29	30820231A	2027601886	2012831520
2335-131150	2023-09-29	30820231A	2027601886	2012831520
2335-131151	2023-09-29	30820231A	2027601886	2012831520
2335-131152	2023-09-29	30820231A	2027601886	2012831520
2335-131153	2023-09-29	30820231A	2027601886	2012831520
2335-131154	2023-09-29	30820231A	2027601886	2012831511
2335-131155	2023-09-29	30820231A	2027601886	2012831511
2335-131157	2023-09-29	30820231A	2027601886	2012831511
2335-131158	2023-09-29	30820231A	2027613814	2012831511
2335-131159	2023-09-29	30820231A	2027613814	2012831511
2335-131160	2023-09-29	30820231A	2027613814	2012831511
2335-131161	2023-09-29	30820231A	2027613814	2012831511
2335-131162	2023-09-29	30820231A	2027613814	2012831511
2335-131163	2023-09-29	30820231A	2027613814	2012831511
2335-131164	2023-09-29	30820231A	2027613814	2012831511
2335-131165	2023-09-29	30820231A	2027613814	2012831511
2335-131166	2023-09-29	30820231A	2027613814	2012831511
2335-131167	2023-09-29	30820231A	2027613814	2012831511
2335-131168	2023-09-29	30820231A	2027601891	2012831511
2335-131169	2023-09-29	30820231A	2027601891	2012831511
2335-131170	2023-09-29	30820231A	2027601891	2012831511
2335-131171	2023-09-29	30820231A	2027601891	2012831511
2335-131172	2023-09-29	30820231A	2027601891	2012831511

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MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131173	2023-09-29	30820231A	2027601891	2012831511
2335-131174	2023-09-29	30820231A	2027601891	2012831511
2335-131175	2023-09-29	30820231A	2027601891	2012831511
2335-131176	2023-09-29	30820231A	2027601891	2012831511
2335-131177	2023-09-29	30819232A	2027601891	2012831511
2335-131178	2023-09-29	30819232A	2027601891	2012831511
2335-131179	2023-09-29	30819232A	2027535431	2012831511
2335-131180	2023-09-29	30819232A	2027535431	2012831511
2335-131181	2023-09-29	30819232B	2027535431	2012831511
2335-131182	2023-09-29	30819232B	2027535431	2012831511
2335-131183	2023-09-29	30819232B	2027535431	2012831511
2335-131184	2023-09-29	30819232B	2027535431	2012831498
2335-131185	2023-09-29	30819232B	2027535431	2012831498
2335-131186	2023-09-29	30819232B	2027535431	2012831498
2335-131187	2023-09-29	30819232B	2027535431	2012831498
2335-131188	2023-09-29	30819232B	2027535431	2012831498
2335-131189	2023-09-29	30819232B	2027595909	2012831498
2335-131190	2023-09-29	30819232B	2027595909	2012831504
2335-131191	2023-09-29	30819232B	2027595909	2012831504
2335-131192	2023-09-29	30819232B	2027595909	2012831504
2335-131193	2023-09-29	30909231B	2027595909	2012831504
2335-131194	2023-09-30	30909231B	2027595909	2012831504
2335-131195	2023-09-30	30909231B	2027595909	2012831504
2335-131196	2023-09-30	30909231B	2027595909	2012831504
2335-131197	2023-09-30	30909231B	2027595909	2012831504
2335-131198	2023-09-30	30909231B	2027595909	2012831504
2335-131199	2023-09-30	30909231B	2027595901	2012831504
2335-131200	2023-09-30	30909231B	2027595901	2012831504

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131201	2023-09-30	30909231B	2027595901	2012831504
2335-131202	2023-09-30	30909231B	2027595901	2012831504
2335-131203	2023-09-30	30909231B	2027595901	2012831504
2335-131204	2023-09-30	30909231B	2027595901	2012831504
2335-131205	2023-09-30	30909231B	2027595901	2012831504
2335-131206	2023-09-30	30909231B	2027595901	2012831504
2335-131207	2023-09-30	30909231B	2027595901	2012831504
2335-131208	2023-09-30	30909231B	2027595901	2012831504
2335-131209	2023-09-30	30909231B	2027595901	2012831504
2335-131210	2023-09-30	30909231B	2027613803	2012831504
2335-131211	2023-09-30	30909231B	2027613803	2012831504
2335-131212	2023-09-30	30909231B	2027613803	2012831504
2335-131213	2023-09-30	30909231B	2027613803	2012831504
2335-131214	2023-09-30	30909231B	2027613803	2012831504
2335-131215	2023-09-30	30909231B	2027613803	2012831504
2335-131216	2023-09-30	30909231B	2027613803	2012831504
2335-131217	2023-09-30	30909231B	2027613803	2012831504
2335-131218	2023-09-30	30909231B	2027613803	2012831504
2335-131219	2023-09-30	30909231B	2027613803	2012831504
2335-131220	2023-09-30	30909231B	2027535428	2012831497
2335-131221	2023-09-30	30909231B	2027535428	2012831497
2335-131222	2023-09-30	30909231B	2027535428	2012831497
2335-131223	2023-09-30	30909231B	2027535428	2012831497
2335-131224	2023-09-30	30909231B	2027535428	2012831497
2335-131225	2023-09-30	30909231B	2027535428	2012831497
2335-131226	2023-09-30	30909231B	2027535428	2012831497
2335-131227	2023-09-30	30909231B	2027535428	2012831497
2335-131228	2023-09-30	30909231B	2027535428	2012831497

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131229	2023-09-30	30909231B	2027535428	2012831497
2335-131230	2023-09-30	30909231B	2027613817	2012831497
2335-131231	2023-09-30	30909231B	2027613817	2012831497
2335-131232	2023-09-30	30909231B	2027613817	2012831497
2335-131233	2023-09-30	30909231B	2027613817	2012831497
2335-131234	2023-09-30	30909231B	2027613817	2012831497
2335-131235	2023-09-30	30909231B	2027613817	2012831497
2335-131236	2023-09-30	30909231B	2027613817	2012831497
2335-131237	2023-09-30	30909231B	2027469892	2012831497
2335-131238	2023-09-30	30909231B	2027469892	2012831497
2335-131239	2023-09-30	30909231B	2027469892	2012831497
2335-131240	2023-09-30	30909231B	2027469892	2012831497
2335-131241	2023-09-30	30909231A	2027469892	2012831497
2335-131242	2023-09-30	30909231A	2027469892	2012831497
2335-131243	2023-09-30	30909231A	2027469892	2012831497
2335-131244	2023-09-30	30909231A	2027469892	2012831497
2335-131245	2023-09-30	30909231A	2027537021	2012831497
2335-131246	2023-09-30	30909231A	2027537021	2012831497
2335-131247	2023-09-30	30909231A	2027537021	2012831497
2335-131248	2023-09-30	30909231A	2027537021	2012831497
2335-131249	2023-09-30	30909231A	2027537021	2012831497
2335-131250	2023-09-30	30909231A	2027537021	2012831528
2335-131251	2023-09-30	30909231A	2027505292	2012831528
2335-131252	2023-09-30	30909231A	2027505292	2012831528
2335-131253	2023-09-30	30909231A	2027505292	2012831528
2335-131254	2023-09-30	30909231A	2027505292	2012831528
2335-131255	2023-09-30	30909231A	2027505292	2012831528
2335-131256	2023-09-30	30909231A	2027505292	2012831528

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131257	2023-09-30	30909231A	2027505292	2012831528
2335-131258	2023-09-30	30909231A	2027601890	2012831528
2335-131259	2023-10-01	30909231A	2027601890	2012831528
2335-131260	2023-10-01	30909231A	2027601890	2012831528
2335-131261	2023-10-01	30909231A	2027601890	2012831528
2335-131262	2023-10-01	30901232A	2027601890	2012831528
2335-131263	2023-10-01	30901232A	2027601890	2012831528
2335-131264	2023-10-01	30901232A	2027601890	2012831528
2335-131265	2023-10-01	30901232A	2027601890	2012831528
2335-131266	2023-10-01	30901232A	2027601890	2012831528
2335-131267	2023-10-01	30901232A	2027601890	2012831513
2335-131268	2023-10-01	30901232A	2027528661	2012831513
2335-131269	2023-10-01	30901232A	2027528661	2012831513
2335-131270	2023-10-01	30901232A	2027528661	2012831513
2335-131271	2023-10-01	30901232A	2027528661	2012831513
2335-131272	2023-10-01	30901232A	2027528661	2012831513
2335-131273	2023-10-01	30901232A	2027528661	2012831513
2335-131274	2023-10-01	30901232A	2027528661	2012831513
2335-131275	2023-10-01	30901232A	2027528661	2012831513
2335-131276	2023-10-01	30901232A	2027528661	2012831513
2335-131277	2023-10-01	30901232A	2027528661	2012831513
2335-131278	2023-10-01	30901232A	2027601862	2012831513
2335-131279	2023-10-01	30901232A	2027601862	2012831513
2335-131280	2023-10-01	30901232A	2027601862	2012831513
2335-131281	2023-10-01	30901232A	2027601862	2012831513
2335-131282	2023-10-01	30901232A	2027601862	2012831526
2335-131283	2023-10-01	30901232A	2027601862	2012831526
2335-131284	2023-10-01	30901232A	2027601862	2012831526

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131285	2023-10-01	30901232A	2027601862	2012831526
2335-131286	2023-10-01	30901232A	2027601862	2012831526
2335-131287	2023-10-01	30901232A	2027601862	2012831526
2335-131288	2023-10-01	30901232A	2027601862	2012831526
2335-131289	2023-10-01	30901232A	2027517610	2012831526
2335-131290	2023-10-01	30901232A	2027517610	2012831526
2335-131291	2023-10-01	30901232A	2027517610	2012831526
2335-131293	2023-10-01	30901232A	2027517610	2012831526
2335-131294	2023-10-01	30901232A	2027517610	2012831539
2335-131295	2023-10-01	30901232A	2027595850	2012831539
2335-131296	2023-10-01	30901232A	2027595850	2012831539
2335-131297	2023-10-01	30901232A	2027595850	2012831539
2335-131298	2023-10-01	30901232A	2027595850	2012831539
2335-131299	2023-10-01	30901232A	2027595850	FJWE13745-004
2335-131300	2023-10-01	30901232A	2027595850	FJWE13745-004
2335-131301	2023-10-02	30901232A	2027595850	FJWE13745-004
2335-131302	2023-10-02	30901232A	2027595850	FJWE13745-004
2335-131303	2023-10-02	30901232A	2027595850	FJWE13745-004
2335-131306	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131307	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131308	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131309	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131310	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131311	2023-10-02	30901232A	2027595845	FJWE13745-004
2335-131312	2023-10-02	30901232B	2027595845	FJWE13745-004
2335-131313	2023-10-02	30901232B	2027595845	FJWE13745-004
2335-131314	2023-10-02	30901232B	2027595845	FJWE13745-004
2335-131315	2023-10-02	30901232B	2027595829	FJWE13745-004

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131316	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131317	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131318	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131319	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131320	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131321	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131322	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131323	2023-10-02	30901232B	2027595829	FJWE13745-004
2335-131324	2023-10-02	30901232B	2027595829	FJWE13745-005
2335-131325	2023-10-02	30901232B	2027595829	FJWE13745-005
2335-131326	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131327	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131328	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131329	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131330	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131331	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131332	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131333	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131334	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131335	2023-10-02	30901232B	2027595843	FJWE13745-005
2335-131336	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131337	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131338	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131339	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131340	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131341	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131342	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131343	2023-10-02	30901232B	2027589592	FJWE13745-005

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SOLMAX MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131344	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131345	2023-10-02	30901232B	2027589592	FJWE13745-005
2335-131346	2023-10-02	30901232B	2027595842	FJWE13745-005
2335-131347	2023-10-02	30901232B	2027595842	FJWE13745-005
2335-131348	2023-10-02	30901232B	2027595842	FJWE13745-005
2335-131349	2023-10-02	30901232B	2027595842	F3WE03291-002
2335-131352	2023-10-03	30901232B	2027595842	F3WE03291-002
2335-131353	2023-10-03	30901232B	2027595842	F3WE03291-002
2335-131354	2023-10-03	30901232B	2027595842	F3WE03291-002
2335-131355	2023-10-03	30901232B	2027595842	F3WE03291-002
2335-131356	2023-10-03	30901232B	2027595842	F3WE03291-002
2335-131357	2023-10-03	30901232B	2027589591	F3WE03291-002
2335-131358	2023-10-03	30901232B	2027589591	F3WE03291-002
2335-131359	2023-10-03	30901232B	2027589591	F3WE03291-002
2335-131360	2023-10-03	30901232B	2027589591	F3WE03291-002
2335-131361	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131362	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131363	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131364	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131365	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131366	2023-10-03	30826231B	2027589591	F3WE03291-002
2335-131367	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131368	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131369	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131370	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131371	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131372	2023-10-03	30826231B	2027589532	F3WE03291-002
2335-131373	2023-10-03	30826231B	2027589532	F3WE03291-002

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MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131374	2023-10-03	30826231B	2027589532	F3WE03298-008
2335-131375	2023-10-04	30826231B	2027589532	F3WE03298-008
2335-131376	2023-10-04	30826231B	2027589532	F3WE03298-008
2335-131377	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131378	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131379	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131380	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131381	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131382	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131383	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131384	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131385	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131386	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131387	2023-10-04	30826231B	2027601897	F3WE03298-008
2335-131388	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131389	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131390	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131391	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131392	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131393	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131394	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131395	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131396	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131397	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131398	2023-10-04	30826231B	2027624299	F3WE03298-008
2335-131399	2023-10-04	30826231B	2027624281	F3WE03298-008
2335-131400	2023-10-04	30826231B	2027624281	F3WE02949-016
2335-131401	2023-10-04	30826231B	2027624281	F3WE02949-016

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MANUFACTURING QUALITY CONTROL

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME: ECO VISTA LANDFILL CLASS 1

2335-131402	2023-10-04	30826231B	2027624281	F3WE02949-016

QUANTITY (ROLLS): 268

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

PRODUCT: 1109263-41284-1
Bentoliner 0.75 lbs/ft² - 3.66 kg/m², NS, Peel 35

Test	Property	Direction	Test Method	Frequency	Rolls Unit
1	Bentonite Mass (0% moisture)		ASTM D5993	40,000 ft²	lbs/ft²
2	Peel Strength (min. avg.)	MD	ASTM D4632	40,000 ft²	lbf
3	Peel Strength (min.avg.)	MD	ASTM D6496	40,000 ft²	lbf/in
4	Tensile Strength MD (min. avg.)	MD	ASTM D6768	40,000 ft²	lbf/in
5	Moisture Content (Max.)		ASTM D5993	40,000 ft²	%
6	Finished Good Mass (0% moisture)		ASTM D5993	40,000 ft²	lbs/ft²

Test	1	2	3	4	5	6
SPECIFICATIONS	**0.75**	**35**	**5.3**	**30**	**12**	**0.81**
2335-131129	0.81	56.6	14.1	42	11.5	0.89
2335-131130	0.81	56.6	14.1	42	11.5	0.89
2335-131131	0.81	56.6	14.1	42	11.5	0.89
2335-131132	0.81	56.6	14.1	42	11.5	0.89
2335-131133	0.81	56.6	14.1	42	11.5	0.89
2335-131134	0.81	56.6	14.1	42	11.5	0.89
2335-131135	0.81	56.6	14.1	42	11.5	0.89
2335-131136	0.81	56.6	14.1	42	11.5	0.89
2335-131137	0.81	56.6	14.1	42	11.5	0.89
2335-131138	0.81	56.6	14.1	42	11.5	0.89
2335-131139	0.81	56.6	14.1	42	11.5	0.89
2335-131140	0.81	56.6	14.1	42	11.5	0.89
2335-131141	0.81	56.6	14.1	42	11.5	0.89
2335-131142	0.81	56.6	14.1	42	11.5	0.89
2335-131143	0.81	56.6	14.1	42	11.5	0.89
2335-131144	0.81	56.6	14.1	42	11.5	0.89
2335-131145	0.80	65.9	16.4	41	11.5	0.87
2335-131146	0.80	65.9	16.4	41	11.5	0.87
2335-131147	0.80	65.9	16.4	41	11.5	0.87
2335-131148	0.80	65.9	16.4	41	11.5	0.87

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131149	0.80	65.9	16.4	41	11.5	0.87
2335-131150	0.80	65.9	16.4	41	11.5	0.87
2335-131151	0.80	65.9	16.4	41	11.5	0.87
2335-131152	0.80	65.9	16.4	41	11.5	0.87
2335-131153	0.80	65.9	16.4	41	11.5	0.87
2335-131154	0.80	65.9	16.4	41	11.5	0.87
2335-131155	0.80	65.9	16.4	41	11.5	0.87
2335-131157	0.80	65.9	16.4	41	11.5	0.87
2335-131158	0.80	65.9	16.4	41	11.5	0.87
2335-131159	0.80	65.9	16.4	41	11.5	0.87
2335-131160	0.80	65.9	16.4	41	11.5	0.87
2335-131161	0.80	65.9	16.4	41	11.5	0.87
2335-131162	0.82	59.8	14.9	39	11.7	0.89
2335-131163	0.82	59.8	14.9	39	11.7	0.89
2335-131164	0.82	59.8	14.9	39	11.7	0.89
2335-131165	0.82	59.8	14.9	39	11.7	0.89
2335-131166	0.82	59.8	14.9	39	11.7	0.89
2335-131167	0.82	59.8	14.9	39	11.7	0.89
2335-131168	0.82	59.8	14.9	39	11.7	0.89
2335-131169	0.82	59.8	14.9	39	11.7	0.89
2335-131170	0.82	59.8	14.9	39	11.7	0.89
2335-131171	0.82	59.8	14.9	39	11.7	0.89
2335-131172	0.82	59.8	14.9	39	11.7	0.89
2335-131173	0.82	59.8	14.9	39	11.7	0.89
2335-131174	0.82	59.8	14.9	39	11.7	0.89
2335-131175	0.82	59.8	14.9	39	11.7	0.89
2335-131176	0.82	59.8	14.9	39	11.7	0.89
2335-131177	0.82	59.8	14.9	39	11.7	0.89
2335-131178	0.79	53.7	13.4	40	11.4	0.86
2335-131179	0.79	53.7	13.4	40	11.4	0.86
2335-131180	0.79	53.7	13.4	40	11.4	0.86
2335-131181	0.79	53.7	13.4	40	11.4	0.86
2335-131182	0.79	53.7	13.4	40	11.4	0.86

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

SOLMAX APPROVED QUALITY ASSURANCE

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131183	0.79	53.7	13.4	40	11.4	0.86
2335-131184	0.79	53.7	13.4	40	11.4	0.86
2335-131185	0.79	53.7	13.4	40	11.4	0.86
2335-131186	0.79	53.7	13.4	40	11.4	0.86
2335-131187	0.79	53.7	13.4	40	11.4	0.86
2335-131188	0.79	53.7	13.4	40	11.4	0.86
2335-131189	0.79	53.7	13.4	40	11.4	0.86
2335-131190	0.79	53.7	13.4	40	11.4	0.86
2335-131191	0.79	53.7	13.4	40	11.4	0.86
2335-131192	0.79	53.7	13.4	40	11.4	0.86
2335-131193	0.79	53.7	13.4	40	11.4	0.86
2335-131194	0.80	52.0	13.0	40	11.0	0.87
2335-131195	0.80	52.0	13.0	40	11.0	0.87
2335-131196	0.80	52.0	13.0	40	11.0	0.87
2335-131197	0.80	52.0	13.0	40	11.0	0.87
2335-131198	0.80	52.0	13.0	40	11.0	0.87
2335-131199	0.80	52.0	13.0	40	11.0	0.87
2335-131200	0.80	52.0	13.0	40	11.0	0.87
2335-131201	0.80	52.0	13.0	40	11.0	0.87
2335-131202	0.80	52.0	13.0	40	11.0	0.87
2335-131203	0.80	52.0	13.0	40	11.0	0.87
2335-131204	0.80	52.0	13.0	40	11.0	0.87
2335-131205	0.80	52.0	13.0	40	11.0	0.87
2335-131206	0.80	52.0	13.0	40	11.0	0.87
2335-131207	0.80	52.0	13.0	40	11.0	0.87
2335-131208	0.80	52.0	13.0	40	11.0	0.87
2335-131209	0.80	52.0	13.0	40	11.0	0.87
2335-131210	0.83	47.2	11.8	47	11.2	0.89
2335-131211	0.83	47.2	11.8	47	11.2	0.89
2335-131212	0.83	47.2	11.8	47	11.2	0.89
2335-131213	0.83	47.2	11.8	47	11.2	0.89
2335-131214	0.83	47.2	11.8	47	11.2	0.89
2335-131215	0.83	47.2	11.8	47	11.2	0.89

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

SOLMAX APPROVED QUALITY ASSURANCE

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131216	0.83	47.2	11.8	47	11.2	0.89
2335-131217	0.83	47.2	11.8	47	11.2	0.89
2335-131218	0.83	47.2	11.8	47	11.2	0.89
2335-131219	0.83	47.2	11.8	47	11.2	0.89
2335-131220	0.83	47.2	11.8	47	11.2	0.89
2335-131221	0.83	47.2	11.8	47	11.2	0.89
2335-131222	0.83	47.2	11.8	47	11.2	0.89
2335-131223	0.83	47.2	11.8	47	11.2	0.89
2335-131224	0.83	47.2	11.8	47	11.2	0.89
2335-131225	0.83	47.2	11.8	47	11.2	0.89
2335-131226	0.81	40.0	10.0	40	11.1	0.89
2335-131227	0.81	40.0	10.0	40	11.1	0.89
2335-131228	0.81	40.0	10.0	40	11.1	0.89
2335-131229	0.81	40.0	10.0	40	11.1	0.89
2335-131230	0.81	40.0	10.0	40	11.1	0.89
2335-131231	0.81	40.0	10.0	40	11.1	0.89
2335-131232	0.81	40.0	10.0	40	11.1	0.89
2335-131233	0.81	40.0	10.0	40	11.1	0.89
2335-131234	0.81	40.0	10.0	40	11.1	0.89
2335-131235	0.81	40.0	10.0	40	11.1	0.89
2335-131236	0.81	40.0	10.0	40	11.1	0.89
2335-131237	0.81	40.0	10.0	40	11.1	0.89
2335-131238	0.81	40.0	10.0	40	11.1	0.89
2335-131239	0.81	40.0	10.0	40	11.1	0.89
2335-131240	0.81	40.0	10.0	40	11.1	0.89
2335-131241	0.81	40.0	10.0	40	11.1	0.89
2335-131242	0.83	54.1	13.6	49	10.9	0.90
2335-131243	0.83	54.1	13.6	49	10.9	0.90
2335-131244	0.83	54.1	13.6	49	10.9	0.90
2335-131245	0.83	54.1	13.6	49	10.9	0.90
2335-131246	0.83	54.1	13.6	49	10.9	0.90
2335-131247	0.83	54.1	13.6	49	10.9	0.90
2335-131248	0.83	54.1	13.6	49	10.9	0.90

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131249	0.83	54.1	13.6	49	10.9	0.90
2335-131250	0.83	54.1	13.6	49	10.9	0.90
2335-131251	0.83	54.1	13.6	49	10.9	0.90
2335-131252	0.83	54.1	13.6	49	10.9	0.90
2335-131253	0.83	54.1	13.6	49	10.9	0.90
2335-131254	0.83	54.1	13.6	49	10.9	0.90
2335-131255	0.83	54.1	13.6	49	10.9	0.90
2335-131256	0.83	54.1	13.6	49	10.9	0.90
2335-131257	0.83	54.1	13.6	49	10.9	0.90
2335-131258	0.82	55.0	13.8	56	10.6	0.89
2335-131259	0.82	55.0	13.8	56	10.6	0.89
2335-131260	0.82	55.0	13.8	56	10.6	0.89
2335-131261	0.82	55.0	13.8	56	10.6	0.89
2335-131262	0.82	55.0	13.8	56	10.6	0.89
2335-131263	0.82	55.0	13.8	56	10.6	0.89
2335-131264	0.82	55.0	13.8	56	10.6	0.89
2335-131265	0.82	55.0	13.8	56	10.6	0.89
2335-131266	0.82	55.0	13.8	56	10.6	0.89
2335-131267	0.82	55.0	13.8	56	10.6	0.89
2335-131268	0.82	55.0	13.8	56	10.6	0.89
2335-131269	0.82	55.0	13.8	56	10.6	0.89
2335-131270	0.82	55.0	13.8	56	10.6	0.89
2335-131271	0.82	55.0	13.8	56	10.6	0.89
2335-131272	0.82	55.0	13.8	56	10.6	0.89
2335-131273	0.82	55.0	13.8	56	10.6	0.89
2335-131274	0.78	48.1	12.0	49	11.5	0.86
2335-131275	0.78	48.1	12.0	49	11.5	0.86
2335-131276	0.78	48.1	12.0	49	11.5	0.86
2335-131277	0.78	48.1	12.0	49	11.5	0.86
2335-131278	0.78	48.1	12.0	49	11.5	0.86
2335-131279	0.78	48.1	12.0	49	11.5	0.86
2335-131280	0.78	48.1	12.0	49	11.5	0.86
2335-131281	0.78	48.1	12.0	49	11.5	0.86

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Solmax Geosynthetics LLC
19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

MANUFACTURING QUALITY CONTROL

TEST RESULTS

SOLMAX APPROVED QUALITY ASSURANCE

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131282	0.78	48.1	12.0	49	11.5	0.86
2335-131283	0.78	48.1	12.0	49	11.5	0.86
2335-131284	0.78	48.1	12.0	49	11.5	0.86
2335-131285	0.78	48.1	12.0	49	11.5	0.86
2335-131286	0.78	48.1	12.0	49	11.5	0.86
2335-131287	0.78	48.1	12.0	49	11.5	0.86
2335-131288	0.78	48.1	12.0	49	11.5	0.86
2335-131289	0.78	48.1	12.0	49	11.5	0.86
2335-131290	0.81	45.1	11.3	44	11.4	0.89
2335-131291	0.81	45.1	11.3	44	11.4	0.89
2335-131293	0.81	45.1	11.3	44	11.4	0.89
2335-131294	0.81	45.1	11.3	44	11.4	0.89
2335-131295	0.81	45.1	11.3	44	11.4	0.89
2335-131296	0.81	45.1	11.3	44	11.4	0.89
2335-131297	0.81	45.1	11.3	44	11.4	0.89
2335-131298	0.81	45.1	11.3	44	11.4	0.89
2335-131299	0.81	45.1	11.3	44	11.4	0.89
2335-131300	0.81	45.1	11.3	44	11.4	0.89
2335-131301	0.81	45.1	11.3	44	11.4	0.89
2335-131302	0.81	45.1	11.3	44	11.4	0.89
2335-131303	0.81	45.1	11.3	44	11.4	0.89
2335-131306	0.81	45.1	11.3	44	11.4	0.89
2335-131307	0.81	45.1	11.3	44	11.4	0.89
2335-131308	0.81	45.1	11.3	44	11.4	0.89
2335-131309	0.80	42.4	9.7	48	11.4	0.87
2335-131310	0.80	42.4	9.7	48	11.4	0.87
2335-131311	0.80	42.4	9.7	48	11.4	0.87
2335-131312	0.80	42.4	9.7	48	11.4	0.87
2335-131313	0.80	42.4	9.7	48	11.4	0.87
2335-131314	0.80	42.4	9.7	48	11.4	0.87
2335-131315	0.80	42.4	9.7	48	11.4	0.87
2335-131316	0.80	42.4	9.7	48	11.4	0.87
2335-131317	0.80	42.4	9.7	48	11.4	0.87

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131318	0.80	42.4	9.7	48	11.4	0.87
2335-131319	0.80	42.4	9.7	48	11.4	0.87
2335-131320	0.80	42.4	9.7	48	11.4	0.87
2335-131321	0.80	42.4	9.7	48	11.4	0.87
2335-131322	0.80	42.4	9.7	48	11.4	0.87
2335-131323	0.80	42.4	9.7	48	11.4	0.87
2335-131324	0.80	42.4	9.7	48	11.4	0.87
2335-131325	0.82	56.3	14.1	52	11.3	0.89
2335-131326	0.82	56.3	14.1	52	11.3	0.89
2335-131327	0.82	56.3	14.1	52	11.3	0.89
2335-131328	0.82	56.3	14.1	52	11.3	0.89
2335-131329	0.82	56.3	14.1	52	11.3	0.89
2335-131330	0.82	56.3	14.1	52	11.3	0.89
2335-131331	0.82	56.3	14.1	52	11.3	0.89
2335-131332	0.82	56.3	14.1	52	11.3	0.89
2335-131333	0.82	56.3	14.1	52	11.3	0.89
2335-131334	0.82	56.3	14.1	52	11.3	0.89
2335-131335	0.82	56.3	14.1	52	11.3	0.89
2335-131336	0.82	56.3	14.1	52	11.3	0.89
2335-131337	0.82	56.3	14.1	52	11.3	0.89
2335-131338	0.82	56.3	14.1	52	11.3	0.89
2335-131339	0.82	56.3	14.1	52	11.3	0.89
2335-131340	0.82	56.3	14.1	52	11.3	0.89
2335-131341	0.78	51.2	12.8	49	10.9	0.85
2335-131342	0.78	51.2	12.8	49	10.9	0.85
2335-131343	0.78	51.2	12.8	49	10.9	0.85
2335-131344	0.78	51.2	12.8	49	10.9	0.85
2335-131345	0.78	51.2	12.8	49	10.9	0.85
2335-131346	0.78	51.2	12.8	49	10.9	0.85
2335-131347	0.78	51.2	12.8	49	10.9	0.85
2335-131348	0.78	51.2	12.8	49	10.9	0.85
2335-131349	0.78	51.2	12.8	49	10.9	0.85
2335-131352	0.78	51.2	12.8	49	10.9	0.85

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131353	0.78	51.2	12.8	49	10.9	0.85
2335-131354	0.78	51.2	12.8	49	10.9	0.85
2335-131355	0.78	51.2	12.8	49	10.9	0.85
2335-131356	0.78	51.2	12.8	49	10.9	0.85
2335-131357	0.78	51.2	12.8	49	10.9	0.85
2335-131358	0.78	51.2	12.8	49	10.9	0.85
2335-131359	0.78	51.2	12.8	49	10.9	0.85
2335-131360	0.80	68.4	17.1	42	12.0	0.87
2335-131361	0.80	68.4	17.1	42	12.0	0.87
2335-131362	0.80	68.4	17.1	42	12.0	0.87
2335-131363	0.80	68.4	17.1	42	12.0	0.87
2335-131364	0.80	68.4	17.1	42	12.0	0.87
2335-131365	0.80	68.4	17.1	42	12.0	0.87
2335-131366	0.80	68.4	17.1	42	12.0	0.87
2335-131367	0.80	68.4	17.1	42	12.0	0.87
2335-131368	0.80	68.4	17.1	42	12.0	0.87
2335-131369	0.80	68.4	17.1	42	12.0	0.87
2335-131370	0.80	68.4	17.1	42	12.0	0.87
2335-131371	0.80	68.4	17.1	42	12.0	0.87
2335-131372	0.80	68.4	17.1	42	12.0	0.87
2335-131373	0.80	68.4	17.1	42	12.0	0.87
2335-131374	0.80	68.4	17.1	42	12.0	0.87
2335-131375	0.80	68.4	17.1	42	12.0	0.87
2335-131376	0.84	40.2	11.9	39	11.7	0.91
2335-131377	0.84	40.2	11.9	39	11.7	0.91
2335-131378	0.84	40.2	11.9	39	11.7	0.91
2335-131379	0.84	40.2	11.9	39	11.7	0.91
2335-131380	0.84	40.2	11.9	39	11.7	0.91
2335-131381	0.84	40.2	11.9	39	11.7	0.91
2335-131382	0.84	40.2	11.9	39	11.7	0.91
2335-131383	0.84	40.2	11.9	39	11.7	0.91
2335-131384	0.84	40.2	11.9	39	11.7	0.91
2335-131385	0.84	40.2	11.9	39	11.7	0.91

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

SOLMAX APPROVED QUALITY ASSURANCE

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5	6
2335-131386	0.84	40.2	11.9	39	11.7	0.91
2335-131387	0.84	40.2	11.9	39	11.7	0.91
2335-131388	0.84	40.2	11.9	39	11.7	0.91
2335-131389	0.84	40.2	11.9	39	11.7	0.91
2335-131390	0.84	40.2	11.9	39	11.7	0.91
2335-131391	0.84	40.2	11.9	39	11.7	0.91
2335-131392	0.82	52.4	13.1	40	11.7	0.89
2335-131393	0.82	52.4	13.1	40	11.7	0.89
2335-131394	0.82	52.4	13.1	40	11.7	0.89
2335-131395	0.82	52.4	13.1	40	11.7	0.89
2335-131396	0.82	52.4	13.1	40	11.7	0.89
2335-131397	0.82	52.4	13.1	40	11.7	0.89
2335-131398	0.82	52.4	13.1	40	11.7	0.89
2335-131399	0.82	52.4	13.1	40	11.7	0.89
2335-131400	0.82	52.4	13.1	40	11.7	0.89
2335-131401	0.82	52.4	13.1	40	11.7	0.89
2335-131402	0.82	52.4	13.1	40	11.7	0.89

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

PRODUCT: 1109263-41284-1
Bentoliner 0.75 lbs/ft² - 3.66 kg/m², NS, Peel 35

Test	Property	Direction	Test Method	Frequency	Unit
1	Swell Index (min.)		ASTM D5890	100,000 lb	ml/2 g
2	Moisture Content (max.)		ASTM D4643	100,000 lb	%
3	Fluid Loss (max.)		ASTM D5891	100,000 lb	ml

Test	1	2	3
Specification	**24**	**12**	**18**
30819232A	28.0	9.2	17
30819232B	28.0	9.3	17
30820231A	28.0	8.5	16
30826231B	27.0	9.7	17
30901232A	29.0	9.6	16
30901232B	29.0	9.7	17
30909231A	28.0	9.3	17
30909231B	28.0	9.4	17

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	Property	Direction	Test Method	Frequency	Unit
1	Mass per Unit Area (min. avg.)		ASTM D5261	200,000 ft²	oz/yd²
2	Strength (MD)				lbf
3	Strength (CMD)				lbf
4	Elongation (MD)				%
5	Elongation (CMD)				%

Test	1	2	3	4	5
Specification	**6**	**22**	**22**	**100**	**100**
2027469892	6.9	122	205	171	163
2027505292	7.6	63	85	136	131
2027517610	8.1	101	171	188	140
2027528661	7.0	80	128	175	117
2027528765	8.1	93	139	155	119
2027535428	7.3	94	149	148	126
2027535431	7.8	97	180	172	133
2027537021	7.4	84	165	156	136
2027589532	7.2	63	142	131	112
2027589558	7.2	60	113	166	118
2027589591	7.1	50	72	167	111
2027589592	7.1	50	72	167	111
2027595829	6.6	56	115	159	140
2027595842	7.0	59	141	162	134
2027595843	7.3	59	120	161	130
2027595845	7.3	59	120	161	130
2027595850	7.2	62	136	147	116
2027595901	6.6	54	123	140	130
2027595909	7.1	56	157	162	150

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	1	2	3	4	5
2027601862	7.5	65	121	150	118
2027601886	7.1	60	137	167	130
2027601890	6.9	56	109	170	132
2027601891	6.9	56	109	170	132
2027601897	7.3	53	95	162	139
2027613803	6.3	64	114	159	140
2027613814	7.5	58	129	165	132
2027613817	6.9	52	99	166	121
2027624281	7.3	56	136	144	110
2027624299	7.0	56	135	159	116

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	Property	Direction	Test Method	Frequency	Unit
1	Mass per Unit Area (min. avg.)		ASTM D5261	200,000 ft^2	oz/yd^2
	Grab Tensile Properties (min. avg)		ASTM D4632	200,000 ft^2	
2	Strength (MD)				lbf
3	Strength (CMD)				lbf
4	Elongation (MD)				%
5	Elongation (CMD)				%

Test	1	2	3	4	5
Specification	**3**	**135**	**135**	**15**	**15**
2012831497	3.5	195	206	22	25
2012831498	3.3	177	186	24	23
2012831504	3.2	185	191	25	24
2012831511	3.6	188	184	26	24
2012831513	3.6	171	199	18	26
2012831520	3.5	171	206	19	28
2012831526	3.6	184	194	20	25
2012831528	3.3	181	197	24	25
2012831539	3.6	170	202	20	26

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 12781840

SALES ORDER: SO-095865

PACKING SLIP NUMBER: Pre-SO-095865-1

PROJECT NAME : ECO VISTA LANDFILL CLASS 1

Test	Property	Direction	Test Method	Frequency	Unit
1	Mass per Unit Area (min. avg.)		ASTM D5261	200,000 ft^2	oz/yd^2
	Grab Tensile Properties (min. avg)		ASTM D4632	200,000 ft^2	
2	Strength (MD)				lbf
3	Strength (CMD)				lbf
4	Elongation (MD)				%
5	Elongation (CMD)				%

Test	1	2	3	4	5
Specification	**3**	**135**	**100**	**10**	**10**
F3WE02949-016	3.19	169	116	16.6	12.5
F3WE03291-002	3.18	173	123	17.4	14.7
F3WE03298-008	3.17	181	126	18.6	14.1
FJWE13745-004	3.19	170	116	18.3	12.7
FJWE13745-005	3.19	170	116	18.3	12.7

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Report Date
10/16/2023

Quality Assurance Laboratory Test Results

Index Flux - Hydraulic Conductivity report

MF-LAB-52

Revision:01

Date: 2021-09-09

Project: **ECO VISTA LANDFILL CLASS 1**
Sales Order: SO-095865
Product: Bentoliner 0.75 lbs/ft² - 3.66 kg/m², NS, Peel 35 (1109263)

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

Frequency: 250,000 sf

Effective Stress: 5 psi

Roll Number	Production Date	Index Flux ($m^3/m^2/sec$)	Hydraulic Conductivity (cm/sec)
2335-131129	9/29/2023	7.50E-09	3.69E-09
2335-131237	9/30/2023	5.20E-09	2.62E-09
2335-131347	10/2/2023	7.58E-09	3.61E-09

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Approved By: Tricia Kempadoo
Date Approved: October 16,2023

Laboratory Testing
GCL CQA Conformance Data

October 19, 2023

Updated-Added D5887

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dconrad@wm.com
bfureigh@promusengineering.com

Bill To:

<= Same

Greetings,

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 Landfill Cell**
TRI Job Reference Number:	23-003874
Material(s) Tested:	Five Solmax BentoLiner NS GCL
Test(s) Requested:	Mass Per Unit Area (ASTM D5993) 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,

Mansukh Patel
Technical Director
Geosynthetic Services Division

CQA REVIEWED

SIGNATURE

10/20/2023
DATE

PROMUS ENGINEERING

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GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: GCL
Sample Identification: 2335-131129
TRI Log #: 23-003874

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)												
Mass/unit area (lbs/ft^2)												
GCL (ω = 0%)	0.84	0.86	1.09	0.87	0.89						**0.91**	0.10
Non-Bentonite Components	0.063	(Assumed Material-Specific Value)										
Bentonite (ω = 0%)	0.78	0.80	1.03	0.81	0.82						**0.85**	0.10
Moisture Content (%)	10.3	10.5	10.6	10.7	10.7						**10.6**	0.2
Peel Strength (ASTM D6496)												
MD - Peel Strength (lbs/in)	14.1	13.4	14.1	11.5	12.1						**13.0**	1.2
Index Flux (ASTM D5887)												
Index Flux (m^3/m^2/sec)		3.2E-09									**3.2E-09**	
Hydraulic Conductivity (cm/sec)		1.3E-09									**1.3E-09**	

MD Machine Direction

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GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: GCL
Sample Identification: 2335-131174
TRI Log #: 23-003874

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)												
Mass/unit area (lbs/ft^2)												
GCL (ω = 0%)	0.95	0.89	1.00	1.02	0.83						**0.94**	0.08
Non-Bentonite Components	0.063	(Assumed Material-Specific Value)										
Bentonite (ω = 0%)	0.89	0.82	0.93	0.95	0.77						**0.87**	0.08
Moisture Content (%)	9.8	9.9	10.3	8.7	9.7						**9.7**	0.6
Peel Strength (ASTM D6496)												
MD - Peel Strength (lbs/in)	7.8	8.5	9.4	7.1	7.8						**8.1**	0.9
Index Flux (ASTM D5887)												
Index Flux (m^3/m^2/sec)		3.5E-09									**3.5E-09**	
Hydraulic Conductivity (cm/sec)		1.7E-09									**1.7E-09**	

MD Machine Direction

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GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: GCL
Sample Identification: 2335-131217
TRI Log #: 23-003874

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)												
Mass/unit area (lbs/ft^2)												
GCL (ω = 0%)	0.86	0.88	1.07	0.95	0.96						**0.95**	0.08
Non-Bentonite Components	0.063	(Assumed Material-Specific Value)										
Bentonite (ω = 0%)	0.80	0.82	1.01	0.89	0.90						**0.88**	0.08
Moisture Content (%)	10.0	10.9	10.6	10.4	10.3						**10.4**	0.4
Peel Strength (ASTM D6496)												
MD - Peel Strength (lbs/in)	9.6	7.2	8.9	8.5	9.3						**8.7**	1.0
Index Flux (ASTM D5887)												
Index Flux (m^3/m^2/sec)		3.5E-09									**3.5E-09**	
Hydraulic Conductivity (cm/sec)		1.7E-09									**1.7E-09**	

MD Machine Direction

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10/20/2023
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GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: GCL
Sample Identification: 2335-131260
TRI Log #: 23-003874

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)												
Mass/unit area (lbs/ft^2)												
GCL (ω = 0%)	0.97	0.87	1.05	0.90	1.10						**0.98**	0.10
Non-Bentonite Components	0.063	(Assumed Material-Specific Value)										
Bentonite (ω = 0%)	0.91	0.81	0.98	0.84	1.04						**0.92**	0.10
Moisture Content (%)	10.1	11.0	10.6	10.9	11.0						**10.7**	0.4
Peel Strength (ASTM D6496)												
MD - Peel Strength (lbs/in)	7.9	8.9	8.6	9.3	7.5						**8.4**	0.7
Index Flux (ASTM D5887)												
Index Flux (m^3/m^2/sec)		2.6E-09									**2.6E-09**	
Hydraulic Conductivity (cm/sec)		1.3E-09									**1.3E-09**	

MD Machine Direction

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10/20/2023
DATE

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TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GCL TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: GCL
Sample Identification: 2335-131306
TRI Log #: 23-003874

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)												
Mass/unit area (lbs/ft^2)												
GCL (ω = 0%)	0.99	1.07	1.07	0.99	0.85						**1.00**	0.09
Non-Bentonite Components	0.063	(Assumed Material-Specific Value)										
Bentonite (ω = 0%)	0.93	1.01	1.01	0.93	0.79						**0.93**	0.09
Moisture Content (%)	9.4	9.6	9.7	9.5	9.4						**9.5**	0.1
Peel Strength (ASTM D6496)												
MD - Peel Strength (lbs/in)	12.5	10.7	10.5	9.2	12.0						**11.0**	1.3
Index Flux (ASTM D5887)												
Index Flux (m^3/m^2/sec)		4.3E-09									**4.3E-09**	
Hydraulic Conductivity (cm/sec)		2.2E-09									**2.2E-09**	

MD Machine Direction

CQA REVIEWED

SIGNATURE

10/20/2023
DATE

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TRI ENVIRONMENTAL, INC.
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Material Inventory
Geosynthetic Clay Liner (GCL)

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GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131267	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131268	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131269	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131270	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131271	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131275	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131278	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131279	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131280	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131281	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131282	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131283	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131285	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131286	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131288	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131289	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131225	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131272	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131273	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131274	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131276	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131277	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131284	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131346	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131347	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131348	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131349	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131352	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131353	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131354	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131355	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131356	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131357	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131360	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131287	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131290	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131291	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131293	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131294	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131295	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131296	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131297	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131298	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131299	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131308	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131315	Solmax Bentoliner	Good	150	15.5	2,325	LS

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GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131316	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131317	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131318	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131319	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131323	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131324	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131300	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131301	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131302	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131303	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131307	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131309	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131310	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131311	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131312	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131313	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131314	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131320	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131321	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131322	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131327	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131328	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131329	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131330	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131306	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131325	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131326	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131331	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131332	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131333	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131334	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131335	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131336	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131337	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131338	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131339	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131340	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131341	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131342	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131343	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131344	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131345	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131358	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131359	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131361	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131362	Solmax Bentoliner	Good	150	15.5	2,325	LS

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GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131363	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131364	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131365	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131366	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131367	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131368	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131369	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131370	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131371	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131372	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131373	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131374	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131377	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131378	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131375	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131376	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131379	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131380	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131381	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131382	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131383	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131384	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131388	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131390	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131392	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131394	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131396	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131398	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131399	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131400	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131401	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131402	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131191	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131197	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131198	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131199	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131200	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131201	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131202	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131203	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131212	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131213	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131385	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131386	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131387	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131389	Solmax Bentoliner	Good	150	15.5	2,325	LS

PROMUS ENGINEERING

GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131391	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131393	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131395	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131397	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131168	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131169	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131170	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131172	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131173	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131177	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131178	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131179	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131180	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131181	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131182	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131183	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131184	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131185	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131186	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131187	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131188	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131189	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131132	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131140	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131141	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131143	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131144	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131145	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131160	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131161	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131162	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131163	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131164	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131165	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131166	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131167	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131171	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131174	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131175	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131176	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131130	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131131	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131133	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131134	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131135	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131146	Solmax Bentoliner	Good	150	15.5	2,325	LS

PROMUS ENGINEERING

GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131147	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131148	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131149	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131150	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131151	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131152	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131153	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131154	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131155	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131157	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131158	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131159	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131129	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131136	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131137	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131138	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131139	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131142	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131155	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131156	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131157	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131158	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131159	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131160	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131161	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131162	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131163	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131164	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131165	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131166	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131190	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131192	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131193	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131194	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131196	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131204	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131206	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131208	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131217	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131218	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131220	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131222	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131229	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131230	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131234	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131240	Solmax Bentoliner	Good	150	15.5	2,325	LS

PROMUS ENGINEERING

GCL Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	2335-131241	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131242	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131214	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131215	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131216	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131226	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131227	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131228	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131235	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131236	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131237	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131239	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131244	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131245	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131246	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131247	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131248	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131249	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131253	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131254	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131195	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131205	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131207	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131209	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131210	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131211	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131219	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131221	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131223	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131224	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131231	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131232	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131233	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131238	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131243	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131250	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131251	Solmax Bentoliner	Good	150	15.5	2,325	LS
11/18/2023	2335-131252	Solmax Bentoliner	Good	150	15.5	2,325	LS

APPENDIX E

GEOMEMBRANE

Laboratory Testing
Geomembrane MQC Conformance Data

Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
01	3101480001	12,000.00	3857	57	55	29	28	159	161	16	13	154	130	338	171	54	55	143	0.947	2.5	10	214	PQJ820630
02	3101480002	12,000.00	3840	58	55	29	29	157	154	15	14	181	156	438	413	54	58	152	0.947	2.7	10	214	PQJ820630
03	3101480003	12,000.00	3856	58	56	30	29	157	154	15	14	181	156	438	413	54	58	152	0.947	2.7	10	214	PQJ820630
04	3101480004	12,000.00	3836	57	53	29	29	157	154	15	14	181	156	438	413	54	58	152	0.947	2.7	10	214	PQJ820630
05	3101480005	12,000.00	3856	57	56	25	25	157	154	15	14	181	156	438	413	54	58	152	0.947	2.7	10	214	PQJ820630
06	3101480006	12,000.00	3860	58	57	26	29	153	159	17	14	191	151	512	361	54	58	152	0.947	2.6	10	214	PQJ820630
07	3101480007	12,000.00	3870	58	55	29	29	153	159	17	14	191	151	512	361	54	58	152	0.947	2.6	10	214	PQJ820630
08	3101480008	12,000.00	3870	58	54	22	22	153	159	17	14	191	151	512	361	54	58	152	0.947	2.6	10	214	PQJ820630
09	3101480009	12,000.00	3833	58	56	22	25	153	159	17	14	191	151	512	361	54	58	152	0.947	2.6	10	214	PQJ820630
10	3101480010	12,000.00	3858	58	55	23	20	153	159	17	14	191	151	512	361	54	58	152	0.947	2.6	10	214	PQJ820630
11	3101480011	12,000.00	3874	58	57	24	24	160	171	17	15	194	152	477	408	54	53	151	0.947	2.6	10	214	PQJ820630
12	3101480012	12,000.00	3880	57	54	24	21	160	171	17	15	194	152	477	408	54	53	151	0.947	2.6	10	214	PQJ820630

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

Phone: 706-336-7000
Fax: 706-336-7007
E-Mail:contact@skaps.com

Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
13	3101480013	12,000.00	3850	58	56	23	25	160	171	17	15	194	152	477	408	54	53	151	0.947	2.6	10	214	PQJ820630
14	3101480014	12,000.00	3856	57	54	24	20	160	171	17	15	194	152	477	408	54	53	151	0.947	2.6	10	214	PQJ820630
15	3101480015	12,000.00	3842	59	57	23	22	155	166	17	14	192	135	503	206	54	53	151	0.947	2.4	10	214	PQJ820630
16	3101480016	12,000.00	3845	57	54	23	21	155	166	17	14	192	135	503	206	54	53	151	0.947	2.4	10	214	PQJ820630
17	3101480017	12,000.00	3845	57	56	23	22	155	166	17	14	192	135	503	206	54	53	151	0.947	2.4	10	214	PQJ820630
18	3101480018	12,000.00	3,849	60	56	23	23	155	166	17	14	192	135	503	206	54	53	151	0.947	2.4	10	214	PQJ820630
19	3101480019	12,000.00	3,840	58	57	24	23	155	166	17	14	192	135	503	206	54	53	151	0.947	2.4	10	214	PQJ820630
20	3101480020	12,000.00	3,850	59	57	23	22	159	167	16	15	195	156	518	390	53	56	151	0.948	2.4	10	214	PQJ820630
21	3101480021	12,000.00	3,846	58	56	24	22	159	167	16	15	195	156	518	390	53	56	151	0.948	2.4	10	214	PQJ820630
22	3101480022	12,000.00	3,854	58	55	23	22	159	167	16	15	195	156	518	390	53	56	151	0.948	2.4	10	214	PQJ820630
23	3101480023	12,000.00	3,856	58	55	22	22	159	167	16	15	195	156	518	390	53	56	151	0.948	2.4	10	214	PQJ820630
24	3101480024	12,000.00	3,858	58	55	22	21	161	163	17	15	199	172	513	443	53	56	151	0.948	2.3	10	214	PQJ820630

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

Phone: 706-336-7000
Fax: 706-336-7007
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Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
25	3101480025	12,000.00	3,860	57	54	22	22	161	163	17	15	199	172	513	443	53	56	151	0.948	2.3	10	214	PQJ820630
26	3101480026	12,000.00	3,890	58	55	23	24	161	163	17	15	199	172	513	443	53	56	151	0.948	2.3	10	214	PQJ820630
27	3101480027	12,000.00	3,860	59	58	22	23	161	163	17	15	199	172	513	443	53	56	151	0.948	2.3	10	214	PQJ820630
28	3101480028	12,000.00	3,856	59	57	22	21	161	163	17	15	199	172	513	443	53	56	151	0.948	2.3	10	214	PQJ820630
29	3101480029	12,000.00	3,861	60	58	21	22	169	174	16	15	206	164	527	439	52	52	152	0.948	2.3	10	214	PQJ820630
30	3101480030	12,000.00	3,866	60	57	23	24	169	174	16	15	206	164	527	439	52	52	152	0.948	2.3	10	214	PQJ820630
31	3101480031	12,000.00	3,862	59	57	23	24	169	174	16	15	206	164	527	439	52	52	152	0.948	2.3	10	214	PQJ820630
32	3101480032	12,000.00	3,858	59	57	24	23	169	174	16	15	206	164	527	439	52	52	152	0.948	2.3	10	214	PQJ820630
33	3101480033	12,000.00	3,860	58	57	24	24	159	165	17	15	200	138	528	335	52	52	152	0.948	2.5	10	214	PQJ820630
34	3101480034	12,000.00	3,854	59	57	24	24	159	165	17	15	200	138	528	335	52	52	152	0.948	2.5	10	214	PQJ820630
35	3101480035	12,000.00	3,855	59	58	22	26	159	165	17	15	200	138	528	335	52	52	152	0.948	2.5	10	214	PQJ820630
36	3101480036	12,000.00	3,868	59	57	24	25	159	165	17	15	200	138	528	335	52	52	152	0.948	2.5	10	214	PQJ820630

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

Phone: 706-336-7000
Fax: 706-336-7007
E-Mail:contact@skaps.com

Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
37	3101480037	12,000.00	3,870	57	56	24	25	159	165	17	15	200	138	528	335	52	52	152	0.948	2.5	10	214	PQJ820630
38	3101480038	12,000.00	3,858	57	54	25	24	168	176	16	15	189	149	469	305	52	55	147	0.949	2.7	10	214	PQJ820630
39	3101480039	12,000.00	3,836	58	54	25	24	168	176	16	15	189	149	469	305	52	55	147	0.949	2.7	10	214	PQJ820630
40	3101480040	12,000.00	3,852	58	56	24	24	168	176	16	15	189	149	469	305	52	55	147	0.949	2.7	10	214	PQJ820630
41	3101480041	12,000.00	3,855	57	54	26	34	168	176	16	15	189	149	469	305	52	55	147	0.949	2.7	10	214	PQJ820630
42	3101480042	12,000.00	3,851	59	56	24	25	157	166	15	13	200	159	515	391	52	55	147	0.949	2.8	10	214	PQJ820630
43	3101480043	12,000.00	3,850	61	59	24	23	157	166	15	13	200	159	515	391	52	55	147	0.949	2.8	10	211	PQJ820690
44	3101480044	12,000.00	3,852	60	58	23	23	157	166	15	13	200	159	515	391	52	55	147	0.949	2.8	10	211	PQJ820690
45	3101480045	12,000.00	3,836	58	57	24	24	157	166	15	13	200	159	515	391	52	55	147	0.949	2.8	10	211	PQJ820690
46	3101480046	12,000.00	3,850	58	57	25	25	157	166	15	13	200	159	515	391	52	55	147	0.949	2.8	10	211	PQJ820690
47	3101480047	12,000.00	3,854	58	56	26	25	157	162	15	13	185	160	453	419	52	55	150	0.949	2.3	10	211	PQJ820690
48	3101480048	12,000.00	3,856	58	56	25	27	157	162	15	13	185	160	453	419	52	55	150	0.949	2.3	10	211	PQJ820690

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

Phone: 706-336-7000
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Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
49	3101480049	12,000.00	3,862	59	56	25	26	157	162	15	13	185	160	453	419	52	55	150	0.949	2.3	10	211	PQJ820690
50	3101480050	12,000.00	3,860	60	59	25	27	157	162	15	13	185	160	453	419	52	55	150	0.949	2.3	10	211	PQJ820690
51	3101480051	12,000.00	3,870	60	58	27	28	154	164	13	13	179	142	400	361	52	55	150	0.949	2.4	10	211	PQJ820690
52	3101480052	12,000.00	3,872	59	57	26	27	154	164	13	13	179	142	400	361	52	55	150	0.949	2.4	10	211	PQJ820690
53	3101480053	12,000.00	3,866	59	56	27	27	154	164	13	13	179	142	400	361	52	55	150	0.949	2.4	10	211	PQJ820690
54	3101480054	12,000.00	3,876	59	57	28	27	154	164	13	13	179	142	400	361	52	55	150	0.949	2.4	10	211	PQJ820690
55	3101480055	12,000.00	3,870	58	56	21	23	154	164	13	13	179	142	400	361	52	55	150	0.949	2.4	10	211	PQJ820690
56	3101480056	12,000.00	3,868	58	56	22	22	156	160	14	13	194	140	517	275	53	56	146	0.948	2.3	10	211	PQJ820690
57	3101480057	12,000.00	3,876	57	55	23	23	156	160	14	13	194	140	517	275	53	56	146	0.948	2.3	10	211	PQJ820690
58	3101480058	12,000.00	3,838	57	55	22	23	156	160	14	13	194	140	517	275	53	56	146	0.948	2.3	10	211	PQJ820690
59	3101480059	12,000.00	3,850	57	54	22	22	156	160	14	13	194	140	517	275	53	56	146	0.948	2.3	10	211	PQJ820690
60	3101480060	12,000.00	3,840	57	54	22	22	152	162	16	15	188	143	512	267	53	56	146	0.948	2.5	10	211	PQJ820690

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571 Industrial Parkway
Commerce, GA 30529

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Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
61	3101480061	12,000.00	3,860	57	55	23	23	152	162	16	15	188	143	512	267	53	56	146	0.948	2.5	10	211	PQJ820690
62	3101480062	12,000.00	3,860	57	55	23	25	152	162	16	15	188	143	512	267	53	56	146	0.948	2.5	10	211	PQJ820690
63	3101480063	12,000.00	3,850	57	54	22	23	152	162	16	15	188	143	512	267	53	56	146	0.948	2.5	10	211	PQJ820690
64	3101480064	12,000.00	3,860	59	58	26	27	152	162	16	15	188	143	512	267	53	56	146	0.948	2.5	10	211	PQJ820690
65	3101480065	12,000.00	3,850	58	53	21	22	162	165	16	15	204	163	555	442	57	54	152	0.947	2.5	10	211	PQJ820690
66	3101480066	12,000.00	3,854	58	57	23	25	162	165	16	15	204	163	555	442	57	54	152	0.947	2.5	10	211	PQJ820690
67	3101480067	12,000.00	3,859	57	55	21	23	162	165	16	15	204	163	555	442	57	54	152	0.947	2.5	10	211	PQJ820690
68	3101480068	12,000.00	3,850	58	57	24	24	162	165	16	15	204	163	555	442	57	54	152	0.947	2.5	10	211	PQJ820690
69	3101480069	12,000.00	3,860	57	52	23	24	152	156	16	16	197	163	515	408	57	54	152	0.947	2.6	10	211	PQJ820690
70	3101480070	12,000.00	3,846	59	56	25	25	152	156	16	16	197	163	515	408	57	54	152	0.947	2.6	10	211	PQJ820690
71	3101480071	12,000.00	3,854	58	54	23	25	152	156	16	16	197	163	515	408	57	54	152	0.947	2.6	10	211	PQJ820690
72	3101480072	12,000.00	3,830	58	57	23	27	152	156	16	16	197	163	515	408	57	54	152	0.947	2.6	10	211	PQJ820690

SKAPS Industries
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Product: 60-HD-11-BLK-BLK-GRI-STD-24.00
Project : WM Eco Vista Landfill Cell 13A, AR
Customer: Waste Management Headquarters
Cust PO: 12772925

CQA REVIEWED
SIGNATURE 11/07/2023 DATE
PROMUS ENGINEERING

QC'd By: Malkesh Patel
Date: November 7, 2023

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Gross Weight (lb)	Thickness MAV (mil)	Thickness MIN (mil)	Asperity Height (mil)		Tensile at Yield (ppi)		Elong at Yield (%)		Tensile at Break (ppi)		Elong at Break (%)		Tear Resistance (lb)		Punct Resist (lb)	Density (g/cc)	Carbon Black (%)	CB Disp (Views in Cat 1 or 2)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5994	ASTM D 5994	ASTM D 7466		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 6693		ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218	ASTM D 5596	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD						
73	3101480073	12,000.00	3,872	58	55	23	24	152	156	16	16	197	163	515	408	57	54	152	0.947	2.6	10	211	PQJ820690
74	3101480074	12,000.00	3,870	58	55	24	23	160	163	17	15	188	156	473	345	59	60	142	0.946	2.4	10	211	PQJ820690
75	3101480075	12,000.00	3,892	57	55	22	23	160	163	17	15	188	156	473	345	59	60	142	0.946	2.4	10	211	PQJ820690
76	3101480076	12,000.00	3,850	59	55	22	23	160	163	17	15	188	156	473	345	59	60	142	0.946	2.4	10	211	PQJ820690
77	3101480077	12,000.00	3,890	58	56	22	23	160	163	17	15	188	156	473	345	59	60	142	0.946	2.4	10	211	PQJ820690
78	3101480078	12,000.00	3,880	58	55	23	23	174	180	15	14	185	145	400	303	59	60	142	0.946	2.6	10	211	PQJ820690
79	3101480079	12,000.00	3,876	57	53	22	23	174	180	15	14	185	145	400	303	59	60	142	0.946	2.6	10	211	PQJ820690
80	3101480080	12,000.00	3,888	58	55	22	25	174	180	15	14	185	145	400	303	59	60	142	0.946	2.6	10	211	PQJ820690
81	3101480081	12,000.00	3,868	58	55	23	23	174	180	15	14	185	145	400	303	59	60	142	0.946	2.6	10	211	PQJ820690

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

Phone: 706-336-7000
Fax: 706-336-7007
E-Mail:contact@skaps.com

CoA Date: 09/21/2023

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: JETAL
Fax:

Delivery #: 80988276
PO #: 30131230150
Weight: 186400.000 LB
Ship Date: 09/15/2023
Package: BULK
Mode: Hopper Car
Car #: SHQX041482
Seal No: 352740

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PQJ820630

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.100	g/10min
HLMI Flow Rate	ASTM D1238	14.10	g/10min
Density	D1505 or D4883	0.9370	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**

Steven Beck
Quality Systems Coordinator

For CoA questions contact Leslie Dziamara at +1-832-813-4806

CQA REVIEWED
SIGNATURE
11/07/2023
DATE
PROMUS ENGINEERING

CoA Date: 09/21/2023

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: JETAL
Fax:

Delivery #: 80988275
PO #: 30131230150
Weight: 183600.000 LB
Ship Date: 09/15/2023
Package: BULK
Mode: Hopper Car
Car #: SHPX463702
Seal No: 353088

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PQJ820690

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.080	g/10min
HLMI Flow Rate	ASTM D1238	13.40	g/10min
Density	D1505 or D4883	0.9380	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**

Steven Beck
Quality Systems Coordinator

For CoA questions contact Leslie Dziamara at +1-832-813-4806

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SIGNATURE
11/07/2023
DATE
PROMUS ENGINEERING

Laboratory Testing
Geomembrane CQA Conformance Data

November 9, 2023

Mail To:

David Conrad
Waste Management, Inc.
100 Two Pine Dr.
North Little Rock AR 72117

email: dconrad@wm.com
cc email: bfureigh@promusengineering.com

Bill To:

<= Same

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 Cell**
TRI Job Reference Number:	23-004058
Material(s) Tested:	Ten,Skaps 60 mil Textured HDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D5994) Asperity Height (ASTM D7466) Density (ASTM D1505) Carbon Black Content (ASTM D4218) Carbon Dispersion (ASTM D5596) Tensile Properties (ASTM D6693) Puncture Strength (ASTM D4833) Tear Resistance (ASTM D1004)

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

CQA REVIEWED

SIGNATURE

11/09/2023
DATE

PROMUS ENGINEERING

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.

GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480001
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	62	60	61	62	62	63	63	62	59	61	**61**	1
											59	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	27	30	22	30	31	29	31	25	31	31	**29**	3
Asperity Height (mils) - Side B	29	28	28	27	31	29	28	29	30	34	**29**	2
Density (ASTM D1505)												
Density (g/cm3)	0.948	0.948	0.948								**0.948**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.40	2.41									**2.41**	0.01
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	198	176	151	163	182						**174**	18
TD Yield Strength (ppi)	203	186	188	182	183						**188**	9
MD Break Strength (ppi)	181	212	191	185	214						**197**	15
TD Break Strength (ppi)	170	141	159	177	197						**169**	21
MD Yield Elongation (%)	18	16	15	19	19						**17**	2
TD Yield Elongation (%)	13	12	11	15	9						**12**	2
MD Break Elongation (%)	396	495	492	456	476						**463**	41
TD Break Elongation (%)	439	115	402	466	498						**384**	154
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	146	142	141	146	142						**143**	2
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	50	55	52	51	52	52	56	54	56	50	**53**	2
TD Tear Strength (lbs)	63	58	59	52	55	55	58	57	54	55	**57**	3

MD Machine Direction TD Transverse Direction

CQA REVIEWED

SIGNATURE

11/09/2023
DATE

PROMUS ENGINEERING

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480009
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	63	58	58	62	61	60	62	59	62	62	**61**	2
											58	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	25	24	23	28	28	30	31	30	22	25	**27**	3
Asperity Height (mils) - Side B	35	29	28	30	27	28	30	32	32	27	**30**	3
Density (ASTM D1505)												
Density (g/cm3)	0.946	0.947	0.947								**0.947**	0.001
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.42	2.34									**2.38**	0.06
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	2	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	160	164	163	156	150						**159**	6
TD Yield Strength (ppi)	167	164	161	159	158						**162**	4
MD Break Strength (ppi)	212	218	187	211	133						**192**	35
TD Break Strength (ppi)	126	134	122	127	192						**140**	29
MD Yield Elongation (%)	18	18	18	16	16						**17**	1
TD Yield Elongation (%)	17	16	15	17	16						**16**	1
MD Break Elongation (%)	556	578	479	537	102						**450**	198
TD Break Elongation (%)	216	406	227	373	517						**348**	127
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	142	142	143	147	147						**144**	2
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	52	52	53	54	56	54	54	53	56	52	**54**	1
TD Tear Strength (lbs)	59	55	58	57	59	56	56	58	57	58	**57**	1

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480018
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	61	62	61	59	61	60	60	58	60	59	**60**	1
											58	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	28	26	26	22	25	27	27	30	26	29	**27**	2
Asperity Height (mils) - Side B	29	27	26	26	25	32	24	29	27	27	**27**	2
Density (ASTM D1505)												
Density (g/cm3)	0.948	0.948	0.948								**0.948**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.39	2.39									**2.39**	0.00
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	160	167	156	162	152						**159**	6
TD Yield Strength (ppi)	170	176	173	177	169						**173**	4
MD Break Strength (ppi)	200	147	156	202	195						**180**	26
TD Break Strength (ppi)	127	181	129	172	172						**156**	26
MD Yield Elongation (%)	16	17	17	18	17						**17**	1
TD Yield Elongation (%)	15	17	17	17	17						**17**	1
MD Break Elongation (%)	523	366	412	511	495						**461**	69
TD Break Elongation (%)	58	503	179	446	444						**326**	196
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	144	148	145	147	147						**146**	2
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	55	52	55	54	53	54	52	51	53	58	**54**	2
TD Tear Strength (lbs)	57	59	57	56	59	59	57	58	55	57	**57**	1

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480026
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	60	61	62	60	61	60	61	62	61	60	**61** **60**	1 << min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	25	24	24	28	26	29	26	29	29	23	**26**	2
Asperity Height (mils) - Side B	29	27	26	30	24	27	29	26	28	23	**27**	2
Density (ASTM D1505)												
Density (g/cm3)	0.947	0.947	0.947								**0.947**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.40	2.45									**2.43**	0.04
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	160	161	159	165	153						**160**	4
TD Yield Strength (ppi)	164	165	160	164	162						**163**	2
MD Break Strength (ppi)	188	208	200	195	198						**198**	7
TD Break Strength (ppi)	132	178	165	131	152						**152**	21
MD Yield Elongation (%)	17	17	18	20	20						**18**	2
TD Yield Elongation (%)	18	17	15	16	17						**17**	1
MD Break Elongation (%)	483	535	525	472	521						**507**	28
TD Break Elongation (%)	334	481	475	239	401						**386**	102
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	150	142	144	140	145						**144**	4
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	60	54	53	55	52	51	56	52	53	59	**54**	3
TD Tear Strength (lbs)	56	56	56	58	59	55	60	56	58	61	**57**	2

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480035
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	60	57	60	61	64	60	60	64	63	63	**61**	2
											57	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	22	24	30	25	24	23	23	27	22	25	**25**	2
Asperity Height (mils) - Side B	25	26	28	31	29	29	30	28	30	26	**28**	2
Density (ASTM D1505)												
Density (g/cm3)	0.947	0.947	0.947								**0.947**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.53	2.47									**2.50**	0.04
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	2	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	149	156	154	157	152						**154**	3
TD Yield Strength (ppi)	210	190	164	176	205						**189**	19
MD Break Strength (ppi)	173	209	166	188	190						**185**	17
TD Break Strength (ppi)	217	146	159	125	158						**161**	34
MD Yield Elongation (%)	18	18	17	20	20						**19**	1
TD Yield Elongation (%)	16	15	17	16	16						**16**	1
MD Break Elongation (%)	468	556	412	491	475						**480**	52
TD Break Elongation (%)	493	148	473	58	247						**284**	194
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	137	140	142	137	138						**139**	2
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	52	54	50	55	52	54	50	56	54	54	**53**	2
TD Tear Strength (lbs)	56	55	54	58	56	56	61	55	61	58	**57**	2

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480043
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	59	62	62	60	60	60	63	59	60	60	**60**	1
											59	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	28	26	28	28	25	27	23	29	28	28	**27**	2
Asperity Height (mils) - Side B	26	24	28	26	23	30	30	29	29	26	**27**	2
Density (ASTM D1505)												
Density (g/cm3)	0.947	0.947	0.947								**0.947**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.43	2.45									**2.44**	0.01
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	154	158	153	157	151						**155**	3
TD Yield Strength (ppi)	162	162	160	164	152						**160**	5
MD Break Strength (ppi)	190	157	179	216	204						**189**	23
TD Break Strength (ppi)	132	127	179	126	172						**147**	26
MD Yield Elongation (%)	16	16	18	20	21						**18**	2
TD Yield Elongation (%)	18	15	14	18	17						**16**	2
MD Break Elongation (%)	485	367	442	567	537						**480**	79
TD Break Elongation (%)	159	147	490	121	473						**278**	186
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	144	143	141	147	133						**142**	5
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	50	52	55	53	54	53	55	52	55	51	**53**	2
TD Tear Strength (lbs)	56	57	60	55	54	54	56	62	58	56	**57**	3

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480052
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	62	64	62	63	62	61	62	61	61	61	**62**	1
											61	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	30	23	29	26	24	30	28	27	27	22	**27**	3
Asperity Height (mils) - Side B	29	25	26	30	28	30	24	29	32	21	**27**	3
Density (ASTM D1505)												
Density (g/cm3)	0.948	0.948	0.948								**0.948**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.39	2.43									**2.41**	0.03
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	156	154	157	160	154						**156**	2
TD Yield Strength (ppi)	163	163	159	160	156						**160**	3
MD Break Strength (ppi)	187	192	188	197	178						**188**	7
TD Break Strength (ppi)	149	151	145	130	146						**144**	8
MD Yield Elongation (%)	16	18	16	20	20						**18**	2
TD Yield Elongation (%)	16	16	13	16	13						**15**	2
MD Break Elongation (%)	483	494	472	513	448						**482**	24
TD Break Elongation (%)	380	411	305	176	420						**338**	101
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	143	146	144	145	141						**144**	2
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	53	62	57	56	55	52	65	62	57	51	**57**	5
TD Tear Strength (lbs)	54	57	61	61	61	56	61	63	56	57	**59**	3

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480060
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	62	64	61	59	59	62	63	62	64	60	**62**	2
											59	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	30	23	26	23	25	24	23	30	27	25	**26**	3
Asperity Height (mils) - Side B	31	27	27	27	24	24	32	28	25	26	**27**	3
Density (ASTM D1505)												
Density (g/cm3)	0.948	0.948	0.948								**0.948**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.55	2.44									**2.50**	0.08
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	159	152	154	153	146						**153**	5
TD Yield Strength (ppi)	166	160	161	160	153						**160**	5
MD Break Strength (ppi)	200	171	202	200	133						**181**	30
TD Break Strength (ppi)	177	175	132	180	176						**168**	20
MD Yield Elongation (%)	18	21	15	18	17						**18**	2
TD Yield Elongation (%)	18	18	15	18	16						**17**	1
MD Break Elongation (%)	542	447	529	531	81						**426**	197
TD Break Elongation (%)	495	495	283	508	507						**458**	98
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	138	147	139	136	147						**141**	5
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	54	55	61	50	53	51	59	62	53	54	**55**	4
TD Tear Strength (lbs)	52	59	64	55	55	57	55	61	52	56	**57**	4

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480069
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	59	60	61	58	61	59	63	61	60	63	**60**	2
											58	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	22	25	23	28	24	25	25	28	31	25	**26**	3
Asperity Height (mils) - Side B	26	23	28	29	28	29	27	26	34	28	**28**	3
Density (ASTM D1505)												
Density (g/cm3)	0.947	0.947	0.947								**0.947**	0.000
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.44	2.44									**2.44**	0.00
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	159	155	152	158	147						**154**	5
TD Yield Strength (ppi)	159	162	165	161	153						**160**	4
MD Break Strength (ppi)	165	213	189	199	209						**195**	19
TD Break Strength (ppi)	203	124	126	122	121						**139**	36
MD Yield Elongation (%)	19	17	17	18	18						**18**	1
TD Yield Elongation (%)	15	15	17	17	16						**16**	1
MD Break Elongation (%)	424	559	486	505	535						**502**	52
TD Break Elongation (%)	575	64	222	268	82						**242**	206
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	147	150	132	147	142						**144**	7
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	49	51	58	55	51	49	53	58	51	49	**52**	4
TD Tear Strength (lbs)	54	54	60	55	56	56	58	63	55	57	**57**	3

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3101480077
TRI Log #: 23-004058

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D5994)												
Thickness (mils)	61	61	60	62	61	61	62	60	60	61	**61**	1
											60	<< min
Asperity Height (ASTM D7466)												
Asperity Height (mils) - Side A	23	25	28	31	24	24	24	25	24	27	**26**	2
Asperity Height (mils) - Side B	30	26	27	24	26	28	26	28	31	26	**27**	2
Density (ASTM D1505)												
Density (g/cm3)	0.947	0.947	0.946								**0.947**	0.001
Carbon Black Content (ASTM D4218)												
% Carbon Black	2.41	2.50									**2.46**	0.06
Carbon Black Dispersion (ASTM D5596)												
Rating - 1st field view	1	2	1	1	1							
Rating - 2nd field view	1	1	1	2	1							
Tensile Properties (ASTM D6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	162	156	153	157	158						**157**	3
TD Yield Strength (ppi)	156	166	162	153	155						**158**	5
MD Break Strength (ppi)	201	206	178	183	194						**192**	12
TD Break Strength (ppi)	175	127	120	139	159						**144**	23
MD Yield Elongation (%)	19	18	17	18	19						**18**	1
TD Yield Elongation (%)	18	17	16	18	18						**17**	1
MD Break Elongation (%)	506	537	434	455	489						**484**	41
TD Break Elongation (%)	483	193	256	422	459						**363**	130
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	139	142	140	135	136						**139**	3
Tear Resistance (ASTM D1004)												
MD Tear Strength (lbs)	54	51	66	51	49	55	56	62	58	58	**56**	5
TD Tear Strength (lbs)	55	55	61	54	54	53	55	61	55	54	**56**	3

MD Machine Direction TD Transverse Direction

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INSTALLATION FIELD DOCUMENTATION FORMS

Subgrade Acceptance Forms Secondary

PROMUS ENGINEERING Geosynthetic Subgrade Acceptance

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**

Owner/Operator:	WASTE MANAGEMENT	Representative:	DAVID CONRAD
Engineer:		Representative:	
Quality Assurance Firm:	Promus Engineering, LLC	Representative:	LENA SENGPHACHANH
Contractor:	SFC	Representative:	JERRIE "RED" BARTHOL
Geosynthetics Installer:	ESI	Representative:	Ayre Khounmouan

Location of accepted area: CELL 13A SECONDARY GEOMEMBRANE PANELS S-1 TO S-117.

Approximate Area: _____ sq.ft.

I, the undersigned, authorized representative of the Contractor, do hereby confirm that the geosynthetic material subgrade and ancillary parts of the subgrade (anchor trenches, structures, drains, and all other related items) are built in accordance with the plans and specifications of the above referenced project. As so, I release the responsibility of the referenced area to the geosynthetic material installer.

Contractor's Representative: Jerrie Barthol

Signature: _____ Date: 12-20-2024

Based upon the above statement being true and accurate, I the undersigned representative of the above stated Geosynthetics Installer, do hereby accept the surface of the geosynthetic material subgrade as suitable for Geomembrane placement. I accept the responsibility of the referenced surface area of subgrade from this point forward.

Geomembrane Installers's Representative: AYRE KHOUNMOUANG

Signature: _____ Date: 12.20.2024

Comments:

Panel Placement

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
12/12/2023	S-1	3101480056	16	24	26	192		LS
12/12/2023	S-2	3101480056	25	24	30	300		LS
12/12/2023	S-3	3101480056	44	24	26	528		LS
12/12/2023	S-4	3101480056	61	24		1,464		LS
12/12/2023	S-5	3101480056	68	24		1,632		LS
12/12/2023	S-6	3101480056	68	24		1,632		LS
12/12/2023	S-7	3101480056	68	24		1,632		LS
12/12/2023	S-8	3101480056	68	24		1,632		LS
12/12/2023	S-9	3101480054	68	24		1,632		LS
12/12/2023	S-10	3101480054	69	24		1,656		LS
12/12/2023	S-11	3101480054	69	24		1,656		LS
12/12/2023	S-12	3101480054	66	24		1,584		LS
12/12/2023	S-13	3101480054	61	24		1,464		LS
12/12/2023	S-14	3101480054	54	24		1,296		LS
12/12/2023	S-15	3101480054	42	24		1,008		LS
12/12/2023	S-16	3101480034	36	24	24	432		LS
12/12/2023	S-17	3101480034	30	24	28	360		LS
12/12/2023	S-18	3101480034	42	24	27	504		LS
12/12/2023	S-19	3101480034	48	24	27	576		LS
12/12/2023	S-20	3101480034	64	24	34	768		LS
12/12/2023	S-21	3101480034	86	24	37	1,032		LS
12/12/2023	S-22	3101480034	108	24	36	1,296		LS
12/12/2023	S-23	3101480034	20	24	45	240		LS
12/12/2023	S-24	3101480041	119	24		2,856		LS
12/12/2023	S-25	3101480041	136	24		3,264		LS
12/12/2023	S-26	3101480034	23	24	37	276		LS
12/12/2023	S-27	3101480041	191	24	36	2,292		LS
12/12/2023	S-28	3101480040	207	24		4,968		LS
12/12/2023	S-29	3101480040	41	24	39	492		LS
12/12/2023	S-30	3101480040	43	24	39	516		LS
12/12/2023	S-31	3101480040	45	24		1,080		LS
12/12/2023	S-32	3101480040	26	24	9	312		LS
12/12/2023	S-33	3101480040	44	24	53	528		LS
12/12/2023	S-34	3101480029	55	24	38	660		LS
12/12/2023	S-35	3101480029	69	24		1,656		LS
12/12/2023	S-36	3101480029	90	24		2,160		LS
12/12/2023	S-37	3101480040	134	24		3,216		LS

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
12/12/2023	S-38	3101480029	160	24		3,840		LS
12/12/2023	S-39	3101480029	80	24		1,920		LS
12/13/2023	S-40	3101480052	86	24		2,064		LS
12/13/2023	S-41	3101480052	160	24		3,840		LS
12/13/2023	S-42	3101480052	157	24		3,768		LS
12/13/2023	S-43	3101480052	80	24		1,920		LS
12/13/2023	S-44	3101480035	75	24		1,800		LS
12/13/2023	S-45	3101480035	153	24		3,672		LS
12/13/2023	S-46	3101480035	152	24		3,648		LS
12/13/2023	S-47	3101480035	75	24		1,800		LS
12/13/2023	S-48	3101480062	23	24		552		LS
12/13/2023	S-49	3101480035	48	24		1,152		LS
12/13/2023	S-50	3101480062	145	24		3,480		LS
12/13/2023	S-51	3101480062	144	24		3,456		LS
12/13/2023	S-52	3101480062	143	24		3,432		LS
12/13/2023	S-53	3101480047	140	24		3,360		LS
12/13/2023	S-54	3101480047	140	24		3,360		LS
12/13/2023	S-55	3101480047	140	24		3,360		LS
12/13/2023	S-56	3101480047	72	24		1,728		LS
12/13/2023	S-57	3101480059	62	24		1,488		LS
12/13/2023	S-58	3101480059	125	24		3,000		LS
12/13/2023	S-59	3101480059	125	24		3,000		LS
12/13/2023	S-60	3101480059	121	24		2,904		LS
12/13/2023	S-61	3101480051	123	24		2,952		LS
12/13/2023	S-62	3101480051	124	24		2,976		LS
12/13/2023	S-63	3101480051	123	24		2,952		LS
12/13/2023	S-64	3101480051	127	24		3,048		LS
12/14/2023	S-65	3101480049	125	24		3,000		LS
12/14/2023	S-66	3101480049	125	24		3,000		LS
12/14/2023	S-67	3101480049	123	24		2,952		LS
12/14/2023	S-68	3101480049	116	24		2,784		LS
12/14/2023	S-69	3101480045	116	24		2,784		LS
12/14/2023	S-70	3101480045	116	24		2,784		LS
12/14/2023	S-71	3101480045	115	24		2,760		LS
12/14/2023	S-72	3101480058	115	24		2,760		LS
12/14/2023	S-73	3101480058	115	24		2,760		LS
12/14/2023	S-74	3101480058	113	24		2,712		LS

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
12/14/2023	S-75	3101480058	113	24		2,712		LS
12/14/2023	S-76	3101480073	112	24		2,688		LS
12/14/2023	S-77	3101480073	113	24		2,712		LS
12/14/2023	S-78	3101480073	113	24		2,712		LS
12/14/2023	S-79	3101480073	115	24		2,760		LS
12/14/2023	S-80	3101480055	117	24		2,808		LS
12/14/2023	S-81	3101480055	66	24	34	792		LS
12/14/2023	S-82	3101480055	34	24	36	408		LS
12/14/2023	S-83	3101480055	93	24	36	1,116		LS
12/14/2023	S-84	3101480044	104	24		2,496		LS
12/14/2023	S-85	3101480044	45	24		1,080		LS
12/15/2023	S-86	3101480044	18	11	25	99		LS
12/15/2023	S-87	3101480044	165	24		3,960		LS
12/15/2023	S-88	3101480045	42	19	38	399		LS
12/15/2023	S-89	3101480045	67	24		1,608		LS
12/15/2023	S-90	3101480044	111	24		2,664		LS
12/15/2023	S-91	3101480051	108	24		2,592		LS
12/15/2023	S-92	3101480017	72	24		1,728		LS
12/15/2023	S-93	3101480045	28	24	39	336		LS
12/15/2023	S-94	3101480045	10	12	24	60		LS
12/15/2023	S-95	3101480017	18	24	36	216		LS
12/15/2023	S-96	3101480017	40	24	33	480		LS
12/15/2023	S-97	3101480017	60	24	33	720		LS
12/15/2023	S-98	3101480017	82	24	33	984		LS
12/15/2023	S-99	3101480017	103	24	37	1,236		LS
12/15/2023	S-100	3101480014	218	24		5,232		LS
12/15/2023	S-101	3101480014	217	24		5,208		LS
12/15/2023	S-102	3101480014	58	24	45	696		LS
12/18/2023	S-103	3101480053	215	24		5,160		LS
12/18/2023	S-104	3101480053	215	24		5,160		LS
12/18/2023	S-105	3101480053	215	24		5,160		LS
12/18/2023	S-106	3101480053	211	24		5,064		LS
12/18/2023	S-107	3101480050	212	24		5,088		LS
12/18/2023	S-108	3101480050	212	24		5,088		LS
12/18/2023	S-109	3101480074	204	24		4,896		LS
12/18/2023	S-110	3101480074	205	24		4,920		LS
12/18/2023	S-111	3101480074	30	18	34	270		LS

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
12/18/2023	S-112	3101480064	90	24		2,160		LS
12/18/2023	S-113	3101480064	117	24		2,808		LS
12/18/2023	S-114	3101480064	138	24		3,312		LS
12/18/2023	S-115	3101480064	90	24		2,160		LS
12/18/2023	S-116	3101480001	70	24		1,680		LS
1/26/2024	P-1	3101480042	62	24		1,488		RW
1/26/2024	P-2	3101480042	62	24		1,488		RW
1/26/2024	P-3	3101480042	54	24		1,296		RW
1/26/2024	P-4	3101480042	42	24		1,008		RW
1/26/2024	P-5	3101480042	48	24		1,152		RW
1/26/2024	P-6	3101480042	32	24		768		RW
1/26/2024	P-7	3101480042	32	24		768		RW
1/26/2024	P-8	3101480042	48	24		1,152		RW
1/26/2024	P-9	3101480046	66	24		1,584		RW
1/26/2024	P-10	3101480046	66	24		1,584		RW
1/29/2024	P-11	3101480046	72	24		1,728		RW
1/29/2024	P-12	3101480046	92	24		2,208		RW
1/29/2024	P-13	3101480046	103	24		2,472		RW
1/29/2024	P-14	3101480070	107	24		2,568		RW
1/29/2024	P-15	3101480046	33	24	14	396		RW
1/29/2024	P-16	3101480046	12	13	13	78		RW
1/29/2024	P-17	3101480070	46	24	44	552		RW
1/29/2024	P-18	3101480070	86	24		2,064		RW
1/29/2024	P-19	3101480070	94	24		2,256		RW
1/29/2024	P-20	3101480070	102	24		2,448		RW
1/29/2024	P-21	3101480006	123	24		2,952		RW
1/29/2024	P-22	3101480006	126	24		3,024		RW
1/29/2024	P-23	3101480006	140	24		3,360		RW
1/29/2024	P-24	3101480006	100	24		2,400		RW
1/29/2024	P-25	3101480048	52	24		1,248		RW
1/29/2024	P-26	3101480048	160	24		3,840		RW
1/30/2024	P-27	3101480048	82	24		1,968		RW
1/30/2024	P-28	3101480048	44	24	36	528		RW
1/30/2024	P-29	3101480048	36	24	30	432		RW
1/30/2024	P-30	3101480048	36	24	22	432		RW
1/30/2024	P-31	3101480048	50	24	30	600		RW
1/30/2024	P-32	3101480066	66	24	50	792		RW

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
1/30/2024	P-33	3101480003	78	24	76	936		RW
1/30/2024	P-34	3101480005	76	24	70	912		RW
1/30/2024	P-35	3101480048	46	24	36	552		RW
1/30/2024	P-36	3101480003	70	24	70	840		RW
1/30/2024	P-37	3101480003	70	24		1,680		RW
1/30/2024	P-38	3101480003	70	24		1,680		RW
1/30/2024	P-39	3101480012	20	15	20	150		RW
1/30/2024	P-40	3101480012	136	24		3,264		RW
12/13/2023	P-41	3101480012	161	24		3,864		LS
12/13/2023	P-42	3101480012	141	24		3,384		LS
12/13/2023	P-43	3101480023	161	24		3,864		LS
12/13/2023	P-44	3101480023	141	24		3,384		LS
12/13/2023	P-45	3101480023	142	24		3,408		LS
12/13/2023	P-46	3101480007	139	24		3,336		LS
12/13/2023	P-47	3101480007	137	24		3,288		LS
12/13/2023	P-48	3101480020	136	24		3,264		LS
12/13/2023	P-49	3101480020	135	24		3,240		LS
12/13/2023	P-50	3101480020	135	24		3,240		LS
12/13/2023	P-51	3101480020	134	24		3,216		LS
12/13/2023	P-52	3101480022	126	24		3,024		LS
12/13/2023	P-53	3101480022	120	24		2,880		LS
12/13/2023	P-54	3101480022	118	24		2,832		LS
12/13/2023	P-55	3101480021	110	24		2,640		LS
12/13/2023	P-56	3101480021	118	24		2,832		LS
12/13/2023	P-57	3101480021	118	24		2,832		LS
12/13/2023	P-58	3101480009	118	24		2,832		LS
12/13/2023	P-59	3101480009	118	24		2,832		LS
12/13/2023	P-60	3101480009	110	24		2,640		LS
12/13/2023	P-61	3101480009	111	24		2,664		LS
12/13/2023	P-62	3101480021	117	24		2,808		LS
12/13/2023	P-63	3101480025	114	24		2,736		LS
12/13/2023	P-64	3101480025	113	24		2,712		LS
12/14/2023	P-65	3101480025	115	24		2,760		LS
12/14/2023	P-66	3101480015	108	24		2,592		LS
12/14/2023	P-67	3101480015	110	24		2,640		LS
12/14/2023	P-68	3101480015	107	24		2,568		LS
12/14/2023	P-69	3101480015	109	24		2,616		LS

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
12/14/2023	P-70	3101480015	110	24		2,640		LS
12/14/2023	P-71	3101480019	108	24		2,592		LS
12/14/2023	P-72	3101480019	105	24		2,520		LS
12/14/2023	P-73	3101480019	104	24		2,496		LS
12/14/2023	P-74	3101480019	109	24		2,616		LS
12/14/2023	P-75	3101480004	109	24		2,616		LS
12/14/2023	P-76	3101480004	110	24		2,640		LS
12/14/2023	P-77	3101480004	116	24		2,784		LS
12/14/2023	P-78	3101480004	106	24		2,544		LS
12/14/2023	P-79	3101480010	112	24		2,688		LS
12/14/2023	P-80	3101480010	108	24		2,592		LS
12/14/2023	P-81	3101480010	100	24		2,400		LS
12/14/2023	P-82	3101480010	94	24		2,256		LS
12/14/2023	P-83	3101480065	111	24		2,664		LS
12/14/2023	P-84	3101480065	111	24		2,664		LS
12/14/2023	P-85	3101480065	78	24		1,872		LS
12/15/2023	P-86	3101480065	38	24		912		LS
12/15/2023	P-87	3101480065	26	12	16	156		LS
12/15/2023	P-88	3101480065	108	24		2,592		LS
12/15/2023	P-89	3101480065	38	24		912		LS
12/15/2023	P-90	3101480018	60	24		1,440		LS
12/15/2023	P-91	3101480018	85	24		2,040		LS
12/15/2023	P-92	3101480002	98	24		2,352		LS
12/15/2023	P-93	3101480002	126	24		3,024		LS
12/15/2023	P-94	3101480002	214	24		5,136		LS
12/15/2023	P-95	3101480008	211	24		5,064		LS
12/15/2023	P-96	3101480008	208	24		4,992		LS
12/15/2023	P-97	3101480011	209	24		5,016		LS
12/15/2023	P-98	3101480011	205	24		4,920		LS
2/9/2024	P-99	3101480011	200	24		4,800		RW
2/9/2024	P-100	3101480005	198	24		4,752		RW
2/9/2024	P-101	3101480005	198	24		4,752		RW
2/9/2004	P-102	3101480072	198	24		4,752		RW
2/9/2024	P-103	3101480016	26	24	24	312		RW
2/9/2024	P-104	3101480016	58	24	26	696		RW
2/9/2024	P-105	3101480016	84	24	58	1,008		RW
2/9/2024	P-106	3101480016	104	24	84	1,248		RW

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
2/9/2024	P-107	3101480016	128	24	104	1,536		RW
2/9/2024	P-108	3101480072	148	24	128	1,776		RW
3/2/2024	3P-1	3101480075	240	24		5,760		RW
3/2/2024	3P-2	3101480075	234	24		5,616		RW
3/2/2024	3P-3	3101480069	226	24		5,424		RW
3/2/2024	3P-4	3101480069	224	24		5,376		RW
3/2/2024	3P-5	3101480076	228	24		5,472		RW
3/5/2024	3P-6	3101480076	240	24		5,760		RW
3/5/2024	3P-7	3101480080	248	24		5,952		RW
3/5/2024	3P-8	3101480077	30	24		720		RW
3/5/2024	3P-9	3101480080	226	24		5,424		RW
3/5/2024	3P-10	3101480038	226	24		5,424		RW
3/5/2024	3P-11	3101480038	30	20		600		RW
3/5/2024	3P-12	3101480038	200	24		4,800		RW
3/5/2024	3P-13	3101480036	186	24		4,464		RW
3/5/2024	3P-14	3101480036	172	24		4,128		RW
3/5/2024	3P-15	3101480037	154	24		3,696		RW
3/5/2024	3P-16	3101480037	140	24		3,360		RW
3/5/2024	3P-17	3101480037	104	24		2,496		RW
3/5/2024	3P-18	3101480071	106	24		2,544		RW
3/5/2024	3P-19	3101480071	68	24		1,632		RW
3/5/2024	3P-20	3101480071	52	24		1,248		RW
3/5/2024	3P-21	3101480071	12	7		84		RW
2/27/2024	4P-1	3101480001	130	24		3,120		RW
2/27/2024	4P-2	3101480027	142	24		3,408		RW
2/27/2024	4P-3	3101480027	184	24		4,416		RW
2/27/2024	4P-4	3101480066	214	24		5,136		RW
2/28/2024	4P-5	3101480066	216	24		5,184		RW
2/28/2024	4P-6	3101480078	228	24		5,472		RW
2/28/2024	4P-7	3101480066	28	24		672		RW
2/28/2024	4P-8	3101480078	266	24		6,384		RW
2/28/2024	4P-9	3101480079	42	24		1,008		RW
2/28/2024	4P-10	3101480079	330	24		7,920		RW
2/28/2024	4P-11	3101480081	236	24		5,664		RW
2/28/2024	4P-12	3101480081	236	24		5,664		RW
2/28/2024	4P-13	3101480079	114	24		2,736		RW
2/28/2024	4P-14	3101480018	136	24		3,264		RW

PROMUS ENGINEERING

Geomembrane Panel Placement

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Panel Number	Roll Number	Panel Measurements (FT)			Approximate Panel Area (SF)	Comments	Tech ID
			Panel Length	Panel Width	Third Side			
2/28/2024	4P-15	3101480060	420	24		10,080		RW
2/28/2024	4P-16	3101480081	366	24		8,784		RW
2/28/2024	4P-17	3101480060	74	24		1,776		RW
2/28/2024	4P-18	3101480077	234	24		5,616		RW
2/28/2024	4P-19	3101480074	102	24		2,448		RW
2/27/2024	4P-20	3101480027	8	15		120		RW
2/28/2024	4P-21	3101480081	116	10		1,160		RW
2/28/2024	4P-22	3101480081	132	6		792		RW
2/28/2024	4P-23	3101480074	102	10		1,020		RW

Test Weld Information

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
12/12/2023	8:35	LH	4151	60mil HDPE	32°F	860	8.0			128	114	127	124	122	132	184	187	198	Pass	Pass	DG
12/12/2023	8:40	OG	4183	60mil HDPE	32°F	860	4.0			126	125	112	142	137	140	184	189	194	Pass	Pass	DG
12/12/2023	13:05	LH	4151	60mil HDPE	55°F	860	8.0			111	108	119	127	123	132	178	172	174	Pass	Pass	DG
12/12/2023	13:10	LH	4151	60mil HDPE	55°F	860	6.5			138	142	137	131	119	132	170	173	169	Pass	Pass	DG
12/12/2023	13:15	OG	4183	60mil HDPE	55°F	860	4.5			132	106	120	100	119	110	158	160	155	Pass	Pass	DG
12/12/2023	13:20	OG	4183	60mil HDPE	55°F	860	3.5			125	131	123	125	129	139	164	167	159	Pass	Pass	DG
12/12/2023	16:18	LH	4151	60mil HDPE	58°F	860	5.5			135	114	132	104	114	117	170	172	174	Pass	Pass	DG
12/12/2023	16:20	OG	4183	60mil HDPE	58°F	860	3.0			112	110	112	132	123	132	172	177	180	Pass	Pass	DG
12/13/2023	7:45	OG	4183	60mil HDPE	35°F	860	3.0			131	153	149	137	149	145	213	200	207	Pass	Pass	MK
12/13/2023	7:30	OG	4183	60mil HDPE	35°F	860	4.0			142	117	125	153	132	135	203	200	198	Pass	Pass	MK
12/13/2023	7:43	LH	4151	60mil HDPE	35°F	860	8.0			121	112	131	127	141	131	200	199	205	Pass	Pass	MK
12/13/2023	7:41	LH	4151	60mil HDPE	35°F	860	5.0			115	100	146	129	133	141	206	199	205	Pass	Pass	MK
12/13/2023	13:10	OG	4183	60mil HDPE	61°F	860	4.0			130	123	122	118	110	127	170	168	172	Pass	Pass	MK
12/13/2023	13:10	LH	4151	60mil HDPE	61°F	860	8.0			120	115	120	112	118	117	177	172	175	Pass	Pass	MK
12/13/2023	13:05	LH	4151	60mil HDPE	61°F	860	6.0			132	120	133	117	130	121	177	175	171	Pass	Pass	MK
12/14/2023	7:45	OG	4183	60mil HDPE	39°F	860	4.0			130	155	121	140	117	144	205	191	215	Pass	Pass	MK
12/14/2023	7:45	LH	4151	60mil HDPE	39°F	860	8.0			116	125	118	112	121	110	198	204	201	Pass	Pass	MK
12/14/2023	7:50	LH	4151	60mil HDPE	39°F	860	5.0			125	150	136	133	135	152	200	189	198	Pass	Pass	MK
12/14/2023	13:10	OG	4183	60mil HDPE	63°F	860	4.5			115	130	118	127	114	126	165	170	168	Pass	Pass	MK
12/14/2023	13:07	LH	4151	60mil HDPE	63°F	860	8.0			111	117	118	120	113	113	162	165	167	Pass	Pass	MK
12/14/2023	13:10	LH	4151	60mil HDPE	63°F	860	6.0			109	133	119	121	117	127	170	169	168	Pass	Pass	MK
12/14/2023	13:50	OG	4183	60mil HDPE	63°F	860	4.0			115	111	116	120	117	124	162	170	164	Pass	Pass	MK
12/14/2023	14:30	OG	4183	60mil HDPE	63°F	860	3.5			139	126	129	129	136	136	175	172	168	Pass	Pass	MK
12/14/2023	15:05	LH	4151	60mil HDPE	63°F	860	7.0			110	117	108	108	103	102	175	178	170	Pass	Pass	MK
12/15/2023	8:00	OG	4183	60mil HDPE	51°F	860	4.0			122	131	130	127	130	129	169	170	175	Pass	Pass	MK

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
12/15/2023	8:05	OG	4183	60mil HDPE	51°F	860	3.5			117	120	129	141	138	105	179	175	172	Pass	Pass	MK
12/15/2023	8:00	LH	4151	60mil HDPE	51°F	860	8.0			114	106	108	124	135	113	167	169	170	Pass	Pass	MK
12/15/2023	8:10	LH	4151	60mil HDPE	51°F	860	5.5			111	137	143	129	130	135	168	170	172	Pass	Pass	MK
12/15/2023	13:00	OG	4183	60mil HDPE	60°F	860	3.5			115	111	130	122	133	118	160	166	169	Pass	Pass	MK
12/15/2023	13:00	LH	4151	60mil HDPE	60°F	860	5.5			142	122	145	130	139	123	170	173	177	Pass	Pass	MK
12/17/2023	9:05	EV	5652	60mil HDPE	32°F			500	500	91		100		103		169	177	171	Pass	Pass	MK
12/17/2023	13:00	DG	328	60mil HDPE	50°F			500	500	159		138		143		166	172	167	Pass	Pass	MK
12/17/2023	13:15	EV	5652	60mil HDPE	50°F			500	500	121		121		112		159	150	157	Pass	Pass	MK
12/18/2023	8:30	LH	4151	60mil HDPE	37°F	860	8.0			123	122	125	130	128	116	187	199	203	Pass	Pass	MK
12/18/2023	8:35	LH	4151	60mil HDPE	37°F	860	5.5			157	142	136	147	155	157	206	209	198	Pass	Pass	MK
12/18/2023	8:30	OG	4183	60mil HDPE	37°F	860	4.0			123	125	112	119	115	123	190	187	201	Pass	Pass	MK
12/18/2023	8:33	OG	4183	60mil HDPE	37°F	860	3.5			113	125	124	136	123	155	179	189	187	Pass	Pass	MK
12/18/2023	13:30	OG	4183	60mil HDPE	45°F	860	4.0			123	110	123	118	137	113	172	168	177	Pass	Pass	MK
12/18/2023	13:35	OG	4183	60mil HDPE	45°F	860	3.5			106	130	119	151	131	131	165	169	168	Pass	Pass	MK
12/18/2023	13:36	LH	4151	60mil HDPE	45°F	860	8.0			115	118	115	121	118	125	170	165	168	Pass	Pass	MK
12/18/2023	13:37	LH	4151	60mil HDPE	45°F	860	6.0			147	131	130	134	137	112	180	175	179	Pass	Pass	MK
12/19/2023	8:16	EV	5652	60mil HDPE	28°F			500	500	125		119		123		200	200	203	Pass	Pass	MK
12/19/2023	13:31	EV	5652	60mil HDPE	53°F			500	500	132		121		118		178	196	192	Pass	Pass	MK
12/20/2023	7:50	EV	5652	60mil HDPE	43°F			500	500	132		170		177		179	184	180	Pass	Pass	MK
1/10/2024	10:50	EV	5652	60mil HDPE	45°F			500	500	96		101		126		184	171	177	Pass	Pass	MK
1/10/2024	15:00	EV	5652	60mil HDPE	52°F			500	500	110		103		120		176	168	172	Pass	Pass	MK
1/11/2024	9:50	EV	5652	60mil HDPE	34°F			500	500	101		129		133		165	177	189	Pass	Pass	MK
1/11/2024	14:00	EV	5652	60mil HDPE	61°F			500	500	121		133		119		177	175	173	Pass	Pass	MK
1/11/2024	14:25	DG	328	60mil HDPE	61°F			500	500	139		141		137		168	173	169	Pass	Pass	MK
1/24/2024	8:00	EV	5652	60mil HDPE	40°F			500	500	135		138		142		160	168	167	Pass	Pass	DG

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
1/24/2024	13:05	EV	5652	60mil HDPE	48°F			500	500	130		133	128			154	158	161	Pass	Pass	DG
1/26/2024	10:50	EV	5652	60mil HDPE	43°F			500	500	126		128		111		158	160	167	Pass	Pass	MK
1/26/2024	15:00	OG	4183	60mil HDPE	46°F	860	4.0			114	110	117	131	113	125	180	183	178	Pass	Pass	MK
1/26/2024	15:00	PB	4151	60mil HDPE	46°F	860	7.0			115	135	122	111	124	122	180	149	175	Pass	Pass	MK
1/26/2024	15:05	OG	4183	60mil HDPE	46°F	860	3.5			149	156	151	166	143	154	179	177	180	Pass	Pass	MK
1/29/2024	10:40	OG	4183	60mil HDPE	45°F	860	3.5			123	125	144	126	118	125	175	185	180	Pass	Pass	MK
1/29/2024	10:27	PB	4151	60mil HDPE	34°F	860	6.5			112	134	121	126	123	114	175	178	172	Pass	Pass	MK
1/29/2024	13:33	EV	5652	60mil HDPE	59°F			500	500	99		99		115		166	180	174	Pass	Pass	MK
1/29/2024	15:05	OG	4183	60mil HDPE	63°F	860	3.5			135	146	131	124	130	117	157	151	155	Pass	Pass	MK
1/29/2024	15:00	PB	4151	60mil HDPE	63°F	860	6.5			130	125	124	130	126	137	161	163	158	Pass	Pass	MK
1/30/2024	10:35	OG	4183	60mil HDPE	48°F	860	3.0			129	105	119	141	134	153	168	172	170	Pass	Pass	MK
1/30/2024	10:35	PB	4151	60mil HDPE	48°F	860	6.5			108	104	136	118	103	111	162	168	159	Pass	Pass	MK
1/30/2024	8:22	EV	5652	60mil HDPE	39°F			500	500	96		107		111		163	160	165	Pass	Pass	MK
1/30/2024	14:00	OG	4183	60mil HDPE	63°F	860	3.0			119	108	114	120	109	120	165	140	142	Pass	Pass	MK
1/30/2024	13:50	PB	4151	60mil HDPE	63°F	860	6.5			135	100	124	113	122	123	167	170	172	Pass	Pass	MK
1/30/2024	13:08	EV	5652	60mil HDPE	63°F			500	500	139		129		131		178	170	173	Pass	Pass	MK
1/31/2024	10:08	PB	4151	60mil HDPE	45°F	860	6.5			111	127	110	112	125	117	167	175	170	pass	pass	DG
1/31/2024	10:10	PB	4151	60mil HDPE	45°F	860	6.5			141	101	128	94	97	121	172	173	169	Pass	Pass	DG
1/31/2024	10:55	EV	5652	60mil HDPE	46°F			500	500	106		119		123		142	157	158	Pass	Pass	DG
1/31/2024	13:31	PB	4151	60mil HDPE	66°F	860	8.0			114	110	108	107	105	102	165	163	159	Pass	Pass	DG
1/31/2024	14:09	RP	4183	60mil HDPE	66°F	860	4.0			113	109	112	110	118	113	162	158	160	Pass	Pass	DG
1/31/2024	16:05	EV	5652	60mil HDPE	65°F			500	500	100		111		115		158	160	157	Pass	Pass	DG
2/1/2024	8:08	EV	328	60mil HDPE	50°F			500	500	111		102		113		176	176	184	Pass	Pass	DG
2/1/2024	8:11	PB	4151	60mil HDPE	50°F	860	8.0			126	108	109	106	116	116	170	175	172	Pass	Pass	DG
2/1/2024	8:15	OG	4183	60mil HDPE	50°F	860	4.0			122	128	108	104	107	112	170	173	177	Pass	Pass	DG

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
2/1/2024	13:10	PB	4151	60mil HDPE	64°F	860	8.0			100	101	102	96	98	113	153	156	150	Pass	Pass	DG
2/1/2024	13:15	EV	328	60mil HDPE	64°F			500	500	130		144		163		146	170	173	Pass	Pass	DG
2/1/2024	13:25	OG	4183	60mil HDPE	64°F	860				112	111	114	117	119	106	159	160	171	Pass	Pass	DG
2/2/2024	8:00	EV	328	60mil HDPE	50°F			500	500	157		142		152		174	170	169	Pass	Pass	DG
2/2/2024	13:10	EV	328	60mil HDPE	65°F			500	500	134		143		137		156	149	151	Pass	Pass	DG
2/5/2024	9:45	EV	328	60mil HDPE	39°F			500	500	122		124		152		169	172	185	Pass	Pass	DG
2/5/2024	13:30	EV	328	60mil HDPE	55°F			500	500	130		137		144		168	173	171	Pass	Pass	DG
2/5/2024	13:30	PB	4151	60mil HDPE	55°F	860	8.0			118	101	107	103	107	110	166	170	173	Pass	Pass	DG
2/6/2024	9:50	EV	328	60mil HDPE	48°F			500	500	144		167		159		169	170	172	Pass	Pass	DG
2/6/2024	11:00	OG	4183	60mil HDPE	49°F	860	5.0			120	103	122	110	115	121	175	172	170	Pass	Pass	DG
2/6/2024	14:45	EV	328	60mil HDPE	63°F			500	500	139		159		154		166	164	160	Pass	Pass	DG
2/6/2024	14:30	OG	4183	60mil HDPE	63°F	860	5.0			127	107	128	109	129	110	158	162	159	Pass	Pass	DG
2/7/2024	8:20	OG	4183	60mil HDPE	45°F	860	4.0			108	105	104	145	110	149	178	176	180	Pass	Pass	DG
2/7/2024	8:25	OG	4183	60mil HDPE	45°F	860	4.5			95	135	114	132	109	126	180	179	184	Pass	Pass	DG
2/7/2024	8:30	OG	4183	60mil HDPE	45°F	860	3.5			121	133	126	121	133	128	187	180	188	Pass	Pass	DG
2/7/2024	8:30	EV	328	60mil HDPE	45°F			500	500	114		106		112		174	177	175	Pass	Pass	DG
2/7/2024	13:10	OG	4183	60mil HDPE	65°F	860	5.5			109	102	106	121	100	111	150	152	155	Pass	Pass	DG
2/7/2024	13:15	EV	328	60mil HDPE	65°F			500	500	95		114		126		152	145	149	Pass	Pass	DG
2/7/2024	14:20	OG	4183	60mil HDPE	65°F	860	4.0			126	152	109	134	125	141	150	154	159	Pass	Pass	DG
2/8/2024	8:20	EV	328	60mil HDPE	57°F			500	500	120		103		130		165	165	172	Pass	Pass	DG
2/8/2024	13:13	EV	328	60mil HDPE	68°F			500	500	128		104		124		150	153	154	Pass	Pass	DG
2/9/2024	8:15	EV	5652	60mil HDPE	55°F			500	500	100		114		99		160	164	169	Pass	Pass	DG
2/9/2024	9:10	OG	4183	60mil HDPE	55°F	860	5.0			111	124	121	127	113	126	166	165	169	Pass	Pass	DG
2/9/2024	9:15	OG	4183	60mil HDPE	55°F	860	4.5			119	125	111	114	113	105	171	174	170	Pass	Pass	DG
2/9/2024	9:15	SB	4151	60mil HDPE	55°F	860	7.5			122	126	116	110	109	119	169	174	178	Pass	Pass	DG

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
2/9/2024	13:20	EV	5652	60mil HDPE	65°F			500	500	100		89		108		150	152	156	Pass	Pass	DG
2/9/2024	13:20	SB	4151	60mil HDPE	65°F	860	8.0			100	113	104	114	117	107	154	150	158	pass	pass	DG
2/9/2024	13:25	SB	4151	60mil HDPE	65°F	860	6.5			114	136	128	119	119	134	151	158	155	pass	pass	DG
2/9/2024	13:25	OG	4183	60mil HDPE	65°F	860	5.5			110	101	120	106	100	121	160	158	159	pass	pass	DG
2/9/2024	13:30	OG	4183	60mil HDPE	65°F	860	4.5			123	128	133	140	130	149	158	150	153	pass	pass	DG
2/10/2024	8:15	EV	5652	60mil HDPE	48°F			500	500	119		114		105		178	181	183	pass	pass	DG
2/10/2024	11:20	CK	50215	60mil HDPE	50°F			500	500	104		95		122		159	157	163	pass	pass	DG
2/10/2024	13:05	EV	5652	60mil HDPE	50°F			500	500	144		144		109		174	169	180	pass	pass	DG
2/11/2024	8:05	CK	50215	60mil HDPE	36°F			500	500	136		117		120		174	176	179	pass	pass	DG
2/11/2024	8:10	EV	5652	60mil HDPE	36°F			500	500	103		106		131		190	196	188	pass	pass	DG
2/11/2024	8:15	SB	328	60mil HDPE	36°F			500	500	112		124		120		171	170	177	pass	pass	DG
2/13/2024	9:20	EV	5652	60mil HDPE	39°F			500	500	108		99		121		187	192	190	pass	pass	DG
2/13/2024	11:20	SB	328	60mil HDPE	50°F			500	500	101		107		109		158	158	160	pass	pass	DG
2/13/2024	13:10	EV	5652	60mil HDPE	55°F			500	500	149		113		130		159	163	157	pass	pass	DG
2/14/2024	8:00	CK	50215	60mil HDPE	37°F			500	500	105		97		91		189	181	184	pass	pass	DG
2/14/2024	8:05	EV	5652	60mil HDPE	37°F			500	500	143		105		97		178	181	180	pass	pass	DG
2/14/2024	8:10	SB	328	60mil HDPE	37°F			500	500	144		140		149		160	192	198	pass	pass	DG
2/14/2024	13:15	CK	50215	60mil HDPE	64°F			500	500	149		149		157		157	165	163	Pass	Pass	DG
2/14/2024	13:30	EV	5652	60mil HDPE	64°F			500	500	138		138		135		153	153	154	Pass	Pass	DG
2/15/2024	8:00	EV	5652	60mil HDPE	48°F			500	500	113		116		106		169	171	164	Pass	Pass	DG
2/15/2024	8:10	CK	50215	60mil HDPE	48°F			500	500	103		93		123		150	161	159	Pass	Pass	DG
2/15/2024	13:10	EV	5652	60mil HDPE	61°F			500	500	138		138		141		149	140	148	Pass	Pass	DG
2/15/2024	13:10	CK	50215	60mil HDPE	61°F			500	500	104		149		151		157	150	155	Pass	Pass	DG
2/15/2024	13:15	SB	328	60mil HDPE	61°F			500	500	141		139		134		159	158	158	Pass	Pass	DG
2/16/2024	8:00	CK	50215	60mil HDPE	54°F			500	500	147		108		109		173	169	170	Pass	Pass	DG

PROMUS ENGINEERING

Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
2/16/2024	8:05	EV	5652	60mil HDPE	54°F			500	500	102		129		128		169	165	166	Pass	Pass	DG
2/16/2024	8:10	SB	328	60mil HDPE	54°F			500	500	104		100		110		173	171	179	Pass	Pass	DG
2/17/2024	13:05	CK	50215	60mil HDPE	32°F			500	500	116		134		120		193	200	203	Pass	Pass	DG
2/17/2024	13:10	EV	5652	60mil HDPE	32°F			500	500	133		131		120		201	199	209	Pass	Pass	DG
2/17/2024	13:10	SB	328	60mil HDPE	32°F			500	500	161		140		154		205	205	206	Pass	Pass	DG
2/18/2024	8:15	CK	50215	60mil HDPE	32°F			500	500	107		111		112		213	216	218	Pass	Pass	DG
2/18/2024	8:15	EV	5652	60mil HDPE	25°F			500	500	139		128		139		202	205	207	Pass	Pass	DG
2/18/2024	8:15	SB	328	60mil HDPE	25°F			500	500	151		159		151		216	217	210	Pass	Pass	DG
2/18/2024	13:15	CK	50215	60mil HDPE	46°F			500	500	145		137		129		176	181	186	Pass	Pass	DG
2/18/2024	13:20	EV	5652	60mil HDPE	46°F			500	500	122		160		158		168	174	178	Pass	Pass	DG
2/18/2024	13:25	SB	328	60mil HDPE	46°F			500	500	139		121		132		180	182	179	Pass	Pass	DG
2/19/2024	8:15	CK	50215	60mil HDPE	30°F			500	500	116		116		101		193	192	196	Pass	Pass	DG
2/19/2024	8:20	SB	328	60mil HDPE	30°F			500	500	135		130		123		198	190	195	Pass	Pass	DG
2/20/2024	9:20	CK	50215	60mil HDPE	40°F			500	500	126		93		102		158	155	156	Pass	Pass	DG
2/20/2024	9:30	SB	328	60mil HDPE	40°F			500	500	141		126		109		150	151	158	Pass	Pass	DG
2/21/2024	8:30	SB	328	60mil HDPE	58°F			500	500	114		120		110		162	172	165	Pass	Pass	DG
2/21/2024	13:15	SB	328	60mil HDPE	72°F			500	500	130		137		130		145	144	144	Pass	Pass	DG
2/22/2024	8:30	SB	328	60mil HDPE	54°F			500	500	115		118		103		165	160	167	Pass	Pass	DG
2/22/2024	13:15	SB	328	60mil HDPE	60°F			500	500	108		111		118		158	155	162	Pass	Pass	DG
2/23/2024	13:15	CK	50215	60mil HDPE	61°F			500	500	141		146		144		157	159	162	Pass	Pass	DG
2/23/2024	14:30	EV	5652	60mil HDPE	63°F			500	500	112		108		109		155	159	156	Pass	Pass	DG
2/23/2024	7:40	CK	50215	60mil HDPE	42°F			500	500	95		101		110		175	177	179	pass	pass	DG
2/24/2024	7:40	EV	5652	60mil HDPE	37°F			500	500	116		107		114		183	189	180	Pass	Pass	DG
2/24/2024	7:45	CK	50215	60mil HDPE	37°F			500	500	116		108		124		182	180	187	Pass	Pass	DG
2/24/2024	13:15	CK	50215	60mil HDPE	59°F			500	500	148		140		142		172	155	157	Pass	Pass	DG

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Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
2/24/2024	13:15	EV	5652	60mil HDPE	59°F			500	500	127		135		112		150	154	151	Pass	Pass	DG
2/26/2024	7:05	EV	5652	60mil HDPE	54°F			500	500	125		104		135		166	163	165	pass	pass	DG
2/26/2024	8:00	CK	50215	60mil HDPE	54°F			500	500	111		115		100		162	166	165	pass	pass	DG
2/26/2024	8:30	SB	328	60mil HDPE	54°F			500	500	115		118		103		165	160	167	pass	pass	DG
2/26/2024	13:15	SB	328	60mil HDPE	60°F			500	500	108		111		118		158	155	162	pass	pass	DG
2/27/2024	10:40	OG	4183	60mil HDPE	79°F	860	5.0			106	107	111	93	107	97	140	142	145	Pass	Pass	DG
2/27/2024	10:45	SB	4151	60mil HDPE	79°F	860	8.0			107	97	107	100	106	99	142	142	144	Pass	Pass	DG
2/28/2024	7:35	EV	50075	60mil HDPE	27°F			500	500	168		142		170		193	196	199	Pass	Pass	DG
2/28/2024	8:00	SB	4151	60mil HDPE	27°F	860	6.5			124	142	145	117	154	112	200	205	204	Pass	Pass	DG
2/28/2024	8:05	SB	4151	60mil HDPE	27°F	860	5.5			144	130	148	153	138	100	199	203	205	Pass	Pass	DG
2/28/2024	9:45	OG	4183	60mil HDPE	30°F	860	5.0			118	127	137	124	121	115	184	182	177	Pass	Pass	DG
2/28/2024	9:50	OG	4183	60mil HDPE	30°F	860	4.0			144	132	141	130	116	159	185	188	190	Pass	Pass	DG
2/28/2024	13:30	SB	4151	60mil HDPE	43°F	860	7.0			110	141	128	136	119	104	172	179	175	Pass	Pass	DG
2/28/2024	13:35	SB	4151	60mil HDPE	43°F	860	6.0			137	140	148	134	137	141	160	168	168	Pass	Pass	DG
2/28/2024	13:35	EV	50075	60mil HDPE	43°F			500	500	127		158		152		167	175	175	Pass	Pass	DG
2/28/2024	13:40	OG	4183	60mil HDPE	43°F	860	5.0			130	110	119	120	113	112	175	176	178	Pass	Pass	DG
2/28/2024	13:45	OG	4183	60mil HDPE	43°F	860	4.0			131	140	158	131	146	138	176	177	173	Pass	Pass	DG
2/29/2024	8:00	EV	50075	60mil HDPE	31°F			500	500	125		146		130		189	201	208	Pass	Pass	DG
2/29/2024	8:00	SB	4151	60mil HDPE	31°F	860	6.5			136	121	134	137	162	123	200	201	211	Pass	Pass	DG
2/29/2024	8:05	SB	4151	60mil HDPE	31°F	860	5.5			159	163	145	141	167	160	210	222	218	Pass	Pass	DG
2/29/2024	8:10	SB	4151	60mil HDPE	31°F	860	5.5			125	136	124	123	130	121	200	202	201	Pass	Pass	DG
2/29/2024	10:40	CK	50215	60mil HDPE	41°F			500	500	100		159		151		165	151	157	Pass	Pass	DG
3/1/2024	8:55	EV	50075	60mil HDPE	40°F			500	500	115		122		125		167	170	172	Pass	Pass	DG
3/2/2024	9:00	SB	4151	60mil HDPE	57°F	860	7.0			125	119	119	110	123	118	169	166	164	Pass	Pass	DG
3/2/2024	9:10	OG	4183	60mil HDPE	57°F	860	5.0			139	126	126	117	123	114	168	170	164	Pass	Pass	DG

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Test Weld Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Time	Welder ID	Machine ID	Material	Ambient Air Temp	Wedge Weld		Extrusion		Field Test Values (ppi)									Results (Pass/Fail)		Tech ID
						Temp	Speed	Barrel Temp	Preheat Temp	Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Shear 1	Shear 2	Shear 3	Strength	Break Location	
3/2/2024	9:15	OG	4183	60mil HDPE	57°F	860	4.0			134	135	126	130	136	135	170	168	171	Pass	Pass	DG
3/5/2024	7:30	SB	4151	60mil HDPE	58°F	860	7.0			122	110	120	113	120	112	169	169	165	Pass	Pass	DG
3/5/2024	7:35	SB	4151	60mil HDPE	58°F	860	5.5			138	142	140	135	146	137	172	170	168	Pass	Pass	DG
3/5/2024	8:15	OG	4183	60mil HDPE	58°F	860	4.5			122	114	120	120	126	112	168	165	167	Pass	Pass	DG
3/5/2024	8:20	OG	4183	60mil HDPE	58°F	860	3.5			141	132	128	145	143	130	170	169	172	Pass	Pass	DG
3/5/2024	13:05	SB	4151	60mil HDPE	70°F	860	8.0			104	120	114	118	103	119	160	159	162	Pass	Pass	DG
3/5/2024	13:10	SB	4151	60mil HDPE	70°F	860	6.5			139	135	136	124	135	131	166	168	164	Pass	Pass	DG
3/5/2024	13:10	OG	4183	60mil HDPE	70°F	860	5.0			119	110	121	118	120	117	158	159	162	Pass	Pass	DG
3/5/2024	13:15	OG	4183	60mil HDPE	70°F	860	4.5			121	120	119	108	122	114	162	160	164	Pass	Pass	DG
3/6/2024	7:30	EV	50075	60mil HDPE	46°F			500	500	127		121		130		190	186	188	Pass	Pass	DG
3/6/2024	7:35	CK	50215	60mil HDPE	46°F			500	500	126		126		128		177	175	179	Pass	Pass	DG
3/6/2024	13:05	CK	50215	60mil HDPE	57°F			500	500	120		115		111		165	159	163	Pass	Pass	DG
3/8/2024	10:20	OG	4183	60mil HDPE	58°F	860	4.0			110	109	118	113	110	117	151	157	154	Pass	Pass	DG

Seaming Observation

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/12/2023	LH	4151	8:47	S-1/S-2	16		12/12/2023	9:08	30	9:13	30	P	YG
12/12/2023	LH	4151	8:51	S-2/S-3	34		12/12/2023	9:09	30	9:14	30	P	YG
12/12/2023	LH	4151	8:57	S-3/S-4	54		12/12/2023	9:09	30	9:14	30	P	YG
12/12/2023	LH	4151	9:06	S-4/S-5	68	DS-1	12/12/2023	9:35	30	9:40	30	P	YG
12/12/2023	LH	4151	9:21	S-5/S-6	68		12/12/2023	9:35	30	9:40	30	P	YG
12/12/2023	LH	4151	9:39	S-8/S-9	66		12/12/2023	9:57	30	10:02	30	P	YG
12/12/2023	LH	4151	9:52	S-9/S-10	67		12/12/2023	10:10	30	10:15	30	P	YG
12/12/2023	LH	4151	10:21	S-10/S-11	67		12/12/2023	10:33	30	10:38	30	P	YG
12/12/2023	LH	4151	10:50	S-21/S-22	8		12/12/2023	13:14	30	13:19	30	P	YG
12/12/2023	LH	4151	10:50	S-21/S-22	90		12/12/2023	11:29	30	11:34	30	P	YG
12/12/2023	LH	4151	11:05	S-22/S-24	118	DS-4	12/12/2023	11:30	30	11:35	30	P	YG
12/12/2023	LH	4151	13:20	S-23/S-24	24		12/12/2023	13:20	30	13:25	29	P	YG
12/12/2023	LH	4151	11:26	S-23/S-26	10		12/12/2023	13:28	30	13:33	29	P	YG
12/12/2023	LH	4151	11:27	S-23/S-25	20		12/12/2023	11:44	30	11:49	30	P	YG
12/12/2023	LH	4151	11:27	S-23/S-25	10		12/12/2023	11:44	30	11:49	30	P	YG
12/12/2023	LH	4151	11:32	S-24/S-25	115		12/12/2023	13:05	30	13:10	30	P	YG
12/12/2023	LH	4151	13:11	S-25/S-26	24		12/12/2023	13:18	30	13:23	28	P	YG
12/12/2023	LH	4151	13:34	S-4/S-27	15		12/12/2023	13:51	30	13:56	30	P	YG
12/12/2023	LH	4151	13:37	S-5/S-27	21		12/12/2023	13:51	30	13:56	29	P	YG
12/12/2023	LH	4151		S-5/S-26	2			CAP					
12/12/2023	LH	4151	13:42	S-6/S-26	23		12/12/2023	13:52	30	13:57	29	P	YG
12/12/2023	LH	4151	13:46	S-7/S-26	12		12/12/2023	13:52	30	13:57	29	P	YG
12/12/2023	LH	4151	13:48	S-7/S-23	13		12/12/2023	14:05	30	14:10	30	P	YG
12/12/2023	LH	4151	13:51	S-8/S-23	23		12/12/2023	14:06	30	14:11	29	P	YG
12/12/2023	LH	4151	13:55	S-9/S-23	9		12/12/2023	14:05	30	14:10	30	P	YG
12/12/2023	LH	4151	14:01	S-9/S-22	18		12/12/2023	14:24	30	14:29	30	P	YG
12/12/2023	LH	4151	14:05	S-10/S-22	18		12/12/2023	14:24	30	14:29	29	P	YG
12/12/2023	LH	4151	14:09	S-10/S-21	6		12/12/2023	14:25	30	14:30	30	P	YG
12/12/2023	LH	4151	14:10	S-11/S-21	23		12/12/2023	14:25	30	14:30	30	P	YG
12/12/2023	LH	4151	14:15	S-12/S-21	8		12/12/2023	14:25	30	14:30	28	P	YG
12/12/2023	LH	4151	14:16	S-12/S-20	18		12/12/2023	14:40	30	14:45	29	P	YG
12/12/2023	LH	4151	14:20	S-13/S-20	16	DS-5	12/12/2023	14:41	30	14:46	30	P	YG
12/12/2023	LH	4151	14:24	S-13/S-19	9		12/12/2023	14:42	30	14:47	30	P	YG
12/12/2023	LH	4151	14:28	S-14/S-19	18		12/12/2023	14:42	30	14:47	30	P	YG
12/12/2023	LH	4151	14:31	S-14/S-18	7		12/12/2023	14:43	30	14:48	29	P	YG
12/12/2023	LH	4151	14:33	S-15/S-18	20		12/12/2023	14:49	30	14:54	30	P	YG
12/12/2023	LH	4151	14:37	S-15/S-17	6		12/12/2023	14:50	30	14:55	28	P	YG
12/12/2023	LH	4151	14:38	S-16/S-17	24		12/12/2023	14:50	30	14:55	29	P	YG
12/12/2023	LH	4151	15:42	S-33/S-34	44		12/12/2023	15:57	30	16:02	28	P	YG
12/12/2023	LH	4151	15:06	S-34/S-35	66		12/12/2023	15:26	30	15:31	30	P	YG
12/12/2023	LH	4151	15:19	S-35/S-36	68		12/12/2023	15:30	30	15:35	30	P	YG
12/12/2023	LH	4151	15:56	S-3/S-34	20		12/12/2023	16:13	30	16:18	29	P	YG
12/12/2023	LH	4151	16:01	S-3/S-33	16		12/12/2023	16:13	30	16:18	28	P	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/12/2023	LH	4151	16:04	S-2/S-33	30		12/12/2023	16:13	30	16:18	28	P	YG
12/12/2023	LH	4151	16:21	S-1/S-32	12		12/13/2023	7:08	30	7:13	30	P	YG
12/12/2023	LH	4151	16:21	S-1/S-32	14		12/12/2023	7:20	30	7:25	30	P	YG
12/12/2023	LH	4151	16:24	S-1/S-33	7		12/12/2023	7:07	30	7:12	28	P	YG
12/12/2023	LH	4151	16:25	S-32/S-33	9			CAP					
12/12/2023	LH	4151	16:33	S-31/S-39	5		12/12/2023	16:43	30	16:48	30	P	YG
12/12/2023	LH	4151	16:33	S-31/S-39	18		12/12/2023	16:44	30	16:49	28	P	YG
12/12/2023	LH	4151	17:03	S-28/S-36	45		12/13/2023	7:32	30	7:37	30	P	YG
12/12/2023	LH	4151	17:03	S-28/S-36	4			CAP					
12/12/2023	LH	4151	16:42	S-28/S-35	25		12/12/2023	16:57	30	17:02	29	P	YG
12/12/2023	LH	4151	16:47	S-28/S-34	3			CAP					
12/12/2023	LH	4151	16:47	S-4/S-34	15		12/12/2023	16:47	30	16:52	28	P	YG
12/13/2023	LH	4151	8:23	S-38/S-40	85		12/13/2023	8:40	30	8:45	30	P	YG
12/13/2023	LH	4151	8:45	S-41/S-42	154		12/13/2023	9:24	30	9:29	30	P	YG
12/13/2023	LH	4151	9:19	S-43/S-44	14		12/13/2023	9:58	30	10:03	30	P	YG
12/13/2023	LH	4151	9:19	S-43/S-44	9		12/13/2023	9:56	30	10:01	30	P	YG
12/13/2023	LH	4151	9:35	S-43/S-45	77		12/13/2023	9:57	30	10:02	30	P	YG
12/13/2023	LH	4151	9:48	S-44/S-45	18		12/13/2023	10:08	30	10:13	30	P	YG
12/13/2023	LH	4151	9:48	S-44/S-45	55		12/13/2023	10:10	30	10:15	30	P	YG
12/13/2023	LH	4151	10:08	S-47/S-48	24	DS-8	12/13/2023	10:37	30	10:42	30	P	YG
12/13/2023	LH	4151	10:03	S-48/S-49	24		12/13/2023	10:53	30	10:58	30	P	YG
12/13/2023	LH	4151	10:17	S-46/S-47	72		12/13/2023	10:37	30	10:42	30	P	YG
12/13/2023	LH	4151	10:27	S-46/S-48	23		12/13/2023	10:52	30	10:57	30	P	YG
12/13/2023	LH	4151	10:31	S-46/S-49	44		12/13/2023	10:53	30	10:58	30	P	YG
12/13/2023	LH	4151	10:46	S-47/S-50	72		12/13/2023	11:13	30	11:18	30	P	YG
12/13/2023	LH	4151	10:57	S-48/S-50	23		12/13/2023	11:13	30	11:18	29	P	YG
12/13/2023	LH	4151	11:01	S-49/S-50	44		12/13/2023	11:10	30	11:15	28	P	YG
12/13/2023	LH	4151	11:19	S-52/S-53	136		12/13/2023	11:45	30	11:50	30	P	YG
12/13/2023	LH	4151	13:25	S-53/S-54	133	DS-10	12/13/2023	13:58	30	14:03	30	P	YG
12/13/2023	LH	4151	14:24	S-56/S-57	23		12/13/2023	14:34	30	14:39	29	P	YG
12/13/2023	LH	4151	14:03	S-58/S-59	121		12/13/2023	14:33	30	14:38	30	P	YG
12/13/2023	LH	4151	14:33	S-59/S-60	120		12/13/2023	14:59	30	15:05	30	P	YG
12/13/2023	LH	4151	15:13	S-61/S-62	84		12/13/2023	15:35	30	15:40	30	P	YG
12/13/2023	LH	4151	15:34	S-62/S-63	122		12/13/2023	16:00	30	16:05	30	P	YG
12/14/2023	LH	4151	8:06	S-64/S-65	62		12/14/2023	8:35	30	8:40	30	P	YG
12/14/2023	LH	4151	8:06	S-64/S-65	57		12/14/2023	8:35	30	8:40	30	P	YG
12/14/2023	LH	4151	8:30	S-67/S-68	116		12/14/2023	9:55	30	10:00	30	P	YG
12/14/2023	LH	4151	8:40	S-68/S-69	59		12/14/2023	9:15	30	9:20	30	P	YG
12/14/2023	LH	4151	8:40	S-68/S-69	7			CAP					
12/14/2023	LH	4151	8:40	S-68/S-69	47	DS-14	12/14/2023	9:11	30	9:16	30	P	YG
12/14/2023	LH	4151	9:16	S-71/S-72	12		12/14/2023	9:38	30	9:43	30	P	YG
12/14/2023	LH	4151	9:16	S-71/S-72	100		12/14/2023	9:42	30	9:47	30	P	YG
12/14/2023	LH	4151	9:45	S-72/S-73	58		12/14/2023	10:10	30	10:15	30	P	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/14/2023	LH	4151	9:45	S-72/S-73	38		12/14/2023	10:12	30	10:17	30	P	YG
12/14/2023	LH	4151	9:45	S-72/S-73	16		12/14/2023	10:15	30	10:20	29	P	YG
12/14/2023	LH	4151	10:32	S-74/S-75	43		12/14/2023	10:48	30	10:53	29	P	YG
12/14/2023	LH	4151	10:32	S-74/S-75	5		12/14/2023	10:48	30	10:53	29	P	YG
12/14/2023	LH	4151	10:32	S-74/S-75	63		12/14/2023	10:53	30	10:58	30	P	YG
12/14/2023	LH	4151	10:57	S-75/S-76	109		12/14/2023	11:18	30	11:23	30	P	YG
12/14/2023	LH	4151	11:18	S-77/S-78	108	DS-16	12/14/2023	11:39	30	11:44	30	P	YG
12/14/2023	LH	4151	15:14	S-83/S-84	136		12/14/2023	16:49	30	16:54	30	P	YG
12/14/2023	LH	4151	15:44	S-84/S-85	50		12/15/2023	7:49	30	7:54	29	P	YG
12/14/2023	LH	4151	15:44	S-84/S-85	23		12/15/2023	7:49	30	7:54	29	P	YG
12/15/2023	LH	4151	8:41	S-89/S-90	8		12/15/2023	9:10	30	9:15	29	P	YG
12/15/2023	LH	4151	8:41	S-89/S-90	79		12/15/2023	8:55	30	9:00	30	P	YG
12/15/2023	LH	4151	9:05	S-87/S-89	52		12/15/2023	9:15	30	9:20	29	P	YG
12/15/2023	LH	4151	9:14	S-90/S-91	15			CAP					
12/15/2023	LH	4151	9:14	S-90/S-91	117	DS-18	12/15/2023	9:46	30	9:51	30	P	YG
12/15/2023	LH	4151	9:36	S-91/S-92	99		12/15/2023	9:58	30	10:03	30	P	YG
12/15/2023	LH	4151	9:58	S-92/S-93	39		12/15/2023	10:09	30	10:14	30	P	YG
12/15/2023	LH	4151	10:07	S-95/S-96	24		12/15/2023	10:14	30	10:19	29	P	YG
12/15/2023	LH	4151	10:07	S-95/S-96	5			CAP					
12/15/2023	LH	4151	10:15	S-98/S-99	91		12/15/2023	10:32	30	10:37	30	P	YG
12/15/2023	LH	4151	10:41	S-93/S-94	16		12/15/2023	11:06	30	11:11	28	P	YG
12/15/2023	LH	4151	10:56	S-94/S-95	8		12/15/2023	11:06	30	11:11	30	P	YG
12/15/2023	LH	4151	10:50	S-93/S-95	28		12/15/2023	11:01	30	11:06	29	P	YG
12/15/2023	LH	4151	10:47	S-93/S-96	11		12/15/2023	11:01	30	11:06	30	P	YG
12/15/2023	LH	4151	11:01	S-92/S-96	22		12/15/2023	11:17	30	11:23	30	P	YG
12/15/2023	LH	4151	11:07	S-92/S-97	33		12/15/2023	11:17	30	11:23	29	P	YG
12/15/2023	LH	4151	11:16	S-92/S-98	19		12/15/2023	11:25	30	11:30	29	P	YG
12/15/2023	LH	4151	11:18	S-91/S-98	14		12/15/2023	11:25	30	11:30	29	P	YG
12/15/2023	LH	4151	11:22	S-91/S-99	37	DS-26	12/15/2023	11:33	30	11:38	30	P	YG
12/13/2023	LH	4151	15:13	S-61/S-62	38	DS-12	12/13/2023	15:38	30	15:43	29	P	YG
12/15/2023	LH	4151	11:44	S-85/S-86	17		12/15/2023	11:49	30	11:54	29	P	YG
12/15/2023	LH	4151	13:11	S-88/S-102	19		12/18/2023	8:07	30	8:12	30	P	YG
12/15/2023	LH	4151	13:10	S-89/S-102	24		12/18/2023	8:07	30	8:12	29	P	YG
12/15/2023	LH	4151	11:34	S-100/S-102	57	DS-20	12/15/2023	11:45	30	11:50	30	P	YG
12/18/2023	LH	4151	9:20	S-103/S-104	10		12/18/2023	9:32	30	9:37	30	P	YG
12/18/2023	LH	4151	9:20	S-103/S-104	5			CAP					
12/18/2023	LH	4151	9:20	S-103/S-104	200	DS-27	12/18/2023	11:40	30	11:45	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	12		12/18/2023	16:15	30	16:20	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	5			CAP					
12/18/2023	LH	4151	10:07	S-105/S-106	85		12/18/2023	11:14	30	11:19	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	10		12/18/2023	11:03	30	11:08	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	61		12/18/2023	11:21	30	11:26	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	3			CAP					

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/18/2023	LH	4151	10:07	S-105/S-106	8		12/18/2023	11:28	30	11:33	30	P	YG
12/18/2023	LH	4151	10:07	S-105/S-106	25	DS-22	12/18/2023	11:31	30	11:36	30	P	YG
12/18/2023	LH	4151	11:34	S-106/S-107	112		12/18/2023	13:25	30	13:30	30	P	YG
12/18/2023	LH	4151	11:34	S-106/S-107	82		12/18/2023	13:25	30	13:30	30	P	YG
12/18/2023	LH	4151	11:34	S-106/S-107	16		12/18/2023	13:38	30	13:43	29	P	YG
12/18/2023	LH	4151	14:03	S-108/S-109	117		12/18/2023	14:45	30	14:50	30	P	YG
12/18/2023	LH	4151	14:03	S-108/S-109	86		12/18/2023	14:45	30	14:50	30	P	YG
12/18/2023	LH	4151	15:16	S-111/S-112	30		12/18/2023	16:45	30	16:50	30	P	YG
12/18/2023	LH	4151	15:25	S-112/S-113	74		12/18/2023	16:47	30	16:52	28	P	YG
12/18/2023	LH	4151	15:40	S-113/S-114	102		12/18/2023	16:48	30	16:53	30	P	YG
12/18/2023	LH	4151	16:00	S-114/S-115	126		12/18/2023	16:55	30	17:00	29	P	YG
12/18/2023	LH	4151	16:24	S-115/S-116	90		12/19/2023	7:50	30	7:55	30	P	YG
12/18/2023	LH	4151	16:43	S-115/S-117	60	DS-24	12/19/2023	7:50	30	7:55	30	P	YG
12/18/2023	LH	4151	16:23	S-116/S-117	7		12/19/2023	7:56	30	8:01	30	P	YG
12/18/2023	LH	4151	16:23	S-116/S-117	7		12/19/2023	7:56	30	8:01	29	P	YG
12/18/2023	LH	4151	16:23	S-116/S-117	9			CAP					

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/12/2023	OG	4183	8:50	S-6/S-7	67		12/12/2023	9:36	30	9:41	28	Pass	YG
12/12/2023	OG	4183	9:10	S-7/S-8	66	DS-2	12/12/2023	9:36	30	9:41	30	Pass	YG
12/12/2023	OG	4183	9:25	S-11/S-12	68		12/12/2023	9:58	30	10:03	30	Pass	YG
12/12/2023	OG	4183	9:40	S-12/S-13	62		12/12/2023	9:59	30	10:04	29	Pass	YG
12/12/2023	OG	4183	9:55	S-13/S-14	60		12/12/2023	10:25	30	10:30	30	Pass	YG
12/12/2023	OG	4183	10:05	S-14/S-15	48		12/12/2023	10:26	30	10:31	30	Pass	YG
12/12/2023	OG	4183	10:15	S-15/S-16	36		12/12/2023	10:27	30	10:32	29	Pass	YG
12/12/2023	OG	4183	10:30	S-17/S-18	28		12/12/2023	10:49	30	10:54	30	Pass	YG
12/12/2023	OG	4183	10:40	S-18/S-19	42		12/12/2023	10:50	30	10:55	30	Pass	YG
12/12/2023	OG	4183	11:00	S-19/S-20	54		12/12/2023	11:28	30	11:33	30	Pass	YG
12/12/2023	OG	4183	11:15	S-20/S-21	74	DS-3	12/12/2023	11:28	30	11:33	30	Pass	YG
12/12/2023	OG	4183	11:30	S-26/S-27	36		12/12/2023	11:45	30	11:50	29	Pass	YG
12/12/2023	OG	4183	11:40	S-25/S-27	144		12/12/2023	13:05	30	13:10	29	Pass	YG
12/12/2023	OG	4183	13:35	S-27/S-28	99		12/12/2023	14:00	30	14:05	30	Pass	YG
12/12/2023	OG	4183	13:35	S-27/S-28	103		12/12/2023	14:10	30	14:15	28	Pass	YG
12/12/2023	OG	4183	14:15	S-28/S-29	41		12/12/2023	15:09	30	15:14	29	Pass	YG
12/12/2023	OG	4183	14:30	S-29/S-30	7			CAP					
12/12/2023	OG	4183	14:30	S-29/S-30	32	DS-6	12/12/2023	15:09	30	15:14	30	Pass	YG
12/12/2023	OG	4183	14:50	S-30/S-31	43		12/12/2023	15:08	30	15:13	29	Pass	YG
12/12/2023	OG	4183	15:00	S-36/S-37	106		12/12/2023	15:27	30	15:32	30	Pass	YG
12/12/2023	OG	4183	15:30	S-37/S-38	153		12/12/2023	15:58	30	16:03	30	Pass	YG
12/12/2023	OG	4183	16:00	S-38/S-39	77		12/12/2023	16:16	30	16:21	30	Pass	YG
12/12/2023	OG	4183	16:35	S-31/S-38	19		12/12/2023	16:42	30	16:47	28	Pass	YG
12/12/2023	OG	4183	17:00	S-28/S-31	26		12/12/2023	17:10	30	17:15	29	Pass	YG
12/12/2023	OG	4183	16:57	S-28/S-38	12		12/12/2023	17:10	30	17:15	28	Pass	YG
12/12/2023	OG	4183	16:50	S-28/S-37	27		12/12/2023	17:05	30	17:10	29	Pass	YG
12/12/2023	OG	4183	16:50	S-28/S-37	26	DS-7	12/12/2023	17:05	30	17:10	29	Pass	YG
12/13/2023	OG	4183	8:15	S-39/S-40	23		12/13/2023	8:40	30	8:45	30	Pass	YG
12/13/2023	OG	4183	8:30	S-40/S-41	85		12/13/2023	8:42	30	8:47	29	Pass	YG
12/13/2023	OG	4183	8:40	S-39/S-41	16		12/13/2023	9:01	30	9:06	30	Pass	YG
12/13/2023	OG	4183	8:40	S-39/S-41	7		12/13/2023	9:02	30	9:07	29	Pass	YG
12/13/2023	OG	4183	8:40	S-39/S-41	53		12/13/2023	9:12	30	9:17	30	Pass	YG
12/13/2023	OG	4183	9:25	S-42/S-43	77		12/13/2023	9:55	30	10:00	30	Pass	YG
12/13/2023	OG	4183	9:35	S-42/S-44	73		12/13/2023	9:55	30	10:00	30	Pass	YG
12/13/2023	OG	4183	10:00	S-45/S-46	143	DS-9	12/13/2023	10:30	30	10:35	30	Pass	YG
12/13/2023	OG	4183	10:45	S-50/S-51	140		12/13/2023	11:44	30	11:49	30	Pass	YG
12/13/2023	OG	4183	11:25	S-51/S-52	138		12/13/2023	11:44	30	11:49	29	Pass	YG
12/13/2023	OG	4183	13:30	S-54/S-55	133		12/13/2023	13:57	30	14:02	30	Pass	YG
12/13/2023	OG	4183	14:05	S-55/S-57	59	DS-11	12/13/2023	14:32	30	14:37	29	Pass	YG
12/13/2023	OG	4183	14:20	S-55/S-56	55		12/13/2023	14:34	30	14:39	29	Pass	YG
12/13/2023	OG	4183	14:20	S-55/S-56	8			CAP					
12/13/2023	OG	4183	14:35	S-57/S-58	59		12/13/2023	14:59	30	15:04	30	Pass	YG
12/13/2023	OG	4183	14:45	S-56/S-58	61		12/13/2023	14:58	30	15:03	28	Pass	YG
12/13/2023	OG	4183	15:00	S-60/S-61	120		12/13/2023	15:35	30	15:40	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/13/2023	OG	4183	15:35	S-63/S-64	122		12/13/2023	16:00	30	16:05	30	Pass	YG
12/14/2023	OG	4183	8:00	S-65/S-66	63	DS-13	12/14/2023	8:44	30	8:49	30	Pass	YG
12/14/2023	OG	4183	8:00	S-65/S-66	57		12/14/2023	8:50	30	8:55	30	Pass	YG
12/14/2023	OG	4183	8:30	S-66/S-67	61		12/14/2023	9:08	30	9:13	30	Pass	YG
12/14/2023	OG	4183	8:30	S-66/S-67	11		12/14/2023	9:04	30	9:09	30	Pass	YG
12/14/2023	OG	4183	8:30	S-66/S-67	49		12/14/2023	9:05	30	9:10	30	Pass	YG
12/14/2023	OG	4183	9:00	S-69/S-70	49		12/14/2023	9:35	30	9:40	30	Pass	YG
12/14/2023	OG	4183	9:00	S-69/S-70	64		12/14/2023	9:39	30	9:44	30	Pass	YG
12/14/2023	OG	4183	9:35	S-70/S-71	105		12/14/2023	10:03	30	10:08	28	Pass	YG
12/14/2023	OG	4183	9:35	S-70/S-71	9			CAP					
12/14/2023	OG	4183	10:15	S-73/S-74	43	DS-15	12/14/2023	10:24	30	10:29	29	Pass	YG
12/14/2023	OG	4183	10:15	S-73/S-74	57		12/14/2023	10:39	30	10:44	29	Pass	YG
12/14/2023	OG	4183	11:05	S-76/S-77	45		12/14/2023	11:30	30	11:35	30	Pass	YG
12/14/2023	OG	4183	11:05	S-76/S-77	5			CAP					
12/14/2023	OG	4183	11:05	S-76/S-77	59		12/14/2023	11:39	30	11:44	30	Pass	YG
12/14/2023	OG	4183	11:45	S-78/S-79	51		12/14/2023	12:55	30	13:00	30	Pass	YG
12/14/2023	OG	4183	11:45	S-78/S-79	61		12/14/2023	12:55	30	13:00	30	Pass	YG
12/14/2023	OG	4183	13:15	S-79/S-80	83		12/14/2023	13:55	30	14:00	30	Pass	YG
12/14/2023	OG	4183	13:15	S-79/S-80	32		12/14/2023	13:54	30	13:59	28	Pass	YG
12/14/2023	OG	4183	14:05	S-80/S-81	6			CAP	30				
12/14/2023	OG	4183	14:05	S-80/S-81	75	DS-17	12/14/2023	14:33	30	14:38	30	Pass	YG
12/14/2023	OG	4183	14:40	S-80/S-83	34		12/14/2023	14:50	30	14:55	30	Pass	YG
12/14/2023	OG	4183	15:15	S-81/S-82	34		12/14/2023	15:40	30	15:45	28	Pass	YG
12/14/2023	OG	4183	14:50	S-81/S-83	15		12/14/2023	15:00	30	15:05	29	Pass	YG
12/14/2023	OG	4183	14:50	S-81/S-83	6			CAP					
12/14/2023	OG	4183	14:50	S-81/S-83	35		12/14/2023	15:04	30	15:09	29	Pass	YG
12/14/2023	OG	4183	15:00	S-82/S-83	26		12/14/2023	15:49	30	15:54	30	Pass	YG
12/14/2023	OG	4183	15:00	S-82/S-83	10		12/14/2023	15:44	30	15:49	30	Pass	YG
12/15/2023	OG	4183	8:35	S-87/S-88	40		12/15/2023	8:45	30	8:50	30	Pass	YG
12/15/2023	OG	4183	8:49	S-88/S-89	40		12/15/2023	9:15	30	9:30	30	Pass	YG
12/15/2023	OG	4183	9:05	S-84/S-87	65		12/15/2023	9:22	30	9:27	30	Pass	YG
12/15/2023	OG	4183	9:25	S-85/S-87	47		12/15/2023	9:40	30	9:45	30	Pass	YG
12/15/2023	OG	4183	9:25	S-85/S-87	14		12/15/2023	9:40	30	9:45	29	Pass	YG
12/15/2023	OG	4183	9:45	S-87/S-90	47		12/15/2023	9:53	30	9:58	29	Pass	YG
12/15/2023	OG	4183	9:45	S-87/S-90	6			CAP					
12/15/2023	OG	4183	10:00	S-96/S-97	50		12/15/2023	10:15	30	10:20	30	Pass	YG
12/15/2023	OG	4183	10:15	S-97/S-98	70	DS-19	12/15/2023	10:28	30	10:33	29	Pass	YG
12/15/2023	OG	4183	10:30	S-99/S-100	115		12/15/2023	10:50	30	10:55	30	Pass	YG
12/15/2023	OG	4183	11:30	S-86/S-87	14		1/10/2024	14:32	30	14:37	30	Pass	YG
12/15/2023	OG	4183	11:30	S-86/S-87	11		1/10/2024	14:32	30	14:37	30	Pass	YG
12/15/2023	OG	4183	11:00	S-87/S-100	14		12/18/2023	16:18	30	16:23	28	Pass	YG
12/15/2023	OG	4183	11:10	S-87/S-102	25		12/18/2023	8:06	30	8:11	30	Pass	YG
12/15/2023	OG	4183	10:45	S-90/S-100	25		12/15/2023	13:08	30	13:13	30	Pass	YG
12/15/2023	OG	4183	11:05	S-100/S-101	216	DS-21	12/15/2023	11:45	30	11:50	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
12/18/2023	OG	4183	9:30	S-104/S-105	103		12/18/2023	10:32	30	10:37	30	Pass	YG
12/18/2023	OG	4183	9:30	S-104/S-105	10			CAP					
12/18/2023	OG	4183	9:30	S-104/S-105	10		12/18/2023	10:35	30	10:40	29	Pass	YG
12/18/2023	OG	4183	9:30	S-104/S-105	6			CAP	30				
12/18/2023	OG	4183	9:30	S-104/S-105	13		12/18/2023	11:39	30	11:44	30	Pass	YG
12/18/2023	OG	4183	9:30	S-104/S-105	70	DS-28	12/18/2023	10:47	30	10:52	29	Pass	YG
12/18/2023	OG	4183	9:30	S-104/S-105	6			CAP					
12/18/2023	OG	4183	9:30	S-104/S-105	14		12/18/2023	11:32	30	11:37	30	Pass	YG
12/18/2023	OG	4183	10:40	S-101/S-103	86		12/18/2023	13:27	30	13:32	28	Pass	YG
12/18/2023	OG	4183	10:40	S-101/S-103	6			CAP					
12/18/2023	OG	4183	10:40	S-101/S-103	10		12/18/2023	11:55	30	12:00	30	Pass	YG
12/18/2023	OG	4183	10:40	S-101/S-103	112		12/18/2023	11:45	30	11:50	30	Pass	YG
12/18/2023	OG	4183	14:00	S-107/S-108	102	DS-23	12/18/2023	14:30	30	14:35	30	Pass	YG
12/18/2023	OG	4183	14:00	S-107/S-108	3			CAP					
12/18/2023	OG	4183	14:00	S-107/S-108	75		12/18/2023	14:29	30	14:34	30	Pass	YG
12/18/2023	OG	4183	14:00	S-107/S-108	30		12/18/2023	14:29	30	14:34	29	Pass	YG
12/18/2023	OG	4183	15:00	S-109/S-110	12		12/18/2023	15:09	30	15:14	30	Pass	YG
12/18/2023	OG	4183	15:00	S-109/S-110	91		12/18/2023	15:48	30	15:53	30	Pass	YG
12/18/2023	OG	4183	15:00	S-109/S-110	12		12/18/2023	15:48	30	15:53	30	Pass	YG
12/18/2023	OG	4183	15:00	S-109/S-110	82		12/18/2023	15:52	30	15:57	29	Pass	YG
12/18/2023	OG	4183	16:00	S-110/S-111	34		12/18/2023	16:45	30	16:50	30	Pass	YG
12/18/2023	OG	4183	16:10	S-110/S-112	40		12/18/2023	16:45	30	16:50	30	Pass	YG
12/18/2023	OG	4183	16:25	S-110/S-113	40		12/18/2023	16:47	30	16:54	29	Pass	YG
12/18/2023	OG	4183	16:33	S-110/S-114	39	DS-25	12/18/2023	16:48	30	16:53	30	Pass	YG
12/18/2023	OG	4183	16:40	S-110/S-115	39		12/18/2023	16:56	30	17:01	30	Pass	YG
12/18/2023	OG	4183	16:50	S-110/S-117	7		12/19/2023	7:40	30	7:45	30	Pass	YG
12/18/2023	OG	4183	16:50	S-110/S-117	6		12/19/2023	7:40	30	7:45	30	Pass	YG
1/26/2023	OG	4183	15:40	P2/P3	54		1/26/2024	16:00	30	16:05	30	Pass	YG
1/26/2023	OG	4183	15:30	P3/P4	42		1/26/2024	16:00	30	16:05	30	Pass	YG
1/26/2024	OG	4183	16:50	P4/P6	25		1/29/2024	10:35	30	10:40	30	Pass	YG
1/26/2024	OG	4183	16:45	P3/P6	17		1/29/2024	10:25	30	10:30	30	Pass	YG
1/26/2024	OG	4183	17:02	P2/P7	20		1/29/2024	10:49	30	10:54	30	Pass	YG
1/26/2024	OG	4183	17:07	P2/P8	6		1/29/2024	10:40	30	10:45	30	Pass	YG
1/26/2024	OG	4183	17:10	P1/P8	25	PDS-5	1/29/2024	11:05	30	11:10	30	Pass	YG
1/26/2024	OG	4183	16:13	P6/P7	32	PDS-2	1/26/2024	16:24	30	16:31	30	Pass	YG
1/26/2024	OG	4183	17:00	P3/P7	9		1/29/2024	10:34	30	10:39	30	Pass	YG
1/29/2024	OG	4183	10:55	P12/P13	103		1/29/2024	11:16	30	11:21	29	Pass	YG
1/29/2024	OG	4183	11:15	P13/P14	107		1/29/2024	11:32	30	11:37	30	Pass	YG
1/29/2024	OG	4183	11:32	P14/P15	33		1/29/2024	11:42	30	11:47	30	Pass	YG
1/29/2024	OG	4183	11:48	P15/P16	12		1/29/2024	11:52	30	11:57	30	Pass	YG
1/29/2024	OG	4183	11:45	P15/P17	28		1/29/2024	11:55	30	12:00	30	Pass	YG
1/29/2024	OG	4183	11:50	P16/P17	13		1/29/2024	11:52	30	11:57	30	Pass	YG
1/29/2024	OG	4183	13:36	P19/P20	94		1/29/2024	13:58	30	14:03	30	Pass	YG
1/29/2024	OG	4183	14:06	P21/P22	117	PDS-4	1/29/2024	14:48	30	14:53	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
1/29/2024	OG	4183	15:40	P23/P24	100		1/29/2024	16:04	30	16:09	30	Pass	YG
1/29/2024	OG	4183	15:50	P23/P25	40		1/29/2024	16:06	30	16:11	30	Pass	YG
1/29/2024	OG	4183	16:07	P24/P26	98		1/29/2024	16:30	30	16:35	30	Pass	YG
1/29/2024	OG	4183	16:25	P25/P26	52		1/29/2024	16:35	30	16:40	29	Pass	YG
1/29/2024	OG	4183	16:43	P27/P28	47		1/30/2024	7:55	30	8:00	30	Pass	YG
1/29/2024	OG	4183	16:56	P28/P29	36		1/30/2024	8:00	30	8:05	30	Pass	YG
1/30/2024	OG	4183	10:45	P30/P35	38		1/30/2024	11:00	30	11:05	28	Pass	YG
1/30/2024	OG	4183	11:20	P33/P34	74		1/30/2024	11:43	30	11:48	29	Pass	YG
1/30/2024	OG	4183	11:35	P34/P36	72		1/30/2024	11:55	30	12:00	30	Pass	YG
1/30/2024	OG	4183	13:25	P32/P40	66	PDS-9	1/30/2024	13:45	30	13:50	30	Pass	YG
1/30/2024	OG	4183	13:05	P33/P40	75		1/30/2024	13:37	30	13:42	30	Pass	YG
1/30/2024	OG	4183	15:15	P42/P43	161		1/30/2024	15:50	30	15:55	29	Pass	YG
1/30/2024	OG	4183	15:56	P44/P45	142		1/30/2024	16:51	30	16:56	30	Pass	YG
1/30/2024	OG	4183	16:45	P46/P47	137		1/31/2024	9:38	30	9:43	30	Pass	YG
2/1/2024	OG	4183	9:10	P56/P57	118		2/1/2024	9:35	30	9:40	30	Pass	YG
2/1/2024	OG	4183	9:43	P58/P59	118		2/1/2024	10:18	30	10:23	30	Pass	YG
2/1/2024	OG	4183	11:05	P60/P61	111	PDS-14	2/1/2024	11:29	30	11:34	30	Pass	YG
2/1/2024	OG	4183	13:50	P64/P65	115		2/1/2024	14:15	30	14:20	30	Pass	YG
2/1/2024	OG	4183	15:15	P66/P67	110		2/1/2024	15:59	30	16:04	30	Pass	YG
2/1/2024	OG	4183	15:50	P68/P69	109	PDS-16	2/1/2024	16:09	30	16:14	30	Pass	YG
2/6/2024	OG	4183	11:15	P76/P77	116		2/6/2024	11:39	30	11:44	30	Pass	YG
2/6/2024	OG	4183	11:43	P77/P78	106		2/6/2024	13:13	30	13:18	28	Pass	YG
2/6/2024	OG	4183	13:20	P78/P79	112		2/6/2024	13:37	30	13:42	29	Pass	YG
2/6/2024	OG	4183	13:45	P79/P80	108		2/6/2024	13:47	30	13:52	30	Pass	YG
2/6/2024	OG	4183	14:15	P80/P81	100		2/6/2024	15:37	30	15:42	29	Pass	YG
2/6/2024	OG	4183	14:43	P81/P82	94	PDS-21	2/6/2024	15:05	30	15:10	30	Pass	YG
2/6/2024	OG	4183	15:45	P83/P84	111		2/6/2024	16:10	30	16:15	30	Pass	YG
2/6/2024	OG	4183	16:35	P84/P85	78		2/6/2024	16:47	30	16:52	30	Pass	YG
2/6/2024	OG	4183	16:50	P85/P86	39		2/6/2024	16:58	30	17:03	28	Pass	YG
2/6/2024	OG	4183	17:05	P87/P88	16		2/6/2024	17:06	30	17:11	29	Pass	YG
2/6/2024	OG	4183	17:10	P88/P89	38		2/6/2024	17:16	30	17:21	28	Pass	YG
2/6/2024	OG	4183	17:20	P89/P90	60		2/6/2024	17:32	30	17:37	29	Pass	YG
2/6/2024	OG	4183	17:35	P90/P91	85		2/6/2024	8:13	30	8:18	28	Pass	YG
2/7/2024	OG	4183	9:30	P86/P87	26		2/7/2024	9:35	30	9:40	29	Pass	YG
2/7/2024	OG	4183	9:37	P86/P88	26		2/7/2024	9:51	30	9:56	30	Pass	YG
2/7/2024	OG	4183	9:42	P85/P88	7		2/7/2024	9:52	30	9:57	30	Pass	YG
2/7/2024	OG	4183	9:44	P85/P89	34		2/7/2024	10:13	30	10:18	30	Pass	YG
2/7/2024	OG	4183	9:50	P85/P90	7		2/7/2024	10:13	30	10:18	30	Pass	YG
2/7/2024	OG	4183	9:52	P84/P90	28		2/7/2024	10:18	30	10:23	30	Pass	YG
2/7/2024	OG	4183	9:57	P84/P91	20		2/7/2024	10:20	30	10:25	30	Pass	YG
2/7/2024	OG	4183	10:03	P83/P91	12		2/7/2024	10:25	30	10:30	30	Pass	YG
2/7/2024	OG	4183	9:17	P82/P83	19		2/7/2024	9:17	30	9:22	30	Pass	YG
2/7/2024	OG	4183	9:05	P81/P83	22		2/7/2024	9:11	30	9:16	29	Pass	YG
2/7/2024	OG	4183	8:57	P80/P83	22		2/7/2024	9:10	30	9:15	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
2/7/2024	OG	4183	8:57	P79/P83	22		2/7/2024	9:00	30	9:05	30	Pass	YG
2/7/2024	OG	4183	8:51	P78/P83	22		2/7/2024	8:50	30	8:55	29	Pass	YG
2/7/2024	OG	4183	8:45	P77/P83	15		2/7/2024	8:56	30	9:01	30	Pass	YG
2/7/2024	OG	4183	10:30	P91/P92	98	PDS-22	2/7/2024	10:50	30	10:55	30	Pass	YG
2/7/2024	OG	4183	11:00	P82/P93	94		2/7/2024	13:12	30	13:17	30	Pass	YG
2/7/2024	OG	4183	11:15	P92/P93	126		2/7/2024	13:11	30	13:16	30	Pass	YG
2/7/2024	OG	4183	13:25	P93/P94	214		2/7/2024	14:07	30	14:12	30	Pass	YG
2/7/2024	OG	4183	14:30	P94/P95	211		2/7/2024	15:08	30	15:13	30	Pass	YG
2/7/2024	OG	4183	15:35	P95/96	208	PDS-23	2/7/2024	16:23	30	16:28	30	Pass	YG
2/7/2024	OG	4183	16:30	P96/97	209		2/7/2024	17:12	30	17:17	30	Pass	YG
2/7/2024	OG	4183	17:15	P97/98	205		2/7/2024	17:40	30	17:45	29	Pass	YG
2/8/2024	OG	4183	10:30	P98/P99	208		2/9/2024	11:00	30	11:05	30	Pass	YG
2/8/2024	OG	4183	11:10	P100/101	200	PDS-24	2/9/2024	11:52	30	12:02	29	Pass	YG
2/8/2024	OG	4183	15:30	P105/106	86		2/9/2024	15:45	30	15:50	29	Pass	YG
2/8/2024	OG	4183	15:04	P107/108	129		2/9/2024	15:34	30	15:39	30	Pass	YG
2/27/2024	OG	4183	11:30	P2-3	140		2/27/2024	11:59	30	12:04	30	Pass	PB
2/28/2024	OG	4183	10:00	P6-7	24		2/28/2024	10:20	30	10:25	30	Pass	PB
2/28/2024	OG	4183	11:27	P8-9	24		2/28/2024	11:45	30	11:50	30	Pass	PB
2/28/2024	OG	4183	10;10	P5-7	25		2/28/2024	10:24	30	10:29	29	Pass	PB
2/28/2024	OG	4183	10:15	P5-6	223		2/28/2024	11:06	30	11:11	30	Pass	PB
2/28/2024	OG	4183	11:37	P7-9	21		2/28/2024	11:47	30	11:52	30	Pass	PB
2/27/2024	OG	4183	12:00	P2-20	14		2/28/2024	7:39	30	7:44	29	Pass	PB
2/27/2024	OG	4183	12:05	P3-20	10		2/28/2024	7:38	30	7:43	30	Pass	PB
2/28/2024	OG	4183	14:47	P11-14	20		2/28/2024	14:57	30	15:02	29	Pass	PB
2/28/2024	OG	4183	14:50	P11-12	228	4DS-3	2/28/2024	15:37	30	15:42	30	Pass	PB
2/28/2024	OG	4183	14:15	P12-14	24		2/28/2024	14:37	30	14:42	30	Pass	PB
2/28/2024	OG	4183	14:30	P13-14	114		2/28/2024	14:55	30	15:00	30	Pass	PB
2/28/2024	OG	4183	14:00	P11-13	24		2/28/2024	14:16	30	14:21	30	Pass	PB
2/28/2024	OG	4183	16:55	P15-17	49		2/28/2024	17:15	30	17:20	29	Pass	PB
2/28/2024	OG	4183	17:04	P15-16	366		2/29/2024	8:32	30	8:37	28	Pass	PB
2/28/2024	OG	4183	18:15	P16-18	87	4DS-5	2/29/2024	8:04	30	8:09	30	Pass	PB
3/2/2024	OG	4183	9:40	P2-3	224		3/2/2024	10:45	30	10:50	30	Pass	PB
3/2/2024	OG	4183	11:05	P4-5	210		3/2/2024	11:40	30	11:45	30	Pass	PB
3/5/2024	OG	4183	8:55	P6-7	231	3DS-2	3/5/2024	9:42	30	9:47	30	Pass	PB
3/5/2024	OG	4183	10:27	P9-10	223		3/5/2024	11:05	30	11:10	29	Pass	PB
3/5/2024	OG	4183	11:10	P10-12	221	3DS-3	3/5/2024	11:50	30	11:55	30	Pass	PB
3/5/2024	OG	4183	13:53	P13-14	182		3/5/2024	14:32	30	14:37	30	Pass	PB
3/5/2024	OG	4183	14:35	P16-17	144		3/5/2024	15:10	30	15:15	30	Pass	PB
3/5/2024	OG	4183	15:05	P17-18	127	3DS-5	3/5/2024	15:35	30	15:40	30	Pass	PB
3/5/2024	OG	4183	15:48	P19-20	52		3/5/2024	15:58	30	16:05	30	Pass	PB
3/5/2024	OG	4183	15:42	P19-21	16		3/5/2024	15:56	30	16:01	29	Pass	PB
3/5/2024	OG	4183	15:35	P20-21	12		3/5/2024	16:57	30	16:02	30	Pass	PB

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
1/26/2024	PB	4151	16:01	P1/P2	62	PDS-1	1/29/2024	16:15	30	16:20	29	Pass	YG
1/26/2024	PB	4151	15:49	P4/P5	48		1/29/2024	16:03	30	16:08	30	Pass	YG
1/26/2024	PB	4151	16:15	P7/P8	48		1/26/2024	16:26	30	16:31	30	Pass	YG
1/26/2024	PB	4151	16:57	P9/P10	66		1/29/2024	10:53	30	10:58	30	Pass	YG
1/26/2024	PB	4151	10:53	P10/P11	72		1/29/2024	11:13	30	11:18	29	Pass	YG
1/29/2024	PB	4151	11:12	P11/P12	92		1/29/2024	11:33	30	11:38	30	Pass	YG
1/29/2024	PB	4151	13:23	P1/P18	68		1/29/2024	13:55	30	14:00	30	Pass	YG
1/29/2024	PB	4151	13:36	P18/P19	86	PDS-3	1/29/2024	13:56	30	14:01	30	Pass	YG
1/29/2024	PB	4151	13:52	P20/P21	102		1/29/2024	14:26	30	14:31	30	Pass	YG
1/29/2024	PB	4151	15:30	P22/P23	126		1/29/2024	16:00	30	16:05	30	Pass	YG
1/29/2024	PB	4151	16:02	P13/22	24		1/30/2024	8:24	30	8:29	30	Pass	YG
1/29/2024	PB	4151	16:11	P12/P21	25		1/30/2024	8:26	30	8:31	30	Pass	YG
1/29/2024	PB	4151	16:16	P11/P20	23		1/30/2024	8:33	30	8:38	29	Pass	YG
1/29/2024	PB	4151	16:21	P11/P19	9		1/30/2024	8:37	30	8:42	30	Pass	YG
1/29/2024	PB	4151	16:25	P10/P19	20		1/30/2024	8:39	30	8:44	30	Pass	YG
1/29/2024	PB	4151	16:28	P10/P18	4		1/29/2024	16:53	30	16:58	30	Pass	YG
1/29/2024	PB	4151	16:30	P9/P18	24		1/29/2024	16:52	30	16:57	29	Pass	YG
1/29/2024	PB	4151	16:36	P26/P27	58	PDS-8	1/30/2024	7:52	30	7:57	30	Pass	YG
1/30/2024	PB	4151	10:45	P17/P35	45		1/30/2024	10:58	30	11:03	30	Pass	YG
1/30/2024	PB	4151	10:56	P30/P31	21		1/30/2024	11:06	30	11:11	29	Pass	YG
1/30/2024	PB	4151	11:02	P31/P32	50		1/30/2024	11:16	30	11:21	30	Pass	YG
1/30/2024	PB	4151	11:15	P14/P31	29	PDS-6	1/30/2024	11:24	30	11:29	30	Pass	YG
1/30/2024	PB	4151	11:21	P14/P30	23		1/30/2024	11:03	30	11:38	30	Pass	YG
1/30/2024	PB	4151	11:26	P14/P35	22		1/30/2024	11:32	30	11:37	30	Pass	YG
1/30/2024	PB	4151	11:33	P36/P37	65		1/30/2024	11:48	30	11:53	30	Pass	YG
1/30/2024	PB	4151	11:46	P37/P38	67		1/30/2024	13:02	30	13:07	29	Pass	YG
1/30/2024	PB	4151	13:05	P29/P39	20		1/30/2024	13:20	30	13:25	30	Pass	YG
1/30/2024	PB	4151	13:24	P40/P41	161		1/30/2024	15:37	30	15:42	30	Pass	YG
1/30/2024	PB	4151	15:07	P41/P42	161	PDS-7	1/30/2024	15:37	30	15:42	30	Pass	YG
1/30/2024	PB	4151	15:39	P43/P44	141		1/30/2024	16:20	30	16:25	30	Pass	YG
1/30/2024	PB	4151	16:46	P45/P46	139		1/31/2024	9:34	30	9:39	30	Pass	YG
1/31/2024	PB	4151	10:53	P14/P23	23		1/31/2024	11:15	30	11:20	30	Pass	YG
1/31/2024	PB	4151	10:49	P23/P31	2		1/31/2024	11:15	30	11:20	30	Pass	YG
1/31/2024	PB	4151	10:48	P25/P31	24		1/31/2024	11:14	30	11:19	30	Pass	YG
1/31/2024	PB	4151	10:45	P26/P31	2		1/31/2024	11:13	30	11:18	30	Pass	YG
1/31/2024	PB	4151	10:37	P26/P32	20		1/31/2024	11:13	30	11:18	30	Pass	YG
1/31/2024	PB	4151	10:55	P32/P33	22		1/31/2024	11:12	30	11:17	30	Pass	YG
1/31/2024	PB	4151	11:00	P26/P34	22		1/31/2024	11:43	30	11:48	30	Pass	YG
1/31/2024	PB	4151	11:11	P26/P36	22		1/31/2024	11:45	30	11:50	29	Pass	YG
1/31/2024	PB	4151	11:15	P26/P37	22		1/31/2024	11:56	30	12:01	30	Pass	YG
1/31/2024	PB	4151	11:20	P26/P38	7		1/31/2024	11:58	30	12:03	29	Pass	YG
1/31/2024	PB	4151	11:26	P27/P38	27		1/31/2024	13:12	30	13:17	30	Pass	YG
1/31/2024	PB	4151	11:30	P28/P38	25		1/31/2024	13:28	30	13:33	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
1/31/2024	PB	4151	11:37	P29/P38	25		1/31/2024	13:30	30	13:35	29	Pass	YG
1/31/2024	PB	4151	14:00	P47/P48	136	PDS-10	1/31/2024	14:10	30	14:15	30	Pass	YG
1/31/2024	PB	4151	14:28	P49/P50	135		1/31/2024	15:05	30	15:10	30	Pass	YG
1/31/2024	PB	4151	15:30	P51/P52	126		1/31/2024	16:06	30	16:11	30	Pass	YG
1/31/2024	PB	4151	15:55	P52/P53	120		1/31/2024	16:41	30	16:46	30	Pass	YG
1/31/2024	PB	4151	16:16	P53/P54	118		1/31/2024	16:44	30	16:49	30	Pass	YG
1/31/2024	PB	4151	16:43	P54/P55	116	PDS-11	2/1/2024	7:57	30	8:02	30	Pass	YG
2/1/2024	PB	4151	8:38	P55/P56	117		2/1/2024	9:13	30	9:18	30	Pass	YG
2/1/2024	PB	4151	9:20	P57/P58	117		2/1/2024	9:44	30	9:49	30	Pass	YG
2/1/2024	PB	4151	10:55	P59/P60	116	PDS-13	2/1/2024	11:15	30	11:20	30	Pass	YG
2/1/2024	PB	4151	11:23	P61/P62	117		2/1/2024	11:47	30	11:52	30	Pass	YG
2/1/2024	PB	4151	13:28	P62/P63	114		2/1/2024	13:48	30	13:53	30	Pass	YG
2/1/2024	PB	4151	13:49	P63/P64	113		2/1/2024	14:10	30	14:15	30	Pass	YG
2/1/2024	PB	4151	14:11	P65/P66	108	PDS-15	2/1/2024	14:45	30	14:50	30	Pass	YG
2/1/2024	PB	4151	15:21	P67/P68	107		2/1/2024	16:00	30	16:05	30	Pass	YG
2/1/2024	PB	4151	15:55	P69/P70	110		2/1/2024	16:13	30	16:18	30	Pass	YG
2/5/2024	PB	4151	14:42	P70/P71	108		2/5/2024	15:12	30	15:17	29	Pass	YG
2/5/2024	PB	4151	15:17	P71/P72	105	PDS-19	2/5/2024	15:48	30	15:53	30	Pass	YG
2/5/2024	PB	4151	15:46	P72/P73	104		2/5/2024	16:05	30	16:11	30	Pass	YG
2/5/2024	PB	4151	16:10	P73/P74	109		2/5/2024	16:32	30	16:37	29	Pass	YG
2/5/2024	PB	4151	16:55	P74/P75	109		2/5/2024	16:55	30	17:00	30	Pass	YG
2/5/2024	PB	4151	17:40	P75/P76	110	PDS-20	2/6/2024	9:53	30	9:58	29	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
2/8/2024	SB	4151	10:45	P99/100	207		2/9/2024	11:46	30	11:51	30	Pass	YG
2/9/2024	SB	4151	11:25	P101/102	200		2/9/2024	13:22	30	13:27	30	Pass	YG
2/9/2024	SB	4151	15:15	P106/107	110	PDS-25	2/9/2024	15:33	30	15:38	30	Pass	YG
2/9/2024	SB	4151	15:33	P104/105	60		2/9/2024	15:47	30	15:52	29	Pass	YG
2/9/2024	SB	4151	15:45	P103/104	26		2/9/2024	16:08	30	16:13	30	Pass	YG
2/9/2024	SB	4151	15:55	P103/102	24		2/9/2024	16:05	30	16:10	30	Pass	YG
2/9/2024	SB	4151	15:58	P102/104	36		2/9/2024	16:08	30	16:13	29	Pass	YG
2/9/2024	SB	4151	16:04	P102/105	37		2/9/2024	16:17	30	16:22	30	Pass	YG
2/9/2024	SB	4151	16:09	P102/106	37		2/9/2024	16:18	30	16:23	30	Pass	YG
2/9/2024	SB	4151	16:16	P102/107	37		2/9/2024	16:28	30	16:33	29	Pass	YG
2/9/2024	SB	4151	16:22	P102/108	30		2/9/2024	16:28	30	16:33	28	Pass	YG
2/27/2024	SB	4151	11:09	P1-2	120		2/27/2024	11:35	30	11:40	30	Pass	PB
2/27/2024	SB	4151	11:46	P3-4	188		2/28/2024	7:30	30	7:35	30	Pass	PB
2/28/2024	SB	4151	9:25	P4-5	214	4DS-2	2/28/2024	10:50	30	10:55	30	Pass	PB
2/28/2024	SB	4151	10:24	P6-8	228		2/28/2024	11:13	30	11:18	30	Pass	PB
2/28/2024	SB	4151	10:20	P7-8	28		2/28/2024	10:36	30	10:41	30	Pass	PB
2/28/2024	SB	4151	10:40	P8-10	254		2/28/2024	13:39	30	13:44	29	Pass	PB
2/28/2024	SB	4151	11:30	P9-10	45		2/28/2024	11:52	30	11:57	30	Pass	PB
2/28/2024	SB	4151	14:00	P10-11	236	4DS-1	2/28/2024	14:05	30	14:10	30	Pass	PB
2/28/2024	SB	4151	13:43	P10-13	93		2/28/2024	14:15	30	14:20	29	Pass	PB
2/28/2024	SB	4151	16:47	P12-15	233		2/28/2024	17:37	30	17:42	30	Pass	PB
2/28/2024	SB	4151	16:22	P14-15	157		2/28/2024	16:51	30	16:56	30	Pass	PB
2/28/2024	SB	4151	17:58	P17-19	70	4DS-6	2/29/2024	8:16	30	8:21	30	Pass	PB
2/28/2024	SB	4151	17:40	P16-19	82		2/28/2024	18:15	30	18;20	30	Pass	PB
2/28/2024	SB	4151	18:13	P16-18	125		2/29/2024	8:05	30	8:10	30	Pass	PB
2/29/2024	SB	4151	8:50	P18-19	24		2/29/2024	9:00	30	9:05	28	Pass	PB
2/29/2024	SB	4151	9:02	P18-21	127		2/29/2024	9:32	30	9:37	29	Pass	PB
2/29/2024	SB	4151	9:35	P19-22	126		2/29/2024	9:52	30	9:57	29	Pass	PB
2/29/2024	SB	4151	10:12	P19-23	97	4DS-7	2/29/2024	10:35	30	10:40	30	Pass	PB
3/2/2024	SB	4151	9:24	P1-2	230		3/2/2024	10:22	30	10:27	30	Pass	PB
3/2/2024	SB	4151	10:39	P3-4	200		3/2/2024	11:30	30	11:35	30	Pass	PB
3/5/2024	SB	4151	8:40	P5-6	211	3DS-1	3/5/2024	9:40	30	9:45	30	Pass	PB
3/5/2024	SB	4151	10:02	P7-9	216		3/5/2024	10:53	30	10:57	30	Pass	PB
3/5/2024	SB	4151	11:09	P7-8	24		3/5/2024	11:30	30	11:35	30	Pass	PB
3/5/2024	SB	4151	10:55	P8-9	24		3/5/2024	11:12	30	11:17	30	Pass	PB
3/5/2024	SB	4151	11:00	P10-11	24		3/5/2024	11:10	30	11:15	30	Pass	PB
3/5/2024	SB	4151	11:24	P8-11	33		3/5/2024	11:47	30	11:52	30	Pass	PB
3/5/2024	SB	4151	13:49	P12-13	188	3DS-4	3/5/2024	14:30	30	14:35	30	Pass	PB
3/5/2024	SB	4151	14:28	P14-15	163		3/5/2024	15:09	30	15:14	30	Pass	PB
3/5/2024	SB	4151	15:00	P15-16	151		3/5/2024	15:34	30	15:39	30	Pass	PB
3/5/2024	SB	4151	15:20	P18-19	102	3DS-6	3/5/2024	15:47	30	15:52	30	Pass	PB

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Wedge Weld Seaming

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Seamer ID	Wedge ID	Weld Start Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	Test Date	Test Start Time	Initial Pressure (PSI)	Test End Time	Final Pressure (PSI)	Pressure Test (Pass/Fail)	Tech ID
1/31/2024	RP	4183	14:15	P48/P49	135	PDS-12	1/31/2024	14:41	30	14:46	30	Pass	YG
1/31/2024	RP	4183	14:40	P50/P51	134		1/31/2024	14:55	30	15:00	30	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/10/2024	CK	#50215	11:30		EXT/S-32	27		2/11/24	Pass	OG
2/10/2024	CK	#50215	13:15		EXT/S-33	10		2/11/24	Pass	OG
2/10/2024	CK	#50215	13:30		EXT/S-34	19		2/11/24	Pass	OG
2/10/2024	CK	#50215	13:47		EXT/S-35	25		2/11/24	Pass	OG
2/10/2024	CK	#50215	14:17		EXT/S-36	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	14:35		EXT/S-37	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	14:53		EXT/S-38	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	15:19		EXT/S-40	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	15:45		EXT/S-41	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	16:00		EXT/S-42	23.5		2/11/24	Pass	OG
2/10/2024	CK	#50215	16:30		EXT/S-43	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	8:17		EXT/S-45	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	8:33		EXT/S-46	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	9:00		EXT/S-47	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	8:32		EXT/S-50	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	10:00		EXT/S-51	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	10:35		EXT/S-52	23.5		2/11/24	Pass	OG
2/11/2024	CK	#50215	11:00		EXT/S-53	23.5		2/13/24	Pass	OG
2/11/2024	CK	#50215	11:30		EXT/S-54	23.5		2/13/24	Pass	OG
2/11/2024	CK	#50215	12:00		EXT/S-55	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	9:36		S-57/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	10:25		S-58/EXT	23.5	DSX-3	2/13/24	Pass	OG
2/13/2024	CK	#50215	10:55		S-59/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	11:20		S-60/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	11:40		S-61/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	13:15		S-62/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	13:40		S-63/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	14:00		S-64/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	14:19		S-65/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	14:50		S-66/EXT	23.5		2/13/24	Pass	OG
2/13/2024	CK	#50215	15:15		S-67/EXT	23.5		2/19/24	Pass	OG
2/13/2024	CK	#50215	15:40		S-68/EXT	23.5		2/19/24	Pass	OG
2/13/2024	CK	#50215	16:16		S-69/EXT	23.5		2/19/24	Pass	OG
2/13/2024	CK	#50215	16:44		S-70/EXT	23.5		2/19/24	Pass	OG
2/13/2024	CK	#50215	17:05		S-71/EXT	23.5	DSX-4	2/19/24	Pass	OG
2/17/2024	CK	#50215	11:20		S-72/EXT	23.5		2/19/24	Pass	OG
2/17/2024	CK	#50215	11:05		S-73/EXT	23.5		2/19/24	Pass	OG
2/17/2024	CK	#50215	10:35		S-74/EXT	23.5		2/19/24	Pass	OG
2/17/2024	CK	#50215	10:05		S-75/EXT	23.5		2/19/24	Pass	OG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/17/2024	CK	#50215	9:45		S-76/EXT	23.5		2/19/24	Pass	OG
2/17/2024	CK	#50215	9:20		S-77/EXT	23.5		2/19/24	Pass	OG
2/17/2024	CK	#50215	8:30		S-78/EXT	23.5		2/19/24	Pass	OG
2/15/2024	CK	#50215	17:05		S-79/EXT	25		2/19/24	Pass	OG
2/15/2024	CK	#50215	17:25		S-80/EXT	24		2/19/24	Pass	OG
2/15/2024	CK	#50215	17:35		S-81/EXT	23.5		2/20/24	Pass	MA
2/15/2024	CK	#50215	8:30		S-82/EXT	15		2/20/24	Pass	MA
2/16/2024	CK	#50215	8:50		S-83/EXT	25		2/20/24	Pass	MA
2/16/2024	CK	#50215	9:15		S-84/EXT	26	DSX-5	2/20/24	Pass	MA
2/16/2024	CK	#50215	9:30		S-85/EXT	25		2/20/24	Pass	MA
2/16/2024	CK	#50215	9:55		S-86/EXT	10		2/20/24	Pass	MA
2/16/2024	CK	#50215	10:05		S-87/EXT	18		2/20/24	Pass	MA
2/16/2024	CK	#50215	10:10		S-100/EXT	23.5		2/20/24	Pass	MA
2/21/2024	CK	#50215	8:35		S-75/EXT	23.5		2/21/24	Pass	MA
2/21/2024	CK	#50215	9:25		S-74/EXT	23.5		2/21/24	Pass	MA
2/21/2024	CK	#50215	9:49		S-73/EXT	23.5		2/21/24	Pass	MA
2/21/2024	CK	#50215	10:10		S-72/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	10:40		S-71/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	11:30		S-70/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	13:40		S-69/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	14:00		S-68/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	14:25		S-67/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	14:50		S-66/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	15:10		S-65/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	15:55		S-64/EXT	23.5		2/24/24	Pass	MA
2/21/2024	CK	#50215	16:10		S-63/EXT	23.5	DSX-8	2/24/24	Pass	MA
2/21/2024	CK	#50215	16:30		S-62/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	7:50		S-61/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	8:10		S-60/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	9:22		S-59/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	10:30		S-30/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	10:50		S-31/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	11:05		S-41/EXT	20		2/24/24	Pass	MA
2/22/2024	CK	#50215	13:30		S-42/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	14:00		S-44/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	14:20		S-45/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	14:40		S-46/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	15:00		S-49/EXT	23.5		2/24/24	Pass	MA
2/22/2024	CK	#50215	15:40		S-50/EXT	23.5		2/24/24	Pass	MA

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/22/2024	CK	#50215	16:16		S-51/EXT	23.5		2/24/24	Pass	MA
2/23/2024	CK	#50215	8:00		S-52/EXT	23.5		2/24/24	Pass	MA
2/23/2024	CK	#50215	8:26		S-53/EXT	23.5		2/24/24	Pass	MA
2/24/2024	CK	#50215	15:00		S-94/EXT	15		2/24/24	Pass	MA
2/24/2024	CK	#50215	15:15		S-93/EXT	10		2/24/24	Pass	MA
2/26/2024	CK	#50215	11:30		S-58/EXT	23.5		2/24/24	Pass	MA
2/26/2024	CK	#50215	11:40		S-56/EXT	28		2/26/24	Pass	MA
2/26/2024	CK	#50215	13:59		S-55/EXT	24		2/26/24	Pass	MA
2/26/2024	CK	#50215	14:30		S-54/EXT	25		2/26/24	Pass	MA
2/14/2024	CK	50215	8:11		P/S	260	XDS-1	2/18/24	Pass	DY
2/17/2024	CK	50215	13:15		P/S	375	XDS-2	2/19/24	Pass	MA
2/18/2024	CK	50215	8:35		P/S	260	XDS-3	2/19/24	Pass	MA
2/18/2024	CK	50215	13:15		P/S	225		2/19/24	Pass	MA
2/19/2024	CK	50215	8:35		P/S	60		2/20/24	Pass	MA
2/20/2024	CK	50215	9:47		P/S	180		2/24/24	Pass	MA
2/23/2024	CK	50215	9:36		P/S	90		2/24/24	Pass	MA
2/23/2024	CK	50215	14:10		P/S	170		2/24/24	Pass	MA
2/24/2024	CK	50215	7:39		P/S	205	XDS-4	2/24/24	Pass	MA
2/24/2024	CK	50215	16:00		P/S	30		2/24/24	Pass	MA
3/26/2024	CK	50215	13:30		P/S	115		2/26/24	Pass	MA
3/2/2024	CK	50215	14:00		P/S	150		3/2/24	Pass	MA
2/29/2024	CK	50215	16:44		4P5/S97	10		3/1/24	Pass	MA
2/29/2024	CK	50215	16:30		4P5/S98	23		3/1/24	Pass	MA
2/29/2024	CK	50215	16:33		4P5/S99	3		3/1/24	Pass	MA
2/29/2024	CK	50215	16:20		4P7/S99	22		3/1/24	Pass	MA
2/29/2024	CK	50215	16:05		4P7/S100	12		3/1/24	Pass	MA
2/29/2024	CK	50215	15:48		4P9/S100	12		3/1/24	Pass	MA
2/29/2024	CK	50215	15:40		4P9/S101	22		3/1/24	Pass	MA
2/29/2024	CK	50215	15:27		4P10/S103	24		3/1/24	Pass	MA
2/29/2024	CK	50215	10:55		4P10/S104	10		3/1/24	Pass	MA
2/29/2024	CK	50215	11:15		4P13/S104	14		3/1/24	Pass	MA
2/29/2024	CK	50215	11:20		4P13/S105	19		3/1/24	Pass	MA
2/29/2024	CK	50215	11:43		4P14/S105	4		3/1/24	Pass	MA
2/29/2024	CK	50215	11:45		4P14/S106	23		3/1/24	Pass	MA
2/29/2024	CK	50215	11:53		4P14/S107	8		3/1/24	Pass	MA
2/29/2024	CK	50215	13:20		4P15/S107	16		3/1/24	Pass	MA
2/29/2024	CK	50215	13:30		4P15/S108	18	4DS-8	3/1/24	Pass	MA
2/29/2024	CK	50215	13:40		4P17/S108	5		3/1/24	Pass	MA
2/29/2024	CK	50215	13:45		4P17/S109	24		3/1/24	Pass	MA

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/29/2024	CK	50215	14:10		4P17/S110	4		3/1/24	Pass	MA
2/29/2024	CK	50215	14:16		4P19/S110	20		3/1/24	Pass	MA
2/29/2024	CK	50215	14:40		4P19/S117	4		3/1/24	Pass	MA
2/29/2024	CK	50215	14:50		4P23/S117	10		3/1/24	Pass	MA
2/14/2024	CK	50215	16:35		C15	30		2/15/24	Pass	OG
2/14/2024	CK	50215	16:45		C16	20		2/15/24	Pass	OG
2/15/2024	CK	50215	8:40		C19	225	CDS-2	2/15/24	Pass	OG
2/15/2024	CK	50215	10:30		C20	185		2/15/24	Pass	OG
2/15/2024	CK	50215	13:40		C21	135		2/18/24	Pass	OG
2/15/2024	CK	50215	15:30		C22	105		2/18/24	Pass	OG
2/19/2024	CK	50215	11:15		C41	135	CDS-10	2/19/24	Pass	OG
2/19/2024	CK	50215	10:05		C42	80		2/19/24	Pass	OG
2/23/2024	CK	50215	9:15		Cap/CR-15	44	CDS-13	2/23/24	Pass	OG
3/6/2024	CK	50215	8:10		3P20/S29	28		3/6/24	Pass	MA
3/6/2024	CK	50215	8:35		3P21/S29	7		3/6/24	Pass	MA
3/6/2024	CK	50215	8:45		3P19/S28	23.5		3/6/24	Pass	MA
3/6/2024	CK	50215	9:15		3P18/S27	20		3/6/24	Pass	MA
3/6/2024	CK	50215	9:40		3P18/S25	6		3/6/24	Pass	MA
3/6/2024	CK	50215	9:48		3P17/S25	17		3/6/24	Pass	MA
3/6/2024	CK	50215	10:15		3P17/S24	10		3/6/24	Pass	MA
3/6/2024	CK	50215	10:30		3P16/S24	14		3/6/24	Pass	MA
3/6/2024	CK	50215	10:40		3P16/S22	13		3/6/24	Pass	MA
3/6/2024	CK	50215	10:45		3P15/S22	10		3/6/24	Pass	MA
3/6/2024	CK	50215	11:55		3P15/S21	17		3/6/24	Pass	MA
3/6/2024	CK	50215	11:00		3P14/S21	7		3/6/24	Pass	MA
3/6/2024	CK	50215	11:05		3P14/S20	21		3/6/24	Pass	MA
3/6/2024	CK	50215	11:28		3P13/S28	3		3/6/24	Pass	MA
3/6/2024	CK	50215	11:30		3P13/S19	23		3/6/24	Pass	MA
3/6/2024	CK	50215	13:10		3P12/S18	21		3/6/24	Pass	MA
3/6/2024	CK	50215	13:20		3P12/S17	10		3/6/24	Pass	MA
3/6/2024	CK	50215	13:45		3P10/S17	5		3/6/24	Pass	MA
3/6/2024	CK	50215	13:50		3P11/S17	7		3/6/24	Pass	MA
3/6/2024	CK	50215	14:00		3P11/S16	30		3/6/24	Pass	MA
3/6/2024	CK	50215	14:30		R-16	14	3DS-7	3/6/24	Pass	MA

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
12/17/2024	SB	#328	9:30		RS-6/S-29	14		1/10/24	Pass	MA
2/17/2024	SB	#328	8:50		S-101/EXT	23.5		2/20/24	Pass	MA
2/17/2024	SB	#328	8:30		S-103/EXT	23.5		2/20/24	Pass	MA
2/16/2024	SB	#328	8:35		S-104/EXT	23.5		2/20/24	Pass	MA
2/16/2024	SB	#328	8:55		S-105/EXT	23.5		2/20/24	Pass	MA
2/16/2024	SB	#328	9:15		S-106/EXT	23.5		2/20/24	Pass	MA
2/16/2024	SB	#328	9:50		S-107/EXT	23.5		2/20/24	Pass	MA
2/16/2024	SB	#328	10:00		S-108/EXT	23.5		2/20/24	Pass	MA
2/20/2024	SB	#328	14:45		S-93/EXT	15		2/21/24	Pass	MA
2/20/2024	SB	#328	14:55		S-92/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	14:10		S-91/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	15:50		S-87/EXT	24		2/21/24	Pass	MA
2/20/2024	SB	#328	15:55		S-83/EXT	10		2/21/24	Pass	MA
2/20/2024	SB	#328	16:10		S-80/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	16:30		S-79/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	16:45		S-78/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	17:00		S-77/EXT	23.5		2/21/24	Pass	MA
2/20/2024	SB	#328	17:10		S-76/EXT	23.5	DSX-7	2/21/24	Pass	MA
2/13/2024	SB	328	11:47		P/S	56		2/1/24	Pass	DY
2/13/2024	SB	328	13:20		P/S	235		2/1/24	Pass	DY
2/14/2024	SB	328	8:20		P/S	85		2/9/24	Pass	DY
2/20/2024	SB	328	10:00		P/S	195		2/20/24	Pass	MA
2/11/2024	SB	328	9:55		C7	60		2/15/24	Pass	OG
2/11/2024	SB	328	11:00		C8	175		2/15/24	Pass	OG
2/11/2024	SB	328	9:52		C13	130		2/15/24	Pass	OG
2/14/2024	SB	328	10:50		C14	105	CDS-3	2/15/24	Pass	OG
2/15/2024	SB	328	13:30		C23	180		2/17/24	Pass	DY
2/15/2024	SB	328	15:30		C24	250		2/17/24	Pass	DY
2/15/2024	SB	328	9:00		C26	310		2/18/24	Pass	DY
2/15/2024	SB	328	13:30		C27	345	CDS-6	2/18/24	Pass	DY
2/18/2024	SB	328	8:30		C33	210	CDS-7	2/20/24	Pass	MA
2/18/2024	SB	328	10:00		C34	165		2/20/24	Pass	DY
2/18/2024	SB	328	13:47		C35	190		2/19/24	Pass	MA
2/18/2024	SB	328	15:50		C36	265	CDS-8	2/20/24	Pass	MA
2/19/2024	SB	328	8:30		C39	175	CDS-9	2/20/24	Pass	MA
2/19/2024	SB	328	10:30		C40	135		2/19/24	Pass	MA

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
12/17/2024	EV	#5652	9:15		RS-3/S-20	14	DSX-1	1/10/24	Pass	MA
2/16/2024	EV	#5652	9:45		S-109/EXT	23.5		2/20/24	Pass	MA
2/16/2024	EV	#5652	9:30		S-110/EXT	23.5		2/20/24	Pass	MA
2/16/2024	EV	#5652	8:30		S-111/EXT	20		2/20/24	Pass	MA
2/16/2024	EV	#5652	8:55		S-112/EXT	26		2/20/24	Pass	MA
2/16/2024	EV	#5652	9:15		S-113/EXT	23.5		2/20/24	Pass	MA
2/17/2024	EV	#5652	8:35		S-114/EXT	23.5		2/20/24	Pass	MA
2/17/2024	EV	#5652	9:10		S-115/EXT	23.5		2/20/24	Pass	MA
2/17/2024	EV	#5652	9:40		S-1116/EXT	23.5	DSX-6	2/20/24	Pass	MA
1/31/2024	EV	5652	11:00		P/S	90		2/1/24	Pass	DY
2/1/2024	EV	5652	9:00		P/S	275		2/1/24	Pass	DY
2/9/2024	EV	5652	8:24		P/S	180		2/9/24	Pass	DY
2/23/2024	EV	5652	14:45		P/S	130		2/24/24	Pass	MA
2/24/2024	EV	5652	7:57		P/S	190	XDS-5	2/24/24	Pass	MA
2/24/2024	EV	5652	13:20		P/S	100		2/24/24	Pass	MA
2/26/2024	EV	5652	8:20		P/S	100		2/26/24	Pass	MA
2/11/2024	EV	5652	10:12		CR2	17	CDS-1	2/24/24	Pass	DY
2/13/2024	EV	5652	15:47		C10	55	CDS-4	2/24/24	Pass	DY
2/14/2024	EV	5652	10:00		C11	160	CDS-5	2/24/24	Pass	DY
2/14/2024	EV	5652	14:28		C12	200		2/24/24	Pass	DY
2/14/2024	EV	5652	8:05		C17	50		2/24/24	Pass	DY
2/14/2024	EV	5652	8:50		C18	290		2/24/24	Pass	DY
2/15/2024	EV	5652	13:33		C25	325	CDS-11	2/21/24	Pass	MA
2/17/2024	EV	5652	10:36		C28	110		2/20/24	Pass	MA
2/17/2024	EV	5652	13:23		C29	170		2/20/24	Pass	MA
2/17/2024	EV	5652	15:32		C30	125		2/20/24	Pass	MA
2/18/2024	EV	5652	8:20		C31	315	CDS-12	2/19/24	Pass	DY
2/18/2024	EV	5652	13:27		C32	65		2/20/24	Pass	MA
2/18/2024	EV	5652	15:05		C37	85		2/20/24	Pass	MA
2/18/2024	EV	5652	14:37		CR9	12		2/20/24	Pass	MA
2/18/2024	EV	5652	16:15		C38	40		2/20/24	Pass	MA

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/6/2024	EV	#328	10:10		P-61/R-64	10	DPS-17	2/5/24	Pass	YG
2/5/2024	EV	#328	16:48		P-49/R-66	7	DPS-18	2/5/24	Pass	YG

PROMUS ENGINEERING

Geomembrane Seaming and Test Observation

Extrusion Weld Seaming

Project No.: **230181**

Project: **ECO-VISTA CELL 13A**

Installer: **ESI**

Location: **SPRINGDALE, ARKANSAS**

Material: **60-MIL HDPE**

Date	Seamer ID	Extrusion ID	Weld Start Time	Weld End Time	Seam ID	Seam Length (FT)	Destructive Seam Samples	V-Box Test Date	V-Box Test (Pass/Fail)	Tech ID
2/28/2024	EV	50075	9:15		4P-13/4R-8	16	4DS-4	2/29/24	Pass	OG
2/29/2024	EV	50075	14:37		4P21/4P22	6		2/29/24	Pass	OG
2/29/2024	EV	50075	15:27		4P22/4P23	8		2/29/24	Pass	OG
2/29/2024	EV	50075	15:50		S94/4P20	5		3/1/24	Pass	MA
2/29/2024	EV	50075	15:55		S94/4P3	9		3/1/24	Pass	MA
2/29/2024	EV	50075	16:00		S95/4P3	20		3/1/24	Pass	MA
2/29/2024	EV	50075	16:05		4P3/S95	5		3/1/24	Pass	MA
2/29/2024	EV	50075	16:35		4P4/S96	20		3/1/24	Pass	MA
2/29/2024	EV	50075	16:45		4P4/S97	14		3/1/24	Pass	MA

Repair Observation

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
12/17/2023	SR-1	S-4/S-5	DS-1, 21' E	EV	#5652	Pass	LH
12/17/2023	SR-2	S-7/S-8	DS-2, 58' E	EV	#5652	Pass	LH
12/17/2023	SR-3	S-20/S-21	DS-3, 59' SE	EV	#5652	Pass	LH
12/17/2023	SR-4	S-22/S-24	DS-4, 55' NW	EV	#5652	Pass	LH
12/17/2023	SR-5	S-13/S-20	DS-5, 9' S	EV	#5652	Pass	LH
12/17/2023	SR-6	S-29/S-30	DS-6, NW EOS	DG	#0328	Pass	LH
12/17/2023	SR-7	S-28/S-37	DS-7, 37' SE	DG	#0328	Pass	LH
12/19/2023	SR-8	S-47/S-48	DS-8, W EOS	EV	#5652	Pass	LH
12/19/2023	SR-9	S-45/S-46	DS-9, 125' S	EV	#5652	Pass	LH
12/19/2023	SR-10	S-53/S-54	DS-10, 34' S	EV	#5652	Pass	LH
12/19/2023	SR-11	S-55/S-57	DS-11, 46' S	EV	#5652	Pass	LH
12/19/2023	SR-12	S-61/S-62	DS-12, 112' S	EV	#5652	Pass	LH
12/19/2023	SR-13	S-65/S-66	DS-13, 37' S	EV	#5652	Pass	LH
12/19/2023	SR-14	S-68/S-69	DS-14, 17' S	EV	#5652	Pass	LH
12/19/2023	SR-15	S-73/S-74	DS-15, 15' S	EV	#5652	Pass	LH
12/19/2023	SR-16	S-77/S-78	DS-16, 26' S	EV	#5652	Pass	LH
12/19/2023	SR-17	S-80/S-81	DS-17, S EOS	EV	#5652	Pass	LH
12/19/2023	SR-18	S-90/S-91	DS-18, 30' S	EV	#5652	Pass	LH
12/19/2023	SR-19	S-97/S-98	DS-19, S EOS	EV	#5652	Pass	LH
12/19/2023	SR-20	S-100/S-102	DS-20, 12' S	EV	#5652	Pass	LH
12/17/2023	SR-21	S-2/S-3/S-33	INT	EV	#5652	Pass	LH
12/17/2023	SR-22	S-3/S-33/S-34	INT	EV	#5652	Pass	LH
12/17/2023	SR-23	S-3/S-4/S-34	INT	EV	#5652	Pass	LH
12/17/2023	SR-24	S-4/S-27/S-28/S-34/S-35	INT	EV	#5652	Pass	LH
12/17/2023	SR-25	S-4/S-5/S-27	INT	EV	#5652	Pass	LH
12/17/2023	SR-26	S-5/S-6/S-26/S-27	INT	EV	#5652	Pass	LH
12/17/2023	SR-27	S-6/S-7/S-26	INT	EV	#5652	Pass	LH
12/17/2023	SR-28	S-7/S-23/S-26	INT	EV	#5652	Pass	LH
12/17/2023	SR-29	S-23/S-25/S-26	INT	EV	#5652	Pass	LH
12/17/2023	SR-30	S-25/S-26/S-27	INT	EV	#5652	Pass	LH
12/17/2023	SR-31	S-7/S-8/S-23	INT	EV	#5652	Pass	LH
12/17/2023	SR-32	S-8/S-9/S-23	INT	EV	#5652	Pass	LH
12/17/2023	SR-33	S-9/S-22/S-23/S-24	INT	EV	#5652	Pass	LH
12/17/2023	SR-34	S-34/S-24/S-25	INT	EV	#5652	Pass	LH
12/17/2023	SR-35	S-23/S-25	10' NW	EV	#5652	Pass	LH
12/17/2023	SR-36	S-9/S-10/S-22	INT	EV	#5652	Pass	LH
12/17/2023	SR-37	S-10/S-21/S-22	INT	EV	#5652	Pass	LH
12/17/2023	SR-38	S-21/S-22	90' NW	EV	#5652	Pass	LH
12/17/2023	SR-39	S-10/S-11/S-21	INT	EV	#5652	Pass	LH

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
12/17/2023	SR-40	S-11/S-12/S-21	INT	EV	#5652	Pass	LH
12/17/2023	SR-41	S-12/S-20/S-21	INT	EV	#5652	Pass	LH
12/17/2023	SR-42	S-12/S-13/S-20	INT	EV	#5652	Pass	LH
12/17/2023	SR-43	S-13/S-19/S-20	INT	EV	#5652	Pass	LH
12/17/2023	SR-44	S-13/S-14/S-19	INT	EV	#5652	Pass	LH
12/17/2023	SR-45	S-14/S-18/S-19	INT	EV	#5652	Pass	LH
12/17/2023	SR-46	S-14/S-15/S-18	INT	EV	#5652	Pass	LH
12/17/2023	SR-47	S-15/S-17/S-18	INT	EV	#5652	Pass	LH
12/17/2023	SR-48	S-15/S-16/S-17	INT	EV	#5652	Pass	LH
12/17/2023	SR-49	S-27/S-28	105' NW	DG	#0328	Pass	LH
12/17/2023	SR-50	S-28/S-29/S-30/S-31	INT	DG	#0328	Pass	LH
12/17/2023	SR-51	S-28/S-31	15' NW	DG	#0328	Pass	LH
12/17/2023	SR-52	S-28/S-31/S-38	INT	DG	#0328	Pass	LH
12/17/2023	SR-53	S-31/S-38/S-39	INT	DG	#0328	Pass	LH
12/17/2023	SR-54	S-31/S-39	20' W	DG	#0328	Pass	LH
12/17/2023	SR-55	S-28/S-37/S-38	INT	DG	#0328	Pass	LH
12/17/2023	SR-56	S-28/S-37	30' SE	DG	#0328	Pass	LH
12/17/2023	SR-57	S-28/S-36/S-37	INT	DG	#0328	Pass	LH
12/17/2023	SR-58	S-28	130' NW, 10' E, FROM S-27/S-28	DG	#0328	Pass	LH
12/17/2023	SR-59	S-28	135' NW, 10' E FROM S-27/S-28	DG	#0328	Pass	LH
12/17/2023	SR-60	S-28	140' NW, 10' E FROM S-27/S-28	DG	#0328	Pass	LH
12/17/2023	SR-61	S-28	150' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-62	S-28	155' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-63	S-28	160' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-64	S-28	165' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-65	S-28	175' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-66	S-28	180' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-67	S-28	190' NW, 10' E FROM S-27/S-28	EV	#5652	Pass	LH
12/17/2023	SR-68	S-28/S-35/S-36	INT	EV	#5652	Pass	LH
12/17/2023	SR-69	S-38/S-39/S-40	INT	DG	#0328	Pass	LH
12/17/2023	SR-70	S-39/S-40/S-41	INT	DG	#0328	Pass	LH
12/17/2023	SR-71	S-39/S-41	16' S	DG	#0328	Pass	LH
12/17/2023	SR-72	S-39/S-41	23' S	DG	#0328	Pass	LH
12/17/2023	SR-73	S-42/S-43/S-44	INT	DG	#0328	Pass	LH
12/17/2023	SR-74	S-43/S-44	14' W	DG	#0328	Pass	LH
12/17/2023	SR-75	S-43/S-44/S-45	INT	DG	#0328	Pass	LH
12/17/2023	SR-76	S-44/S-45	19' S	DG	#0328	Pass	LH
12/17/2023	SR-77	S-46/S-48/S-49	INT	DG	#0328	Pass	LH

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
12/17/2023	SR-78	S-48/S-49/S-50	INT	DG	#0328	Pass	LH
12/17/2023	SR-79	S-47/S-48/S-50	INT	DG	#0328	Pass	LH
12/17/2023	SR-80	S-46/S-47/S-48	INT	DG	#0328	Pass	LH
12/17/2023	SR-81	S-51/S-52	89' S	DG	#0328	Pass	LH
12/17/2023	SR-82	S-55/S-56/S-57	INT	DG	#0328	Pass	LH
12/17/2023	SR-83	S-56/S-57/S-58	INT	DG	#0328	Pass	LH
12/17/2023	SR-84	S-61/S-62	84' S	DG	#0328	Pass	LH
12/19/2023	SR-85	S-64/S-65	62' S	EV	#5652	Pass	LH
12/19/2023	SR-86	S-65/S-66	63' S	EV	#5652	Pass	LH
12/19/2023	SR-87	S-66/S-67	61' S	EV	#5652	Pass	LH
12/19/2023	SR-88	S-66/S-67	72' S	EV	#5652	Pass	LH
12/19/2023	SR-89	S-67/S-68	67' S	EV	#5652	Pass	LH
12/19/2023	SR-90	S-68/S-69	66' S	EV	#5652	Pass	LH
12/19/2023	SR-91	S-73/S-74	43' S	EV	#5652	Pass	LH
12/19/2023	SR-92	S-72/S-73	58' S	EV	#5652	Pass	LH
12/19/2023	SR-93	S-71/S-72	12' S	EV	#5652	Pass	LH
12/19/2023	SR-94	S-74/S-75	43' S	EV	#5652	Pass	LH
12/19/2023	SR-95	S-74/S-75	48' S	EV	#5652	Pass	LH
12/19/2023	SR-96	S-76/S-77	50' S	EV	#5652	Pass	LH
12/19/2023	SR-97	S-78/S-79	51' S	EV	#5652	Pass	LH
12/19/2023	SR-98	S-79/S-80	83' S	EV	#5652	Pass	LH
12/19/2023	SR-99	S-80/S-81/S-83	INT	EV	#5652	Pass	LH
12/19/2023	SR-100	S-81/S-83	20' S	EV	#5652	Pass	LH
12/19/2023	SR-101	S-12/S-20	DS-5B, S EOS	EV	#5652	Pass	LH
12/19/2023	SR-102	S-13/S-19	DS-5A, SW EOS	EV	#5652	Pass	LH
1/11/2024	SR-103	S-100/S-101	DS-21, 180' S	DG	#0328	Pass	YG
1/11/2024	SR-104	S-105/S-106	DS-22, 190' S	EV	#5652	Pass	YG
1/11/2024	SR-105	S-107/S-108	DS-23, 78' S	EV	#5652	Pass	YG
1/11/2024	SR-106	S-115/S-117	DS-24, 46' S	EV	#5652	Pass	YG
12/20/2023	SR-107	S-110/S-114	DS-25, 7' S	EV	#5652	Pass	YG
1/11/2024	SR-108	S-91/S-99	DS-26, 18' S	DG	#0328	Pass	YG
1/11/2024	SR-109	S-103/S-104	DS-27, 175' S	DG	#0328	Pass	YG
1/11/2024	SR-110	S-104/S-105	DS-28, 150' S	EV	#5652	Pass	YG
1/10/2024	SR-111	RS-3/S-20	DSX-1	EV	#5652	Pass	YG
1/10/2024	SR-112	RS-6/S-29	DSX-2	EV	#5652	Pass	YG
12/20/2023	SR-113	S-69/S-70	50' S	EV	#5652	Pass	YG
1/10/2024	SR-114	S-77/S-78	DS-16B, 10' S	EV	#5652	Pass	YG
1/10/2024	SR-115	S-77/S-78	DS-16A, 50' S	EV	#5652	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
12/19/2023	SR-116	S-81/S-82/S-83	INT	EV	#5652	Pass	YG
12/19/2023	SR-117	S-84/S-85	50' S	EV	#5652	Pass	YG
12/20/2023	SR-118	S-85/S-87	50' S	EV	#5652	Pass	YG
1/11/2024	SR-119	S-87/S-88/S-89	INT	EV	#5652	Pass	YG
12/20/2023	SR-120	S-89/S-90	15' W	EV	#5652	Pass	YG
12/20/2023	SR-121	S-89/S-90/S-100/S-102	INT	EV	#5652	Pass	YG
1/11/2024	SR-122	S-90/S-91/S-99/S-100	INT	EV	#5652	Pass	YG
1/11/2024	SR-123	S-100	90' SE from seam S-90/S-100	EV	#5652	Pass	YG
12/20/2023	SR-124	S-101/S-103 90' S	90' S	EV	#5652	Pass	YG
1/11/2024	SR-125	S-101/S-103 105' S	105' S	EV	#5652	Pass	YG
1/11/2024	SR-126	S-104/S-105 100' S	100' S	EV	#5652	Pass	YG
12/20/2023	SR-127	S-105/S-106 100' S	100' S	EV	#5652	Pass	YG
1/11/2024	SR-128	S-105/S-106 110' S	110' S	EV	#5652	Pass	YG
1/11/2024	SR-129	S-106/S-107 110' S	110' S	EV	#5652	Pass	YG
12/20/2023	SR-130	S-107/S-108 100' S	100' S	EV	#5652	Pass	YG
12/20/2023	SR-131	S-108/S-109 115' S	115' S	EV	#5652	Pass	YG
1/11/2024	SR-132	S-109/S-110 105' S	105' S	EV	#5652	Pass	YG
12/20/2023	SR-133	S-109/S-110 115' S	115' S	EV	#5652	Pass	YG
1/11/2024	SR-134	S-110/S-113/S-114	INT	EV	#5652	Pass	YG
12/20/2023	SR-135	S-115/S-116/S-117	INT	EV	#5652	Pass	YG
12/20/2023	SR-136	S-116/S-117	9' E	EV	#5652	Pass	YG
12/20/2023	SR-137	S-116/S-117	15' E	EV	#5652	Pass	YG
1/11/2024	SR-138	S-83/S-84/S-87	INT	DG	#0328	Pass	YG
1/11/2024	SR-139	S-84/S-85/S-87	INT	DG	#0328	Pass	YG
1/11/2024	SR-140	S-87/S-89/S-90	INT	DG	#0328	Pass	YG
1/11/2024	SR-141	S-87/S-90	5' NE	EV	#5652	Pass	YG
1/11/2024	SR-142	S-90/S-91	10' NE	EV	#5652	Pass	YG
1/11/2024	SR-143	S-93/S-94/S-95	INT	EV	#5652	Pass	YG
1/11/2024	SR-144	S-93/S-95/S-96	INT	EV	#5652	Pass	YG
1/11/2024	SR-145	S-92/S-93/S-96	INT	EV	#5652	Pass	YG
1/11/2024	SR-146	S-92/S-96/S-97	INT	EV	#5652	Pass	YG
1/11/2024	SR-147	S-91/S-92/S-98	INT	EV	#5652	Pass	YG
1/11/2024	SR-148	S-91/S-98/S-99	INT	EV	#5652	Pass	YG
1/11/2024	SR-149	S-88/S-89/S-102	INT	EV	#5652	Pass	YG
1/11/2024	SR-150	S-87/S-88/S-102	INT	EV	#5652	Pass	YG
1/11/2024	SR-151	S-85/S-86/S-87	INT	EV	#5652	Pass	YG
1/11/2024	SR-152	S-82/S-83	10' S	EV	#5652	Pass	YG
1/11/2024	SR-153	S-80/S-81	10' S	EV	#5652	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
1/11/2024	SR-154	S-87/S-100/S-102	INT	EV	#5652	Pass	YG
1/11/2024	SR-155	S-103/S-104 10' S	10' S	EV	#5652	Pass	YG
1/11/2024	SR-156	S-105/S-106 10' S	10' S	EV	#5652	Pass	YG
1/11/2024	SR-157	S-104/S-105 120' S	120' S	EV	#5652	Pass	YG
1/11/2024	SR-158	S-104/S-105 140' S	140' S	EV	#5652	Pass	YG
1/11/2024	SR-159	S-104/S-105 190' S	190' S	DG	#0328	Pass	YG
1/11/2024	SR-160	S-105/S-106 175' S	175' S	EV	#5652	Pass	YG
1/11/2024	SR-161	S-105/S-106 180' S	180' S	EV	#5652	Pass	YG
1/11/2024	SR-162	S-106/S-107 195' S	195' S	EV	#5652	Pass	YG
1/11/2024	SR-163	S-106/S-107 185' S	185' S	EV	#5652	Pass	YG
1/11/2024	SR-164	S-110/S-115/S-117	INT	EV	#5652	Pass	YG
1/11/2024	SR-165	S-110/S-114/S-115	INT	EV	#5652	Pass	YG
1/11/2024	SR-166	S-110/S-112/S-113	INT	EV	#5652	Pass	YG
1/11/2024	SR-167	S-110/S-111/S-113	INT	EV	#5652	Pass	YG
1/11/2024	SR-168	S-109/S-110	10' S	EV	#5652	Pass	YG
1/10/2024	SR-169	S-1/S-2/S-33	INT	EV	#5652	Pass	YG
1/10/2024	SR-170	S-1/S-32/S-33	INT	EV	#5652	Pass	YG
1/10/2024	SR-171	S-1/S-32	15' S	EV	#5652	Pass	YG
1/10/2024	SR-172	S-61/S-62 80' S	DS-12B, 80' S	EV	#5652	Pass	YG
1/10/2024	SR-173	S-62/S-63 35' S	DS-12A, 35' S	EV	#5652	Pass	YG
1/10/2024	SR-174	S-31/S-39/S-41	INT	EV	#5652	Pass	YG
1/24/2024	SR-175	S-52/S-53	130' S	EV	#5652	Pass	YG
1/24/2024	SR-176	S-70/S-71	110' S	EV	#5652	Pass	YG
1/24/2024	SR-177	S-55/S-56	60' S	EV	#5652	Pass	YG
1/24/2024	SR-178	S-95/S-96	On Trench	EV	#5652	Pass	YG
1/26/2024	SR-179	S-19	15' S, 15' E from S-18/S-19	EV	#5652	Pass	YG
1/30/2024	SR-180	S-32/S-33/S-34	INT	EV	#5652	Pass	YG
1/31/2024	SR-181	S-29/S-30	E EOS	EV	#5652	Pass	YG
1/31/2024	SR-182	S-16/S-17	ON Trench	EV	#5652	Pass	YG
2/10/2024	SR-183	S-32/EXT	10' E	CK	#50215	Pass	YG
2/10/2024	SR-184	S-33/EXT	5' E	CK	#50215	Pass	YG
2/10/2024	SR-185	S-34/S-35/EXT	INT	CK	#50215	Pass	YG
2/10/2024	SR-186	S-35/S-36/EXT	INT	CK	#50215	Pass	YG
2/10/2024	SR-187	S-36/S-37/EXT	INT	CK	#50215	Pass	YG
2/10/2024	SR-188	S-37/EXT	22' E	CK	#50215	Pass	YG
2/10/2024	SR-189	S-38/EXT	10' E	CK	#50215	Pass	YG
2/10/2024	SR-190	S-38/EXT	22' E	CK	#50215	Pass	YG
2/10/2024	SR-191	S-40/EXT	20' E	CK	#50215	Pass	YG
2/10/2024	SR-192	S-40/S-41/EXT	INT	CK	#50215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/10/2024	SR-193	S-41/EXT	10' E	CK	#50215	Pass	YG
2/10/2024	SR-194	S-42/EXT	20' E	CK	#50215	Pass	YG
2/10/2024	SR-195	S-43/EXT	20' E	CK	#50215	Pass	YG
2/10/2024	SR-196	S-43/S-44/EXT	INT	CK	#50215	Pass	YG
2/11/2024	SR-197	S-45/EXT	15' E	CK	#50215	Pass	YG
2/11/2024	SR-198	S-46/EXT	15' E	CK	#50215	Pass	YG
2/11/2024	SR-199	S-47/EXT	15' E	CK	#50215	Pass	YG
2/11/2024	SR-200	S-47/S-50/EXT	INT	CK	#50215	Pass	YG
2/11/2024	SR-201	S-50/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-202	S-50/S-51/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-203	S-51/EXT	15' E	CK	#50215	Pass	YG
2/13/2024	SR-204	S-51/S-51/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-205	S-52/S-53/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-206	S-53/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-207	S-54/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-208	S-54/S-55/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-209	S-55/S-57/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-210	S-57/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-211	S-57/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-212	S-57/S-58/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-213	S-58/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-214	S-58/S-59/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-215	S-59/S-60/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-216	S-60/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-217	S-61/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-218	S-62/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-219	S-62/EXT	15' E	CK	#50215	Pass	YG
2/13/2024	SR-220	S-62/S-63/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-221	S-63/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-222	S-64/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-223	S-65/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-224	S-66/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-225	S-67/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-226	S-67/S-68/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-227	S-68/EXT	15' E	CK	#50215	Pass	YG
2/13/2024	SR-228	S-68/S-69/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-229	S-69/EXT	10' E	CK	#50215	Pass	YG
2/13/2024	SR-230	S-69/S-70/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-231	S-70/EXT	5' E	CK	#50215	Pass	YG
2/13/2024	SR-232	S-70/S-71/EXT	INT	CK	#50215	Pass	YG
2/13/2024	SR-233	S-71/S-72/EXT	INT	CK	#50215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/14/2024	SR-234	S-58/EXT	DXS-3, 10' E	CK	#50215	Pass	YG
2/17/2024	SR-235	S-72/EXT	5' E	CK	#50215	Pass	YG
2/17/2024	SR-236	S-72/S-73/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-237	S-73/S-74/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-238	S-74/S-75/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-239	S-75/EXT	80' E	CK	#50215	Pass	YG
2/17/2024	SR-240	S-75/S-76/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-241	S-76/EXT	15' E	CK	#50215	Pass	YG
2/17/2024	SR-242	S-76/S-77/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-243	S-77/EXT	15' E	CK	#50215	Pass	YG
2/17/2024	SR-244	S-77/S-78/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-245	S-78/S-79/EXT	INT	CK	#50215	Pass	YG
2/15/2024	SR-246	S-79/EXT	10' E	CK	#50215	Pass	YG
2/15/2024	SR-247	S-79/EXT	15' E	CK	#50215	Pass	YG
2/15/2024	SR-248	S-79/S-80/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-249	S-80/S-81/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-250	S-81/S-82/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-251	S-82/EXT	5' E	CK	#50215	Pass	YG
2/16/2024	SR-252	S-82/S-83/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-253	S-83/EXT	15' E	CK	#50215	Pass	YG
2/16/2024	SR-254	S-83/S-84/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-255	S-84/EXT	10' E	CK	#50215	Pass	YG
2/16/2024	SR-256	S-84/S-85/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-257	S-85/EXT	10' E	CK	#50215	Pass	YG
2/16/2024	SR-258	S-85/S-86/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-259	S-86/EXT	5' E	CK	#50215	Pass	YG
2/16/2024	SR-260	S-86/S-87/EXT	INT	CK	#50215	Pass	YG
2/16/2024	SR-261	S-87/S-100/EXT	INT	CK	#50215	Pass	YG
2/17/2024	SR-262	S-100/EXT	20' E	SB	#328	Pass	YG
2/17/2024	SR-263	S-100/S-101/EXT	INT	SB	#328	Pass	YG
2/17/2024	SR-264	S-101/EXT	15' E	SB	#328	Pass	YG
2/17/2024	SR-265	S-101/S-103/EXT	INT	SB	#328	Pass	YG
2/17/2024	SR-266	S-103/EXT	5' E	SB	#328	Pass	YG
2/16/2024	SR-267	S-103/S-104/EXT	INT	SB	#328	Pass	YG
2/16/2024	SR-268	S-104/EXT	5' E	SB	#328	Pass	YG
2/16/2024	SR-269	S-104/S-105/EXT	INT	SB	#328	Pass	YG
2/16/2024	SR-270	S/105/EXT	5' E	SB	#328	Pass	YG
2/16/2024	SR-271	S-105/S-106/EXT	INT	SB	#328	Pass	YG
2/16/2024	SR-272	S-106/EXT	5' E	SB	#328	Pass	YG
2/16/2024	SR-273	S-106/S-107/EXT	INT	SB	#328	Pass	YG
2/16/2024	SR-274	S-107/EXT	5' E	SB	#328	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/16/2024	SR-275	S-108/EXT	10' E	SB	#328	Pass	YG
2/16/2024	SR-276	S-108/S-109/EXT	INT	EV	#5652	Pass	YG
2/16/2024	SR-277	S-109/EXT	10' E	EV	#5652	Pass	YG
2/16/2024	SR-278	S-109/S-110/EXT	INT	EV	#5652	Pass	YG
2/16/2024	SR-279	S-111/EXT	10' E	EV	#5652	Pass	YG
2/16/2024	SR-280	S-111/S-112/EXT	INT	EV	#5652	Pass	YG
2/16/2024	SR-281	S-112/EXT	10' E	EV	#5652	Pass	YG
2/16/2024	SR-282	S-112/S-113/EXT	INT	EV	#5652	Pass	YG
2/17/2024	SR-283	S-113/EXT	20' E	EV	#5652	Pass	YG
2/17/2024	SR-284	S-113/S-147/EXT	INT	EV	#5652	Pass	YG
2/17/2024	SR-285	S-114/EXT	5' E	EV	#5652	Pass	YG
2/17/2024	SR-286	S-114/EXT	20' E	EV	#5652	Pass	YG
2/17/2024	SR-287	S-115/EXT	15' E	EV	#5652	Pass	YG
2/17/2024	SR-288	S-115/EXT	20' E	EV	#5652	Pass	YG
2/17/2024	SR-289	S-116/EXT	15' E	EV	#5652	Pass	YG
2/21/2024	SR-290	S-71/EXT	DSX-4, 10' E	SB	#328	Pass	YG
2/21/2024	SR-291	S-84/EXT	DSX-5, 20' E	SB	#328	Pass	YG
2/21/2024	SR-292	S-116/EXT	DSX-6, 20' E	SB	#328	Pass	YG
2/20/2024	SR-293	S-92/S-93/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-294	S-91/S-92/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-295	S-87/S-91/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-296	S-83/S-87/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-297	S-80/S-83/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-298	S-79/S-80/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-299	S-78/S-79/EXT	INT	SB	#328	Pass	YG
2/21/2024	SR-300	S-63/S-64/EXT	INT	CK	#50215	Pass	YG
2/20/2024	SR-301	S-78/EXT	20' W	SB	#328	Pass	YG
2/20/2024	SR-302	S-77/S-78/EXT	INT	SB	#328	Pass	YG
2/20/2024	SR-303	S-77/EXT	10' W	SB	#328	Pass	YG
2/20/2024	SR-304	S-76/S-77/EXT	INT	SB	#328	Pass	YG
2/21/2024	SR-305	S-76/EXT	DSX-7, 15' W	CK	#50215	Pass	YG
2/21/2024	SR-306	S-76/EXT	20' W	CK	#50215	Pass	YG
2/21/2024	SR-307	S-75/S-76/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-308	S-75/EXT	5' W	CK	#50215	Pass	YG
2/21/2024	SR-309	S-74/S-75/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-310	S-74/EXT	15' W	CK	#50215	Pass	YG
2/21/2024	SR-311	S-73/S-74EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-312	S-73/EXT	20'W	CK	#50215	Pass	YG
2/21/2024	SR-313	S-72/S7-73/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-314	S-71/S-72/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-315	S-70/S-71/EXT	20'W	CK	#50215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/21/2024	SR-316	S-68/S-70/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-317	S-68/S-69/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-318	S-67/S-68/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-319	S-68/EXT	10'W	CK	#50215	Pass	YG
2/21/2024	SR-320	S-67/S-68/EXT	INT	CK	#50215	Pass	YG
2/21/2024	SR-321	S-67/EXT	5' W	CK	#50215	Pass	YG
2/21/2024	SR-322	S-66/S-67/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-323	S-64/S-63/EXT	DSX-8	CK	#50215	Pass	YG
2/22/2024	SR-324	S-63/EXT	15' W	CK	#50215	Pass	YG
2/22/2024	SR-325	S-62/S-63/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-326	S-61/S-62/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-327	S-60/S-61/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-328	S-59/S-60/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-329	S-53/EXT	15' W	CK	#50215	Pass	YG
2/22/2024	SR-330	S-52/S-53/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-331	S-51/S-52/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-332	S-50/S-51/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-333	S-50/EXT	10' W	CK	#50215	Pass	YG
2/22/2024	SR-334	S-49/S-50/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-335	S-46/S-49/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-336	S-45/S-46/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-337	S-44/S-45/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-338	S-42/S-44/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-339	S-42/EXT	10' W	CK	#50215	Pass	YG
2/22/2024	SR-340	S-41/S-42/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-341	S-30/S-31/EXT	INT	CK	#50215	Pass	YG
2/22/2024	SR-342	S-30/EXT	W EOS	CK	#50215	Pass	YG
2/24/22024	SR-343	S-93/S-94/EXT	INT	CK	#50215	Pass	YG
2/26/2024	SR-344	S-53/S-54/EXT	INT	CK	#50215	Pass	YG
2/26/2024	SR-345	S-55/S-56/EXT	INT	CK	#50215	Pass	YG
2/26/2024	SR-346	S-56/S-58/EXT	INT	CK	#50215	Pass	YG
2/26/2024	SR-347	S-58/EXT	10' E	CK	#50215	Pass	YG
2/26/2024	SR-348	S-58/S-59/EXT	INT	CK	#50215	Pass	YG
2/26/2024	SR-349	S-64/S-65/EXT	INT	CK	#50215	Pass	YG
1/29/2024	R-1	P4/P5	3' E of AT	EV	5,652	Pass	YG
1/29/2024	R-2	P4/P6	4' N of S At	EV	5,652	Pass	YG
1/29/2024	R-3	P3/P4/P6	INT	EV	5,652	Pass	YG
1/29/2024	R-4	P3/P6/P7	INT	EV	5,652	Pass	YG
1/29/2024	R-5	P2/P3/P7	INT	EV	5,652	Pass	YG
1/29/2024	R-6	P2/P7/P8	INT	EV	5,652	Pass	YG
1/29/2024	R-7	P1/P2/P8	INT	EV	5,652	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
1/29/2024	R-8	P1/P8/P9	PDS-5, INT	EV	5,652	Pass	YG
1/29/2024	R-9	P15/P16/P17	INT	EV	5,652	Pass	YG
1/29/2024	R-10	P14/P15/P1	INT	EV	5,652	Pass	YG
1/30/2024	R-11	P1/P2	PDS-1, 20' E of west AT	EV	5,652	Pass	YG
1/30/2024	R-12	P6/P7	PDS-2, 10' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-13	P18/P19	PDS-3, 15' E of W AT	EV	5,652	Pass	YG
1/30/2024	R-14	P21/P22	PDS-4, 52' E of W AT	EV	5,652	Pass	YG
1/30/2024	R-15	R8	90' S of N AT	EV	5,652	Pass	YG
1/30/2024	R-16	P9/P10/P18	INT	EV	5,652	Pass	YG
1/30/2024	R-17	P10-18-19	INT	EV	5,652	Pass	YG
1/30/2024	R-18	43749	INT	EV	5,652	Pass	YG
1/30/2024	R-19	44154	INT	EV	5,652	Pass	YG
1/30/2024	R-20	P11/P12/P20/P21	INT	EV	5,652	Pass	YG
1/30/2024	R-21	P12/P13/P21/P22	INT	EV	5,652	Pass	YG
1/30/2024	R-22	P14/P17/P35	INT	EV	5,652	Pass	YG
1/30/2024	R-23	P1/P30/P35	INT	EV	5,652	Pass	YG
1/30/2024	R-24	P14/P30/P31	INT	EV	5,652	Pass	YG
1/30/2024	R-25	P30/P31/P32	INT	EV	5,652	Pass	YG
1/30/2024	R-26	P29/P39	3' E of AT	EV	5,652	Pass	YG
1/30/2024	R-27	P33/P4	10' S of N AT	EV	5,652	Pass	YG
1/30/2024	R-28	P14/P31	PDS-6 13' S of R24	EV	5,652	Pass	YG
1/30/2024	R-29	P41/p42	PDS-7 15' N of S AT	EV	328	Pass	YG
1/30/2024	R-30	P26/P27	PDS-8 5' E of W AT	EV	328	Pass	YG
1/30/2024	R-31	P32/P40	PDS-9 91k N of AT	EV	5,652	Pass	YG
1/29/2024	R-32	P24/P25/P26	INT	EV	5,652	Pass	YG
1/29/2024	R-33	P23/P24/P25	INT	EV	5,652	Pass	YG
1/31/2024	R-34	P28	Middle of p28, in AT	EV	5,652	Pass	YG
1/31/2024	R-35	P27/P28	Top of slope, in AT	EV	5,652	Pass	YG
1/31/2024	R-36	P13/P14/P22/P23	INT	EV	5,652	Pass	YG
1/31/2024	R-37	P14/P23/P24/P31	INT	EV	5,652	Pass	YG
2/1/2024	R-38	P30/P32/P40	INT	EV	5,652	Pass	YG
2/1/2024	R-39	30/35/40	INT	EV	5,652	Pass	YG
2/1/2024	R-40	35/40/41	INT	EV	5,652	Pass	YG
2/1/2024	R-41	P14/P15	At AT	EV	5,652	Pass	YG
2/1/2024	R-42	P4/P6	At AT	EV	5,652	Pass	YG
2/1/2024	R-43	P25/P26/P31/P32	INT	EV	328	Pass	YG
2/1/2024	R-44	P26/P32/P33/P34	INT	EV	328	Pass	YG
2/1/2024	R-45	P25/P26/P34	INT	EV	328	Pass	YG
2/1/2024	R-46	P26/P36/P37	INT	EV	328	Pass	YG
2/1/2024	R-47	P26/P26/P37/P8	INT	EV	328	Pass	YG
2/1/2024	R-48	P26/P27/P38	INT	EV	328	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/2/2024	R-49	P27/P28/P38	INT	EV	328	Pass	YG
2/2/2024	R-50	P28/P29/P38	INT	EV	328	Pass	YG
2/2/2024	R-51	P32/P33/P40	INT	EV	328	Pass	YG
2/2/2024	R-52	P43/P44	60' S of N AT	EV	328	Pass	YG
2/2/2024	R-53	P46/P47	15' S of N AT	EV	328	Pass	YG
2/2/2024	R-54	P46/P47	60' S of N AT	EV	328	Pass	YG
2/2/2024	P-55	P47/P48	PDS-10, 60' s of N at	EV	328	Pass	YG
2/2/2024	56	P48/P49	PDS-12, 10' n of s at	EV	328	Pass	YG
2/2/2024	57	P49/P50	5' N of S AT	EV	328	Pass	YG
2/2/2024	58	P50/P51	5' S of N at	EV	328	Pass	YG
2/2/2024	59	P54/P55	PDS-11, 28' s of n at	EV	328	Pass	YG
2/2/2024	60	P58/P59	Cap on p58/P59	EV	328	Pass	YG
2/2/2024	61	P60/P61	PDS-14, 15' S of N AT	EV	328	Pass	YG
2/2/2024	62	P65/P66	PDS-15, 35' N of S AT	EV	328	Pass	YG
2/2/2024	63	P68/P69	PDS-16, 15' S of N AT	EV	328	Pass	YG
2/5/2023	64	P60/P61	Cap over P60/P61	EV	328	Pass	YG
2/2/2024	65	P61/CAP	PDS-17, 10' S of N AT	EV	328	Pass	YG
2/2/2024	66	P48/P49	PDS-14A AND PDS-14B, Cap over p48/P49	EV	328	Pass	YG
2/2/2024	67	P48/P49	PDS-18, 3' N of S AT	EV	328	Pass	YG
2/6/2024	68	P56/P57	2' N of S at	EV	328	Pass	YG
2/6/2024	69	P71/P72	PDS-19, 25' N of S AT	EV	328	Pass	YG
2/6/2024	70	P75/P76	PDS-20, 15' N of SAT	EV	328	Pass	YG
2/6/2024	71	P77/P78	4' N of S AT	EV	328	Pass	YG
2/6/2024	72	P79/P80	75' S of N At	EV	328	Pass	YG
2/6/2024	73	P81/P82	PDS-21, 15' S of N AT	EV	328	Pass	YG
2/7/2024	74	P77/P78/P83	INT	EV	328	Pass	YG
2/7/2024	75	P78/P79/P83	INT	EV	328	Pass	YG
2/7/2024	76	P79/P80	40' NE of SW AT	EV	328	Pass	YG
2/7/2024	77	P79/P80/P83	INT	EV	328	Pass	YG
2/7/2024	78	P79/P80	45' NE of SW corner	EV	328	Pass	YG
2/7/2024	79	P80/P81/P83	INT	EV	328	Pass	YG
2/7/2024	80	P81/P82/P83	INT	EV	328	Pass	YG
2/7/2024	81	P78/P83	In anchor trench	EV	328	Pass	YG
2/7/2024	82	P86/P87/P88	INT	EV	328	Pass	YG
2/7/2024	83	P85/P86/P88	INT	EV	328	Pass	YG
2/7/2024	84	P85/P88/P89	INT	EV	328	Pass	YG
2/7/2024	85	P85/P89	60' NE OF SW AT	EV	328	Pass	YG
2/7/2024	86	P85/P89/P90	INT	EV	328	Pass	YG
2/7/2024	87	P84/P89/P90	INT	EV	328	Pass	YG
2/7/2024	88	P90	102' N OF S AT	EV	328	Pass	YG
2/7/2024	89	P89/P90/P91	INT	EV	328	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/7/2024	90	P89/P91	115' N of S AT	EV	328	Pass	YG
2/7/2024	91	P83/P84/P91	INT	EV	328	Pass	YG
2/7/2024	92	P83/P91/P92	INT	EV	328	Pass	YG
2/7/2024	93	P82/P83/P92/P93	INT	EV	328	Pass	YG
2/7/2024	94	P92/P93	PDS-22, 35' N of S AT	EV	328	Pass	YG
2/6/2024	95	P59/P60	PDS-13, 25' n of s at	EV	328	Pass	YG
2/7/2024	96	P95/P96	99' S AT	EV	328	Pass	YG
2/7/2024	97	P95/P96	On toe of N slope	EV	328	Pass	YG
2/7/2024	98	P96/P97	130' S of N AT	EV	328	Pass	YG
2/13/2024	99	96/97	1' off toe of s slope	EV	5,652	Pass	YG
2/13/2024	100	96/97	5' from toe of S slope	EV	5,652	Pass	YG
2/6/2024	101	P64/P65	PDS-14A, in N AT	EV	328	Pass	YG
2/13/2024	102	P95/96	PDS-23, 50' S	EV	5,652	Pass	YG
2/7/2024	103	P80/P81	70' S of N AT	EV	328	Pass	YG
2/7/2024	104	P81/P82	80' S of N AT	EV	328	Pass	YG
2/8/2024	105	P1	Cap in AT of SW corner	EV	328	Pass	YG
2/13/2024	106	P100/P101	PDS-24, 75' S of N At	EV	5,652	Pass	YG
2/13/2024	107	P100/P101	30' S of N AT	EV	5,652	Pass	YG
2/13/2024	108	P100/P101	3' S of N AT	EV	5,652	Pass	YG
2/13/2024	109	105/106	5' S of N AT	EV	5,652	Pass	YG
2/13/2024	110	106/107	PDS-25, 10' S of N AT	EV	5,652	Pass	YG
2/13/2024	111	102-103	1' N of N AT	EV	5,652	Pass	YG
2/13/2024	112	P102-103	IN N AT	EV	5,652	Pass	YG
2/13/2024	113	P102-103-104	INT	EV	5,652	Pass	YG
2/13/2024	114	P102-104-105	INT	EV	5,652	Pass	YG
2/13/2024	115	P102-105-106	INT	EV	5,652	Pass	YG
2/13/2024	116	P102-106-107	INT	EV	5,652	Pass	YG
2/13/2024	117	P102-107-108	INT	EV	5,652	Pass	YG
2/13/2024	118	P101-102	10' S of N AT	EV	5,652	Pass	YG
2/13/2024	119	P83	10' S from R-80	EV	5,652	Pass	YG
2/13/2024	120	P38/P39	P/S WELD North Side	SB	328	Pass	YG
2/13/2024	121	P37/P38/P/S	INT	SB	328	Pass	YG
2/13/2024	122	P36/P37/P/S	INT	SB	328	Pass	YG
2/13/2024	123	P34/P36/P/S	INT	SB	328	Pass	YG
2/13/2024	124	P33/P34/P/S	INT	SB	328	Pass	YG
2/13/2024	125	P33/P40/P/S	INT	SB	328	Pass	YG
2/13/2024	126	P40/P41/P/S	INT	SB	328	Pass	YG
2/13/2024	127	P41/P42/P/S	INT	SB	328	Pass	YG
2/13/2024	128	P42/P/S	20' E on North Tie-in	SB	328	Pass	YG
2/13/2024	129	P42/P43/P/S	INT	SB	328	Pass	YG
2/13/2024	130	P43/P44/P/S	INT	SB	328	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/13/2024	131	P44/P45/P/S	INT	SB	328	Pass	YG
2/14/2024	132	P45/P46/P/S	INT	SB	328	Pass	YG
2/14/2024	133	P46/P47/P/S	INT	SB	328	Pass	YG
2/14/2024	134	P47/P48/P/S	INT	SB	328	Pass	YG
2/14/2024	135	P48/P49/P/S	INT	SB	328	Pass	YG
2/14/2024	136	P49/P50/P/S	INT	EV	5,652	Pass	YG
2/14/2024	137	P50/P51/P/S	INT	EV	5,652	Pass	YG
2/14/2024	138	P51/P52/P/S	INT	EV	5,652	Pass	YG
2/14/2024	139	P52/P53/P/S	INT	EV	5,652	Pass	YG
2/14/2024	140	P53/P54/P/S	INT	EV	5,652	Pass	YG
2/14/2024	141	P54/P55/P/S	INT	CK	50,215	Pass	YG
2/14/2024	142	P55/P56/P/S	INT	CK	50,215	Pass	YG
2/14/2024	143	P56/P57/P/S	INT	CK	50,215	Pass	YG
2/14/2024	144	P57/P58/P/S	INT	CK	50,215	Pass	YG
2/14/2024	145	P59/P60/P/S	INT	CK	50,215	Pass	YG
2/17/2024	146	P60/P61/P/S	INT	CK	50,215	Pass	YG
2/17/2024	147	P61/P62/P/S	INT	CK	50,215	Pass	YG
2/17/2024	148	P62/P63/P/S	INT	CK	50,215	Pass	YG
2/17/2024	149	P63/P64/P/S	INT	CK	50,215	Pass	YG
2/17/2024	150	P65/P66/P/S	INT	CK	50,215	Pass	YG
2/17/2024	151	P66/P67/P/S	INT	CK	50,215	Pass	YG
2/17/2024	152	P67/P68/P/S	INT	CK	50,215	Pass	YG
2/17/2024	153	P68/P69/P/S	INT	CK	50,215	Pass	YG
2/17/2024	154	P69/P/S	5' E on North Tie-in	CK	50,215	Pass	YG
2/17/2024	155	P69/P70/P/S	INT	CK	50,215	Pass	YG
2/17/2024	156	P70/P71/P/S	INT	CK	50,215	Pass	YG
2/17/2024	157	P71/P72/P/S	INT	CK	50,215	Pass	YG
2/17/2024	158	P72/P73/P/S	INT	CK	50,215	Pass	YG
2/17/2024	159	P73/P/S	10' E on North Tie-in	CK	50,215	Pass	YG
2/17/2024	160	P73/P74/P/S	INT	CK	50,215	Pass	YG
2/17/2024	161	P74/P75/P/S	INT	CK	50,215	Pass	YG
2/18/2024	162	P75/P76/P/S	INT	CK	50,215	Pass	YG
2/18/2024	163	P76/P77/P/S	INT	CK	50,215	Pass	YG
2/18/2024	164	P77/P78/P/S	INT	CK	50,215	Pass	YG
2/18/2024	165	P78/P79/P/S	INT	CK	50,215	Pass	YG
2/18/2024	166	P79/P80/P/S	INT	CK	50,215	Pass	YG
2/18/2024	167	P80/P81/P/S	INT	CK	50,215	Pass	YG
2/18/2024	168	P81/P82/P/S	INT	CK	50,215	Pass	YG
2/18/2024	169	P82/P93/P/S	INT	CK	50,215	Pass	YG
2/18/2024	170	P93/P94/P/S	INT	CK	50,215	Pass	YG
2/18/2024	171	P94/P95/P/S	INT	CK	50,215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/18/2024	172	P95/P96/P/S	INT	CK	50,215	Pass	YG
2/18/2024	173	P96/P97/P/S	INT	CK	50,215	Pass	YG
2/18/2024	174	P97/P98/P/S	INT	CK	50,215	Pass	YG
2/18/2024	175	P98/P99/P/S	INT	CK	50,215	Pass	YG
2/18/2024	176	P99/P100/P/S	INT	CK	50,215	Pass	YG
2/18/2024	177	P100/P101/P/S	INT	CK	50,215	Pass	YG
2/18/2024	178	P101/P102/P/S	INT	CK	50,215	Pass	YG
2/18/2024	179	P102/P103/P/S	INT	CK	50,215	Pass	YG
2/18/2024	180	P103/P104/P/S	INT	CK	50,215	Pass	YG
2/18/2024	181	P104/P105/P/S	INT	CK	50,215	Pass	YG
2/18/2024	182	P105/P106/P/S	INT	CK	50,215	Pass	YG
2/18/2024	183	P106/P107/P/S	INT	CK	50,215	Pass	YG
2/19/2024	184	P107/P108/P/S	INT	CK	50,215	Pass	YG
2/21/2024	185	P50/P/S	INT	SB	328	Pass	MA
2/21/2024	186	P71/P/S	INT	SB	328	Pass	MA
2/21/2024	187	P101/P/S	INT	SB	328	Pass	MA
2/20/2024	188	P88/P89/P/S	INT	SB	328	Pass	YG
2/20/2024	189	P89/P90/P/S	INT	SB	328	Pass	YG
2/20/2024	190	P90/P91/P/S	INT	SB	328	Pass	YG
2/20/2024	191	P91/P92/P/S	INT	SB	328	Pass	YG
2/20/2024	192	P92/P93/P/S	INT	SB	328	Pass	YG
2/20/2024	193	P93/P94/P/S	INT	SB	328	Pass	YG
2/20/2024	194	P94/P95/P/S	INT	SB	328	Pass	YG
2/20/2024	195	P95/P96/P/S	INT	CK	50,215	Pass	YG
2/20/2024	196	P96/P97/P/S	INT	CK	50,215	Pass	YG
2/20/2024	197	P97/P98/P/S	INT	CK	50,215	Pass	YG
2/20/2024	198	P98/P99/P/S	INT	CK	50,215	Pass	YG
2/20/2024	199	P99/P100/P/S	INT	CK	50,215	Pass	YG
2/20/2024	200	P100/P101/P/S	INT	CK	50,215	Pass	YG
2/20/2024	201	P101/P102/P/S	INT	CK	50,215	Pass	YG
2/20/2024	202	P102/P108/P/S	INT	CK	50,215	Pass	YG
2/23/2024	203	P61/P62/P/S	INT	CK	50,215	Pass	YG
2/23/2024	204	P62/P63/P/S	INT	CK	50,215	Pass	YG
2/23/2024	205	P63/P64/P/S	INT	CK	50,215	Pass	YG
2/23/2024	206	P64/P65/P/S	INT	CK	50,215	Pass	YG
2/23/2024	207	P65/P66/P/S	INT	CK	50,215	Pass	YG
2/23/2024	208	P-66	10' E, 1' S from Ti-In	CK	50,215	Pass	YG
2/23/2024	209	P-66	15' E, 1' S from Tie-In	CK	50,215	Pass	YG
2/23/2024	210	P66/P67/P/S	INT	CK	50,215	Pass	YG
2/23/2024	211	P67/P68/P/S	INT	CK	50,215	Pass	YG
2/23/2024	212	P68/P69/P/S	INT	CK	50,215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/23/2024	213	P69/P70/P/S	INT	CK	50,215	Pass	YG
2/23/2024	214	P70/P71/P/S	INT	CK	50,215	Pass	YG
2/23/2024	215	P71/P72/P/S	INT	CK	50,215	Pass	YG
2/24/2024	216	P72/P73/P/S	INT	CK	50,215	Pass	YG
2/24/2024	217	P73/P74/P/S	INT	CK	50,215	Pass	YG
2/24/2024	218	P74/P75/P/S	INT	CK	50,215	Pass	YG
2/24/2024	219	P75/P76/P/S	INT	CK	50,215	Pass	YG
2/24/2024	220	P76/P77/P/S	INT	CK	50,215	Pass	YG
2/24/2024	221	P83/P/S	10' E on South Tie-in	CK	50,215	Pass	YG
2/24/2024	222	P83/P84/P/S	INT	CK	50,215	Pass	YG
2/24/2024	223	P84/P85/P/S	INT	CK	50,215	Pass	YG
2/23/2024	224	P59/P60/P/S	INT	EV	5,652	Pass	YG
2/23/2024	225	P58/P59/P/S	INT	EV	5,652	Pass	YG
2/23/2024	226	P57/P58/P/S	INT	EV	5,652	Pass	YG
2/23/2024	227	P57/P/S	15' W on South Tie-in	EV	5,652	Pass	YG
2/23/2024	228	P56/P57/P/S	INT	EV	5,652	Pass	YG
2/23/2024	229	P55/P56/P/S	INT	EV	5,652	Pass	YG
2/24/2024	230	P49/P50/P/S	INT	EV	5,652	Pass	YG
2/24/2024	231	P48/P49/P/S	INT	EV	5,652	Pass	YG
2/24/2024	232	P47/P48/P/S	INT	EV	5,652	Pass	YG
2/24/2024	233	P46/P47/P/S	INT	EV	5,652	Pass	YG
2/24/2024	234	P45/P46/P/S	INT	EV	5,652	Pass	YG
2/24/2024	235	P44/P45/P/S	INT	EV	5,652	Pass	YG
2/24/2024	236	P43/P44/P/S	INT	EV	5,652	Pass	YG
2/24/2024	237	P42/P43/P/S	INT	EV	5,652	Pass	YG
2/24/2024	238	P41/P42/P/S	INT	EV	5,652	Pass	YG
2/24/2024	239	P35/41/P/S	INT	EV	5,652	Pass	YG
2/24/2024	240	P17/P35/P/S	INT	EV	5,652	Pass	YG
2/24/2024	241	P17/P/S	15' W on South Tie-in	EV	5,652	Pass	YG
2/24/2024	242	P16/P17/P/S	INT	EV	5,652	Pass	YG
2/24/2024	243	P15/P16/P/S	INT	EV	5,652	Pass	YG
2/24/2024	244	P84/P/S	5' S on South Tie-in	CK	50,215	Pass	YG
2/24/2024	245	P85/P86/P/S	INT	CK	50,215	Pass	YG
2/24/2024	246	P86/P87/P/S	INT	CK	50,215	Pass	YG
2/24/2024	247	P15/P/S	5' W from South Tie-in	CK	50,215	Pass	YG
2/26/2024	248	P50/P/S	15' W from South Tie-in	CK	50,215	Pass	YG
2/26/2024	249	P50/P51/P/S	INT	CK	50,215	Pass	YG
2/26/2024	250	P51/P52/P/S	INT	CK	50,215	Pass	YG
2/26/2024	251	P52/P53/P/S	INT	CK	50,215	Pass	YG
2/26/2024	252	P53/P54/P/S	INT	CK	50,215	Pass	YG
2/26/2024	253	P54/P55/P/S	INT	CK	50,215	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/26/2024	254	P60/P61/P/S	INT	CK	50,215	Pass	YG
2/26/2024	255	P107/P108	85' S Riser Pipe	SB	328	Pass	YG
3/6/2024	3R-1	3P1/3P2	125' W	EV	50,075	Pass	MA
3/6/2024	3R-2	3P1/3P2	225' W	EV	50,075	Pass	MA
3/6/2024	3R-3	3P1/3P2	On W Trench	EV	50,075	Pass	MA
3/6/2024	3R-4	3P3/3P4	On W Trench	EV	50,075	Pass	MA
3/6/2024	3R-5	3P5/3P6	3DS-1, 150' W	EV	50,075	Pass	MA
3/6/2024	3R-6	3P6/3P7	3DS-2, 110' W	EV	50,075	Pass	MA
3/6/2024	3R-7	3P7/3P8	On W Trench	EV	50,075	Pass	MA
3/6/2024	3R-8	3P7/3P8/3P9	INT	EV	50,075	Pass	MA
3/6/2024	3R-9	3P8/3P9/3P10/3P11	INT	EV	50,075	Pass	MA
3/6/2024	3R-10	3P8/3P11	15' E	EV	50,075	Pass	MA
3/6/2024	3R-11	3P4/3P5	On E Trench	EV	50,075	Pass	MA
3/6/2024	3R-12	3P5	15' W, 10' S From 3P5/3P6 Seam	EV	50,075	Pass	MA
3/6/2024	3R-13	3P10/3P12	3DS-3, 25' W	EV	50,075	Pass	MA
3/6/2024	3R-14	3P12/3P13	3DS-4, 160' W	EV	50,075	Pass	MA
3/6/2024	3R-15	3P17/3P18	3DS-5, 55' W	CK	50,215	Pass	MA
3/6/2024	3R-16	3P19/3P19	3DS-6, 80' W	CK	50,215	Pass	MA
3/6/2024	3R-17	3P19/3P20/3P21	INT	CK	50,215	Pass	MA
3/6/2024	3R-18	3P5	5' W, 10' S From 3P5/3P6 Seam	EV	50,075	Pass	MA
3/6/2024	3R-19	R16/3P19	3DS-7, On R-19	CK	50,215	Pass	MA
3/6/2024	3R-20	3P10/3P11/S17	INT	CK	50,215	Pass	MA
3/6/2024	3R-21	3P10/3P12/S17	INT	CK	50,215	Pass	MA
3/6/2024	3R-22	3P12/3P13/S18/S19	INT	CK	50,215	Pass	MA
3/6/2024	3R-23	3P13/3P14/S20	INT	CK	50,215	Pass	MA
3/6/2024	3R-24	3P14/3P15/S21	INT	CK	50,215	Pass	MA
3/6/2024	3R-25	3P15/3P16/S22	INT	CK	50,215	Pass	MA
3/6/2024	3R-26	3P16/3P17/S24	INT	CK	50,215	Pass	MA
3/6/2024	3R-27	3P17/3P18/S25	INT	CK	50,215	Pass	MA
3/6/2024	3R-28	3P18/3P19/S27/S28	INT	CK	50,215	Pass	MA
3/6/2024	3R-29	3P19/3P21/S28/S29	INT	CK	50,215	Pass	MA
3/6/2024	3R-30	3P20/3P21/S29	INT	CK	50,215	Pass	MA
2/28/2024	4R1	492/4P3	50' NE	EV	50,075	Pass	OG
2/28/2024	4R2	4P2/4P3/4P20	INT	EV	50,075	Pass	OG
2/28/2024	4R3	4P4/4P5	180' NE	EV	50,075	Pass	OG
2/28/2024	4R4	4P5/4P6/4P7	INT	EV	50,075	Pass	OG
2/28/2024	4R5	4P6/4P7/4P8	INT	EV	50,075	Pass	OG
2/28/2024	4R6	4P7/4P8/4P9	INT	EV	50,075	Pass	OG
2/28/2024	4R7	4P8/4P9/4P10	INT	EV	50,075	Pass	OG
2/28/2024	4R8	4P10/4P11/4P13	INT	EV	50,075	Pass	OG
2/28/2024	4R9	4P11/4P13/4P14	INT	EV	50,075	Pass	OG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/28/2024	4R10	4P12/4P14/4P15	INT	EV	50,075	Pass	OG
2/28/2024	4R11	4P11/4P12/4P14	INT	EV	50,075	Pass	OG
2/29/2024	4R12	4P15/4P16/4P17	INT	EV	50,075	Pass	OG
2/29/2024	4R13	4P16/4P17/4P19	INT	EV	50,075	Pass	OG
2/29/2024	4R14	4P16/4P19	55' NE	EV	50,075	Pass	OG
2/29/2024	4R15	4P16/4P18/4P19	INT	EV	50,075	Pass	OG
2/29/2024	4R16	4P16/4P18	110' NE	EV	50,075	Pass	OG
2/29/2024	4R17	4P16/4P18	4DS-5, 85' NE	EV	50,075	Pass	OG
2/29/2024	4R18	4P15/4P16	70' NE	EV	50,075	Pass	OG
2/29/2024	4R19	4P11/4P12	4DS-3, 150' NE	EV	50,075	Pass	OG
2/29/2024	4R20	4P11/4P12	95' NE	EV	50,075	Pass	OG
2/28/2024	4R21	4P10	20' NE From 4P10/4P11	EV	50,075	Pass	OG
2/28/2024	4R22	4P10	15' NE From 4P10/4P11	EV	50,075	Pass	OG
2/28/2024	4R23	4P10	10' NE From 4P10/4P11	EV	50,075	Pass	OG
2/28/2024	4R24	4P1/4P2	On NE Trench	EV	50,075	Pass	OG
2/29/2024	4R25	4P4/4P5	4DS-2, 25'	EV	50,075	Pass	OG
2/29/2024	4R26	4P17	50' NE, 10' from 4P17/4P19	CK	50,215	Pass	OG
2/29/2024	4R27	4P16/4P18	On Trench	EV	50,075	Pass	OG
2/29/2024	4R28	4P18/4P21/4P22	INT	EV	50,075	Pass	OG
2/29/2024	4R29	4P18/4P19/4P22	INT	EV	50,075	Pass	OG
2/29/2024	4R30	4P19/4P22/4P23	INT	EV	50,075	Pass	OG
2/29/2024	4R31	4P19/4P23	4DS-7, 85' NE	CK	50,215	Pass	OG
2/29/2024	4R32	4P13/4R8	4DS-4, On R-8	EV	50,075	Pass	OG
2/29/2024	4R33	4P10/4P11	4DS-1, 215' NE	EV	50,075	Pass	OG
3/1/2024	4R34	4P15/4P16	On Trench	EV	50,075	Pass	OG
2/29/2024	4R35	4P17/4P19	4DS-6, 25' NE	EV	50,075	Pass	OG
2/29/2024	4R36	4P3/4P20/S-95	INT	EV	50,075	Pass	MA
2/29/2024	4R37	4P3/4P4/S96	INT	EV	50,075	Pass	MA
2/29/2024	4R38	4P4/4P5/S97	INT	EV	50,075	Pass	MA
2/29/2024	4R39	4P5/4P7/S99	INT	CK	50,215	Pass	MA
2/29/2024	4R40	4P7/S99/S100	INT	CK	50,215	Pass	MA
2/29/2024	4R41	4P7/4P9/S100	INT	CK	50,215	Pass	MA
2/29/2024	4R42	4P9/4P10/S101/S103	INT	CK	50,215	Pass	MA
2/29/2024	4R43	4P10/4P13/S104	INT	CK	50,215	Pass	MA
2/29/2024	4R44	4P13/4P14/S105	INT	CK	50,215	Pass	MA
2/29/2024	4R45	4P14/4P15/S107	INT	CK	50,215	Pass	MA
2/29/2024	4R46	4P15/S108	4DS-8, INT	CK	50,215	Pass	MA
2/29/2024	4R47	4P15/4P17/S108	INT	CK	50,215	Pass	MA
2/29/2024	4R48	4P17/4P19/S110	INT	CK	50,215	Pass	MA
2/29/2024	4R49	4P19/4P23/S117	INT	CK	50,215	Pass	MA
1/29/2024	R-1	P4/P5	3' E of AT	EV	5,652	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
1/29/2024	R-2	P4/P6	4' N of S At	EV	5,652	Pass	YG
1/29/2024	R-3	P3/P4/P6	22'N of S At	EV	5,652	Pass	YG
1/29/2024	R-4	P3/P6/P7	35' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-5	P2/P3/P7	41' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-6	P2/P7/P8	56' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-7	P1/P2/P8	63' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-8	P1/P8/P9	PD-5, 90' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-9	P15/P16/P17	13' N of S AT	EV	5,652	Pass	YG
1/29/2024	R-10	P14/P15/P1	32' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-11	DP-1	20' E of west AT	EV	5,652	Pass	YG
1/30/2024	R-12	DP-2	10' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-13	DP-3	15' E of W AT	EV	5,652	Pass	YG
1/30/2024	R-14	DP-4	52' E of W AT	EV	5,652	Pass	YG
1/30/2024	R-15	R8	90' S of N AT	EV	5,652	Pass	YG
1/30/2024	R-16	P9/P10/P18	65' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-17	P10-18-19	69' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-18	43749	70' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-19	44154	77' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-20	11-12-20-21	104' n of S AT	EV	5,652	Pass	YG
1/30/2024	R-21	12-13-21-22	115' n of S AT	EV	5,652	Pass	YG
1/30/2024	R-22	14-17-35	34' N of S AT	EV	5,652	Pass	YG
1/30/2024	R-23	14-30-35	58' n of s at	EV	5,652	Pass	YG
1/30/2024	R-24	14-30-31	80n of S AT	EV	5,652	Pass	YG
1/30/2024	R-25	30-31-32	25 NW of SE slope	EV	5,652	Pass	YG
1/30/2024	R-26	29-39	3' E of AT	EV	5,652	Pass	YG
1/30/2024	R-27	P33/P4	10' S of N AT	EV	5,652	Pass	YG
1/30/2024	R-28	P14/P31	Pd-6 13' S of R24	EV	5,652	Pass	YG
1/30/2024	R-29	P41/p42	Pd-7 15' N of S AT	EV	328	Pass	YG
1/30/2024	R-30	P26/P27	Pd-8 5' E of W AT	EV	328	Pass	YG
1/30/2024	R-31	P32/P40	Pd-9 91k N of AT	EV	5,652	Pass	YG
1/29/2024	R-32	P24/P25/P26	Intersection of panels	EV	5,652	Pass	YG
1/29/2024	R-33	P23/P24/P25	Intersection of panels	EV	5,652	Pass	YG
1/31/2024	R-34	P28	Middle of p28, in AT	EV	5,652	Pass	YG
1/31/2024	R-35	P27/P28	Top of slope, in AT	EV	5,652	Pass	YG
1/31/2024	R-36	P13/P14/P22/P23	Intersection of panels	EV	5,652	Pass	YG
1/31/2024	R-37	P14/P23/P24/P31	Intersection of panels	EV	5,652	Pass	YG
2/1/2024	R-38	P30/P32/P40	20' NW of SE slope	EV	5,652	Pass	YG
2/1/2024	R-39	30/35/40	10' NW of SE slope	EV	5,652	Pass	YG
2/1/2024	R-40	30/35/40	5' NW SE slope	EV	5,652	Pass	YG
2/1/2024	R-41	P14/P15	At at	EV	5,652	Pass	YG
2/1/2024	R-42	P4/P6	At AT	EV	5,652	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/1/2024	R-43	P25/P26/P31/P32	Intersection of panels	EV	328	Pass	YG
2/1/2024	R-44	P26/P32/P33/P34	Intersection of panels	EV	328	Pass	YG
2/1/2024	R-45	P25/P26/P34	Intersection of panels	EV	328	Pass	YG
2/1/2024	R-46	P26/P36/P37	Intersection of panels	EV	328	Pass	YG
2/1/2024	R-47	P26/P26/P37/P8	Intersection of panels	EV	328	Pass	YG
2/1/2024	R-48	P26/P27/P8	Intersection of panels	EV	328	Pass	YG
2/2/2024	R-49	P27/P28/P8	35' S of N AT	EV	328	Pass	YG
2/2/2024	R-50	P28/P29/P38	15'S of N AT	EV	328	Pass	YG
2/2/2024	R-51	P26/P40	78' S of N AT	EV	328	Pass	YG
2/2/2024	R-52	P43/P42	60' S of N AT	EV	328	Pass	YG
2/2/2024	R-53	P46/P47	15' S of N AT	EV	328	Pass	YG
2/2/2024	R-54	P46/P47	60' S of N AT	EV	328	Pass	YG
2/2/2024	P-55	P47/P48	PD10, 60' s of N at	EV	328	Pass	YG
2/2/2024	56	P48/P49	PD12,10' n of s at	EV	328	Pass	YG
2/2/2024	57	P49/P50	5' N of S AT	EV	328	Pass	YG
2/2/2024	58	P50/P51	5' S of N at	EV	328	Pass	YG
2/2/2024	59	P54/P55	28' s of n at PD11	EV	328	Pass	YG
2/2/2024	60	P58/P59	Cap on p58/P59	EV	328	Pass	YG
2/2/2024	61	P60/P61	PD14 15' S of N AT	EV	328	Pass	YG
2/2/2024	62	P65/P66	PD15 35' N of S AT	EV	328	Pass	YG
2/2/2024	63	P68/P69	PD16 15' S of N AT	EV	328	Pass	YG
2/5/2023	64	P60/P61	Cap over P60/P61 DP14B	EV	328	Pass	YG
2/2/2024	65	P61/CAP	PD17 10' S of N AT	EV	328	Pass	YG
2/2/2024	66	P48/P49	Cap over p48/P49	EV	328	Pass	YG
2/2/2024	67	P48/P49	PD-18,3' N of S AT	EV	328	Pass	YG
2/6/2024	68	P56/P57	2' N of S at	EV	328	Pass	YG
2/6/2024	69	P71/P72	25' N of S AT	EV	328	Pass	YG
2/6/2024	70	P75/P76	15' N of SAT	EV	328	Pass	YG
2/6/2024	71	P77/P78	4' N of S AT	EV	328	Pass	YG
2/6/2024	72	P79/P80	75' S of N At	EV	328	Pass	YG
2/6/2024	73	P81/P82	15' S of N AT DP21	EV	328	Pass	YG
2/7/2024	74	P77/P78/P83	Intersection of panels	EV	328	Pass	YG
2/7/2024	75	P78/P79/P83	Intersection of panels	EV	328	Pass	YG
2/7/2024	76	P79/P80	40' NE of SW AT	EV	328	Pass	YG
2/7/2024	77	P79/P80/P83	Intersection of panels	EV	328	Pass	YG
2/7/2024	78	P79/P80	45' NE of SW corner	EV	328	Pass	YG
2/7/2024	79	P80/P81/P83	Intersection of panels	EV	328	Pass	YG
2/7/2024	80	P81/P82/P83	Intersection of panels	EV	328	Pass	YG
2/7/2024	81	P78/P83	In anchor trench	EV	328	Pass	YG
2/7/2024	82	P86/P87/P88	12' NE of SW AT	EV	328	Pass	YG
2/7/2024	83	P85/P86/P88	30' NE of SW AT	EV	328	Pass	YG

PROMUS ENGINEERING

Geomembrane Repair Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Date	Repair ID	Panel or Seam ID	Repair Location	Welder ID	Welder Machine	V-Box Test (Pass/Fail)	Tech ID
2/7/2024	84	P85/P88/P89	36' NE OF SW AT	EV	328	Pass	YG
2/7/2024	85	P85/P89	60' NE OF SW AT	EV	328	Pass	YG
2/7/2024	86	P85/P89/P90	70' NE OF SW AT	EV	328	Pass	YG
2/7/2024	87	P84/P89/P90	77' NE OF SW AT	EV	328	Pass	YG
2/7/2024	88	P90	102' N OF S AT	EV	328	Pass	YG
2/7/2024	89	P89/P90/P91	105' N of S AT	EV	328	Pass	YG
2/7/2024	90	P89/P91	115' N of S AT	EV	328	Pass	YG
2/7/2024	91	P83/P84/P91	125' N of S AT	EV	328	Pass	YG
2/7/2024	92	P83/P91/P92	5' n of r91	EV	328	Pass	YG
2/7/2024	93	P82/P83/P92/P93	77' S of N AT	EV	328	Pass	YG
2/7/2024	94	P92/P93	DS22 35' N of S AT	EV	328	Pass	YG
2/6/2024	95	P59/P60	DP 13 25' n of s at	EV	328	Pass	YG
2/7/2024	96	P95/P96	99' S AT	EV	328	Pass	YG
2/7/2024	97	P95/P96	On toe of N slope	EV	328	Pass	YG
2/7/2024	98	P96/P97	130' S of N AT	EV	328	Pass	YG
2/13/2024	99	96/97	1' off toe of s slope	EV	5,652	Pass	YG
2/13/2024	100	96/97	5' from toe of S slope	EV	5,652	Pass	YG
2/6/2024	101	P64/P65	DP14A in N AT	EV	328	Pass	YG
2/13/2024	102	P95/96	DP23	EV	5,652	Pass	YG
2/7/2024	103	P80/P81	70' S of N AT	EV	328	Pass	YG
2/7/2024	104	P81/P82	80' S of N AT	EV	328	Pass	YG
2/8/2024	105	P1	Cap in AT of SW corner	EV	328	Pass	YG
2/13/2024	106	P100/P101	75' S of N At PD24	EV	5,652	Pass	YG
2/13/2024	107	P100/P101	30' S of N AT	EV	5,652	Pass	YG
2/13/2024	108	P100/P101	3' S of N AT	EV	5,652	Pass	YG
2/13/2024	109	105/106	5' S of N AT	EV	5,652	Pass	YG
2/13/2024	110	106/107	10' S of N AT pd25	EV	5,652	Pass	YG
2/13/2024	111	102-103	1' N of N AT	EV	5,652	Pass	YG
2/13/2024	112	P102-103	IN N AT	EV	5,652	Pass	YG
2/13/2024	113	P102-103-104	7' S of N AT	EV	5,652	Pass	YG
2/13/2024	114	P102-104-105	43' S of N AT	EV	5,652	Pass	YG
2/13/2024	115	P102-105-106	21' from Toe of N slope	EV	5,652	Pass	YG
2/13/2024	116	P102-106-107	On toe of S slope	EV	5,652	Pass	YG
2/13/2024	117	P102-107-108	22' N of S AT	EV	5,652	Pass	YG
2/13/2024	118	P101-102	IN N AT	EV	5,652	Pass	YG

Destructive Seam Testing

PROMUS ENGINEERING

Destructive Seam Sample Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Sample ID	Seam or Repair ID	Wedge or Extrusion Seam	Welder ID	Welder Machine	Field Test Results																		Field Test (Pass/Fail)	Lab Test (Pass/Fail)	Tech ID
					Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Peel 4A	Peel 4B	Peel 5A	Peel 5B	Peel 6A	Peel 6B	Shear 1	Shear 2	Shear 3	Shear 4	Shear 5	Shear 6			
DS-1	S-4/S-5	Wedge	LH	4151	114	111	123	133	121	131	119	122	117	118			170	168	165	164	172		Pass	Pass	DG
DS-2	S-7/S-8	Wedge	OG	4183	121	114	107	118	121	131	118	118	110	119			174	170	169	172	170		Pass	Pass	DG
DS-3	S-20/S-21	Wedge	OG	4183	138	107	136	130	125	114	110	109	135	119			168	171	168	175	169		Pass	Pass	DG
DS-4	S-22/S-24	Wedge	LH	4151	124	121	127	115	128	118	115	129	109	118			165	159	170	168	161		Pass	Pass	DG
DS-5	S-13/S-20	Wedge	LH	4151	112	119	123	120	133	128	114	136	136	127			165	175	169	172	167		Pass	Fail	DG
DS-6	S-29/S-30	Wedge	OG	4183	138	135	125	115	132	117	121	119	135	130			170	172	173	168	170		Pass	Pass	DG
DS-7	S-28/S-37	Wedge	OG	4183	112	157	110	118	118	156	110	152	109	149			180	199	187	175	192		Pass	Pass	DG
DS-8	S-47/S-48	Wedge	LH	4151	157	121	143	105	157	110	155	127	140	102			212	200	215	203	209		Pass	Pass	DG
DS-9	S-45/S-46	Wedge	OG	4183	119	141	134	138	120	127	122	134	118	129			214	212	209	215	212		Pass	Pass	DG
DS-10	S-53/S-54	Wedge	LH	4151	141	125	132	125	152	122	126	124	137	127			200	211	213	207	201		Pass	Pass	DG
DS-11	S-55/S-57	Wedge	OG	4183	140	119	141	119	138	119	135	114	153	125			208	207	210	200	201		Pass	Pass	DG
DS-12	S-61/S-62	Wedge	LH	4151	145	127	118	132	142	129	105	127	111	135			196	205	207	198	215		Pass	Fail	DG
DS-13	S-65/S-66	Wedge	OG	4183	118	133	123	139	129	124	125	129	120	132			207	215	199	213	203		Pass	Pass	DG
DS-14	S-68/S-69	Wedge	LH	4151	139	105	119	142	125	137	157	128	107	129			217	209	215	205	212		Pass	Pass	DG
DS-15	S-73/S-74	Wedge	OG	4183	110	127	127	131	115	120	117	129	141	157			209	215	216	207	209		Pass	Pass	DG
DS-16	S-77/S-78	Wedge	LH	4151	143	117	138	119	143	115	133	132	142	128			210	199	205	212	209		Pass	Fail	DG
DS-17	S-80/S-81	Wedge	OG	4183	119	143	99	97	98	128	99	132	101	125			190	195	188	180	192		Pass	Pass	DG
DS-18	S-90/S-91	Wedge	LH	4151	120	128	119	116	118	109	117	120	118	130			168	173	170	169	177		Pass	Pass	DG
DS-19	S-97/S-98	Wedge	OG	4183	141	120	115	112	107	110	123	109	116	111			167	168	160	169	170		Pass	Pass	DG
DS-20	S-100/S-102	Wedge	LH	4151	117	114	111	115	120	107	128	105	126	100			179	189	180	184	180		Pass	Pass	DG
DS-21	S-100/S-101	Wedge	OG	4183	120	103	120	98	115	97	120	100	120	102			180	185	186	177	179		Pass	Pass	DG
DS-22	S-105/S-106	Wedge	LH	4151	118	116	112	115	117	145	110	140	117	138			182	188	185	189	181		Pass	Pass	DG
DS-23	S-107/S-108	Wedge	OG	4183	135	120	129	126	130	122	121	109	130	144			187	180	182	190	194		Pass	Pass	DG
DS-24	S-115/S-117	Wedge	LH	4151	146	106	165	125	133	129	137	135	128	134			185	187	182	178	181		Pass	Pass	DG
DS-25	S-110/S-114	Wedge	OG	4183	129	150	130	157	125	159	119	151	109	140			170	175	180	184	181		Pass	Pass	DG
DS-26	S-91/S-99	Wedge	LH	4151	149	130	121	150	150	160	161	138	168	141			182	185	186	188	179		Pass	Pass	DG
DS-27	S-103/S-104	Wedge	LH	4151	118	121	120	122	115	124	126	119	121	122			176	184	180	177	174		Pass	Pass	DG
DS-28	S-104/S-105	Wedge	OG	4183	122	121	130	121	146	118	111	101	114	149			177	179	181	182	179		Pass	Pass	DG

PROMUS ENGINEERING

Destructive Seam Sample Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Sample ID	Seam or Repair ID	Wedge or Extrusion Seam	Welder ID	Welder Machine	Field Test Results																		Field Test (Pass/Fail)	Lab Test (Pass/Fail)	Tech ID
					Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Peel 4A	Peel 4B	Peel 5A	Peel 5B	Peel 6A	Peel 6B	Shear 1	Shear 2	Shear 3	Shear 4	Shear 5	Shear 6			
DS-5B	S-12/S-20	Wedge	LH	4151	156	132	149	129	150	130	150	153	163	160			189	180	177	180	184		Pass	Pass	DG
DS-5A	S-13/S-19	Wedge	LH	4151	156	137	149	142	142	135	150	149	154	151			180	197	190	199	200		Pass	Pass	DG
DSX-1	SR-3/S-20	Extrusion	EV	5652	142		118		110		109		131				170	165	173	169	174		Pass	Pass	DG
DSX-2	SR-6/S-29	Extrusion	SB	328	150		129		107		115		109				168	170	164	169	173		Pass	Pass	DG
DS-12B	S-61/S-62	Wedge	LH	4151	126	137	155	122	118	133	123	130	120	133			213	218	200	201	202		Pass	Pass	DG
DS-12A	S-62/S-63	Wedge	LH	4151	123	130	141	120	147	128	135	144	140	125			201	204	206	190	198		Pass	Pass	DG
DS-16B	S-77/S-78	Wedge	LH	4151	129	134	150	126	144	130	127	136	118	137			197	190	188	196	200		Pass	Pass	DG
DS-16A	S-77/S-78	Wedge	LH	4151	134	127	109	146	140	125	138	120	128	133			200	208	214	205	211		Pass	Pass	DG
DSX-3	SR-58/ N Tie-in	Extrusion	CK	50215	141		92		126		146		115				140	150	145	147	152		Pass	Pass	DG
DSX-4	S-71/N Tie-in	Extrusion	CK	50215	126		114		139		119		122				158	160	155	159	153		Pass	Pass	DG
DSX-5	S-84/ N Tie-in	Extrusion	CK	50215	128		113		118		139		125				150	153	156	160	153		Pass	Pass	DG
DSX-6	S-116/ N Tie-in	Extrusion	EV	5652	108		98		112		115		107				147	145	154	150	152		Pass	Pass	DG
DSX-7	S-76/S Tie-in	Extrusion	SB	328	112		123		125		105		100				160	165	163	160	165		Pass	Pass	DG
DSX-8	S-63/ S Tie-in	Extrusion	CK	50215	124		121		116		131		137				157	164	160	159	153		Pass	Pass	DG
PDS-1	P1/P2	Wedge	PB	4151	118	127	120	153	124	145	130	143	126	140			190	199	189	193	188		Pass	Pass	DG
PDS-2	P6/P7	Wedge	OG	4183	153	157	134	137	144	120	120	150	130	133			191	195	187	198	185		Pass	Pass	DG
PDS-3	P18/P19	Wedge	PB	4151	122	111	135	112	120	108	124	114	128	111			183	187	180	190	185		Pass	Pass	DG
PDS-4	P21/P22	Wedge	OG	4183	118	129	122	123	126	115	120	111	125	120			167	175	170	169	172		Pass	Pass	DG
PDS-5	P1/P8	Ext	EV	5652	95		105		123		156		155				160	172	166	159	168		Pass	Pass	DG
PDS-6	P14/P31	Wedge	PB	4151	106	114	116	116	119	131	107	117	112	125			167	169	170	165	172		Pass	Pass	DG
PDS-7	P41/P42	Wedge	PB	4151	116	107	114	103	114	126	111	107	110	110			164	169	170	169	167		Pass	Pass	DG
PDS-8	P26/P27	Wedge	OG	4183	117	111	112	116	128	113	118	115	116	114			166	176	165	168	171		Pass	Pass	DG
PDS-9	P32/P40	Wedge	OG	4183	105	115	113	114	110	118	112	119	112	127			168	169	168	172	172		Pass	Pass	DG
PDS-10	P47/P48	Wedge	PB	4151	107	114	106	120	105	127	104	122	112	129			174	172	169	170	172		Pass	Pass	DG
PDS-11	P54/P55	Wedge	PB	4151	106	110	106	112	107	117	102	119	105	118			165	171	168	169	172		Pass	Pass	DG
PDS-12	P48/P49	Wedge	RP	4183	110	102	112	110	105	100	100	112	97	114			168	172	170	175	169		Pass	Fail	DG
PDS-12A	P48/P49	Ext	EV	328	97	103	94	109	97	112	118	117	105	110			150	150	145	152	149		Pass	Pass	DG
PDS-12B	P48/P49	Ext	EV	328	100	104	96	119	113	98	104	122	107	99			146	140	145	150	147		Pass	Pass	DG

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Destructive Seam Sample Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Sample ID	Seam or Repair ID	Wedge or Extrusion Seam	Welder ID	Welder Machine	Field Test Results																		Field Test (Pass/Fail)	Lab Test (Pass/Fail)	Tech ID
					Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Peel 4A	Peel 4B	Peel 5A	Peel 5B	Peel 6A	Peel 6B	Shear 1	Shear 2	Shear 3	Shear 4	Shear 5	Shear 6			
PDS-13	P59/P60	Wedge	OG	4151	101	107	101	105	120	94	109	102	114	105			153	154	155	164	150		Pass	Pass	DG
PDS-14	P60/P61	Wedge	OG	4183																			Fail		DG
PDS-14A	P64/P65	Ext	EV	328	102	96	123	100	106	114	104	105	114	109			151	148	151	155	149		Pass	Pass	DG
PDS-14B	56/57	Ext	EV	328	108	113	111	116	130	106	108	115	106	110			148	155	157	149	153		Pass	Pass	DG
PDS-15	P65/P66	Wedge	PB	4151	102	110	110	109	112	115	117	112	118	110			160	168	159	162	158		Pass	Pass	DG
PDS-16	P68/P69	Wedge	OG	4183	98	102	117	101	111	118	131	110	100	118			164	162	159	116	159		Pass	Pass	DG
PDS-17	P61/CAP	Ext	EV	328	113		130		114		132		128				150	157	159	160	163		Pass	Pass	DG
PDS-18	P49/CAP	Ext	EV	328	141		131		142		136		139				165	175	160	169	170		Pass	Pass	DG
PDS-19	P71/P72	Wedge	PB	4151	107	106	106	104	133	100	107	101	129	110			160	156	159	162	159		Pass	Pass	DG
PDS-20	P75/P76	Ext	PB	4183	113	107	112	108	114	110	110	104	116	108			163	162	162	164	158		Pass	Pass	DG
PDS-21	P81/P82	Ext	OG	4183	111	100	129	109	133	117	122	109	115	108			160	166	169	163	165		Pass	Pass	DG
PDS-22	P92/P93	Wedge	OG	4183	105	126	108	119	130	133	115	132	129	134			166	158	162	164	159		Pass	Pass	DG
PDS-23	P95/P96	Wedge	OG	4183	123	119	115	122	110	109	108	141	116	123			160	161	157	150	155		Pass	Pass	DG
PDS-24	P100/P101	Wedge	OG	4183	123	110	118	114	132	109	125	116	125	116			193	201	200	198	200		Pass	Pass	DG
PDS-25	P106/P107	Wedge	SB	4151	130	117	120	115	119	145	145	115	122	125			197	199	190	192	200		Pass	Pass	DG
XDS-1	P50/P/S	Ext	CK	50215	91		105		95		100		98				148	152	150	155	149		Pass	Pass	DG
XDS-2	P71/S75	Ext	CK	50215	104		103		108		99		111				150	152	157	147	151		Pass	Pass	DG
XDS-3	P101/S103	Ext	CK	50215	102		105		100		107		110				154	156	150	160	157		Pass	Pass	DG
XDS-4	P84/S91	Ext	CK	50215	99		107		106		100		98				160	170	163	167	160		Pass	Pass	DG
XDS-5	P15/S28	Ext	EV	5652	140		146		139		137		139				160	157	163	155	163		Pass	Pass	DG
3DS-1	3P5/3P6	Wedge	SB	4151	110	122	113	123	108	112	109	110	105	111			170	179	181	175	177		Pass	Pass	DG
3DS-2	3P6/3P7	Wedge	OG	4183	110	119	118	110	126	116	115	129	114	126			178	177	187	183	185		Pass	Pass	DG
3DS-3	3P10/3P12	Wedge	OG	4183	131	128	120	119	123	118	96	116	120	133			168	174	175	172	169		Pass	Pass	DG
3DS-4	3P12/3P13	Wedge	SB	4151	111	111	107	107	99	125	132	116	121	108			170	172	180	173	169		Pass	Pass	DG
3DS-5	3P17/3P18	Wedge	OG	4183	104	108	117	116	121	122	122	112	133	120			165	170	171	167	169		Pass	Pass	DG
3DS-6	3P18/3P19	Wedge	SB	4151	106	110	120	107	120	115	110	112	117	128			168	170	173	179	167		Pass	Pass	DG
3DS-7	R16/3P19	Ext	CK	50215	135		109		103		93		109				171	170	176	175	170		Pass	Pass	DG
4DS-1	4P10/4P11	Wedge	SB	4151	118	115	115	114	123	111	119	141	110	120			175	179	181	180	177		Pass	Pass	DG
4DS-2	4P4/4P5	Wedge	SB	4151	108	117	121	114	145	113	114	118	115	118			176	181	180	177	174		Pass	Pass	DG

PROMUS ENGINEERING

Destructive Seam Sample Information

Project: **ECO-VISTA CELL 13A**
Location: **SPRINGDALE, ARKANSAS**

Project No.: **230181**
Installer: **ESI**
Material: **60-MIL HDPE**

Sample ID	Seam or Repair ID	Wedge or Extrusion Seam	Welder ID	Welder Machine	Field Test Results																		Field Test (Pass/Fail)	Lab Test (Pass/Fail)	Tech ID
					Peel 1A	Peel 1B	Peel 2A	Peel 2B	Peel 3A	Peel 3B	Peel 4A	Peel 4B	Peel 5A	Peel 5B	Peel 6A	Peel 6B	Shear 1	Shear 2	Shear 3	Shear 4	Shear 5	Shear 6			
4DS-3	4P11/4P12	Wedge	OG	4183	123	124	108	118	118	133	113	114	111	115			170	173	173	175	172		Pass	Pass	DG
4DS-4	4P13/4R8	Ext	EV	50075	137		106		117		124		125				181	179	181	183	177		Pass	Pass	DG
4DS-5	4P16/4P18	Wedge	OG	4183	131	122	120	109	113	109	100	111	113	127			160	162	169	165	165		Pass	Pass	DG
4DS-6	4P17/4P19	Wedge	SB	4151	113	112	120	109	110	120	112	108	109	113			159	160	163	158	161		Pass	Pass	DG
4DS-7	4P19/4P23	Wedge	SB	4151	130	125	126	124	133	123	124	132	120	128			170	172	174	171	171		Pass	Pass	DG
4DS-8	4P15/S108	Ext	CK	50215	113		123		101		105		107				159	160	162	157	164		Pass	Pass	DG
CDS-1	Cap/P64	Extrusion	EV	5652	133		106		107		137		96				199	195	201	205	197		Pass	Fail	DG
CDS-1A	Cap/P64	Extrusion	EV	5652	100		89		93		90		91				150	155	153	154	149		Pass	Fail	DG
CDS-1B	Cap/P63	Extrusion	EV	5652	96		124		123		112		148				153	151	150	148	155		Pass	Pass	DG
CDS-1AA	Cap/P63	Extrusion	EV	5652	97		107		151		131		120				160	172	177	168	163		Pass	Pass	DG
CDS-2	Cap/P37	Extrusion	CK	50215	123		120		122		142		129				167	160	173	170	175		Pass	Pass	DG
CDS-3	Cap/P51	Extrusion	SB	328	139		123		122		100		128				157	167	158	167	159		Pass	Pass	DG
CDS-4	Cap/P67	Extrusion	EV	5652	70		50																Fail		DG
CDS-4B	Cap/P67	Extrusion	EV	5652	117		132		130		120		124				200	205	207	204	209		Pass	Pass	DG
CDS-4A	Cap/P68	Extrusion	EV	5652	136		122		114		111		126				203	210	197	199	201		Pass	Pass	DG
CDS-5	Cap/P76	Extrusion	EV	5652	99		134		143		122		154				199	204	207	198	205		Pass	Pass	DG
CDS-6	Cap/P66	Extrusion	SB	328	124		106		105		89		99				153	150	155	149	153		Pass	Pass	DG
CDS-7	Cap/P73	Extrusion	SB	328	122		120		85		125		92				157	156	150	154	160		Pass	Pass	DG
CDS-8	Cap/P95	Extrusion	SB	328	119		128		130		127		125				140	149	147	150	145		Pass	Pass	DG
CDS-9	Cap/P100	Extrusion	SB	328	102		89		133		106		97				155	154	150	148	147		Pass	Pass	DG
CDS-10	Cap/P102	Extrusion	CK	50215	105		117		99		120		117				140	147	151	155	153		Pass	Pass	DG
CDS-11	Cap/P89	Extrusion	EV	5652	102		106		105		114		123				167	170	168	172	175		Pass	Pass	DG
CDS-12	Cap/P94	Extrusion	EV	5652	93		99		124		113		109				160	165	167	158	161		Pass	Pass	DG
CDS-13	Cap/P64	Extrusion	CK	50215	124		114		123		119		122				150	154	160	153	153		Pass	Pass	DG

Date: 2023-12-19

Mail To:
Brad Fureigh
Waste Management Inc (Seams)
95 Arlington Dr
Ward , Ar , 72176

Bill To:

Waste Management Inc (Seams)

e-mail:
bfureigh@promuseengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**79955**
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,
sigfile
geolab

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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SIGNATURE 12/19/2023 DATE
PROMUS ENGINEERING

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to sample
for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of t

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79955

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	114	114	116	116	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	116	126	147	120	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	164	162	165	165	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	123	117	118	118	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	118	125	124	126	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	163	162	166	164	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79955

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	134	130	126	120	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	146	140	154	131	130	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	164	166	168	165	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	117	120	118	117	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	137	136	134	135	135	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	165	165	165	163	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79955

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	145	131	92	137	**125**
Peel Incursion (%)	<5	30	<5	50	<5	
Peel Locus Of Failure Code	SE	AD-BRK	SE	AD-BRK	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	89	120	133	118	117	**115**
Peel Incursion (%)	<5	90	<5	<5	90	
Peel Locus Of Failure Code	SE	AD-BRK	SE	SE	AD-BRK	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	163	163	166	164	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	128	125	129	129	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	135	141	142	124	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	166	165	168	166	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79955

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	137	114	115	119	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	148	136	144	149	146	**145**
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)	167	165	164	169	165	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2023-12-22

Mail To:
Brad Fureigh
Waste Management Inc (Seams)
95 Arlington Dr
Ward , Ar , 72176

Bill To:

Waste Management Inc (Seams)

e-mail:
bfureigh@promuseengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**79968**
Material(s) Tested:	(23) Heat Fusion Weld Seam(s) (2) Single Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits repr

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-5A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	148	166	140	140	**148**
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)	137	132	158	147	149	**145**
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)	168	169	189	168	169	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-5B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	159	161	148	147	**153**
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)	144	148	144	147	139	**144**
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)	171	172	187	169	169	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	140	140	134	141	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	140	134	145	141	142	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	167	168	166	165	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	121	119	120	121	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	107	108	113	112	113	**111**
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)	171	170	170	170	169	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	123	115	124	131	118	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	116	118	124	120	132	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	168	164	168	166	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	118	113	112	110	**113**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	105	112	117	124	129	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	169	167	167	165	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	119	135	121	122	**125**
Peel Incursion (%)	<5	90	<5	<5	<5	
Peel Locus Of Failure Code	SE	AD-BRK	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	121	109	114	117	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	169	169	168	163	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	123	125	126	124	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	131	117	115	112	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	166	164	166	167	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	110	112	110	125	120	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	122	118	117	121	**118**
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)	168	165	169	166	168	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	114	118	120	114	**118**
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)	99	108	92	113	102	**103**
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)	168	165	165	165	164	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	138	123	123	126	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	120	139	136	118	**128**
Peel Incursion (%)	90	<5	<5	<5	<5	
Peel Locus Of Failure Code	AD-BRK	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	165	166	164	165	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	116	118	117	116	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	116	129	104	104	122	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	169	170	171	167	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	134	124	117	122	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	126	125	128	130	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	159	181	159	163	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	116	125	109	127	119	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	136	123	121	129	129	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	167	165	169	165	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	123	114	113	115	125	**118**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	108	115	111	114	112	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	166	166	166	161	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	120	131	117	120	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	108	109	123	109	119	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	170	186	167	167	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	127	141	127	138	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	125	126	148	123	135	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	169	184	162	166	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	122	142	121	122	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	143	125	149	140	135	**138**
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)	168	166	186	166	168	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	109	123	112	120	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	146	149	157	144	139	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	167	184	164	165	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	105	128	126	117	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	129	160	124	135	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	166	167	166	168	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	138	149	142	145	**143**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	147	137	164	140	144	**146**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	176	177	177	177	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	114	126	124	120	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	129	136	123	125	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	170	169	169	170	170	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits repr

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	116	139	123	121	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	106	134	121	109	102	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	170	168	170	159	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79968

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	104	105	125	99	102	**107**
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)	170	168	193	165	164	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSX-2 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	113	109	123	112	120	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	172	190	175	160	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-01-10

Mail To:
Brad Fureigh
Waste Management Inc (Seams)
95 Arlington Dr
Ward , Ar , 72176

Bill To:

Waste Management Inc (Seams)

e-mail:
bfureigh@promuseengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**79988**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Kendall Villarreal
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79988

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-12A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	125	127	126	118	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	119	118	123	122	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	156	156	159	158	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-12B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	123	121	117	101	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	128	123	133	123	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	166	166	167	167	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 79988

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: SDS-16A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	124	131	116	124	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	125	125	124	122	118	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	163	165	166	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: SDS-16B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	122	122	126	124	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	129	120	121	128	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	159	161	161	162	161	**161**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-02-01

Mail To:
Brad Fureigh
Promus Engineering (seams)
95 Arlington Dr
Ward , Ar ,

Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80047**
Material(s) Tested:	(4) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80047

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	116	113	112	114	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	120	116	123	117	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	165	163	166	164	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	110	111	113	112	109	**111**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	112	120	119	116	119	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	163	166	163	162	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80047

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	117	128	118	118	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	104	105	107	103	106	**105**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	158	159	159	156	**158**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	119	119	119	121	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	133	107	106	105	107	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	165	166	166	167	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80047

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-5 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	132	129	146	152	150	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	159	160	161	158	157	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-02-02

Mail To:
Brad Fureigh
Waste Management Inc (Seams)
95 Arlington Dr
Ward , Ar , 72176

Bill To:

Waste Management Inc (Seams)

e-mail:
bfureigh@promuseengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80058**
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,
sigfile
geolab

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80058

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	127	132	122	116	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	107	127	120	105	124	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	160	159	177	159	158	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	114	128	113	121	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	113	119	124	125	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	167	184	167	168	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80058

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	149	117	133	119	117	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	115	130	118	119	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	167	184	169	168	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	116	118	129	120	133	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	121	141	126	123	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	170	172	190	171	170	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80058

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	127	125	115	115	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	100	105	118	105	113	**108**
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)	169	171	188	171	170	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	114	125	114	117	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	113	121	111	114	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	171	187	171	172	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80058

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	109	107	99	107	76	**100**
Peel Incursion (%)	<5	<5	30	<5	<5	
Peel Locus Of Failure Code	SE	SE	AD-BRK	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	107	131	119	122	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	168	186	169	172	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

Date: 2024-02-05

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95 Arlington Dr
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Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80061**
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,
sigfile
geolab

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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PROMUS ENGINEERING

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80061

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-12A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	100	111	114	94	127	**109**
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)	109	122	129	114	118	**118**
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)	167	167	167	168	167	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-12B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	106	109	127	112	133	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	131	128	135	127	136	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	166	166	168	167	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80061

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	132	140	118	146	129	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	109	109	108	113	**111**
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)	168	167	166	169	167	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-14A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	118	121	131	129	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	118	137	115	128	114	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	166	166	167	167	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80061

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-14B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	128	114	126	125	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	125	118	113	132	113	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	167	166	167	167	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	122	113	119	108	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	133	130	114	109	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	165	167	168	168	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80061

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	113	117	119	117	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	132	142	144	141	145	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	165	163	165	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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Date: 2024-02-06

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Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80069**
Material(s) Tested:	(2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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02/06/2024
DATE

PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80069

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-17 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	142	146	125	147	118	**136**
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)	162	164	165	167	163	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-18 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	136	128	128	136	154	**136**
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)	162	160	164	161	162	**162**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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02/06/2024
DATE

PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

Date: 2024-02-07

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Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80074**
Material(s) Tested:	(3) 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,
sigfile
geolab

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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02/07/2024
DATE

PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits rep

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 50 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80074

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	117	114	114	112	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	107	110	106	108	105	**107**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	163	164	165	163	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	118	119	119	116	114	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	135	118	114	117	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	167	168	169	165	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits rep

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 50 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80074

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	143	121	116	145	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	130	132	144	139	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	169	169	167	168	171	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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Date: 2024-02-09

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Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80088**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
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If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,
sigfile
geolab

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80088

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	123	140	141	134	121	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	127	121	95	110	135	**118**
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)	171	172	170	171	172	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	123	120	119	120	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	131	125	130	127	134	**129**
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)	171	170	171	170	172	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits re

Date: 2024-02-13

Mail To:
Brad Fureigh
Promus Engineering (seams)
95 Arlington Dr
Ward , Ar ,

Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80101**
Material(s) Tested:	(2) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits repro

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80101

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: PDS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	124	120	120	119	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	125	126	133	130	**129**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	165	167	166	166	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: PDS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	114	111	118	126	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	109	121	119	120	107	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	163	161	164	161	**162**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80101

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	95	104	122	86	102	**102**
Peel Incursion (%)	<5	<5	20	40	100	
Peel Locus Of Failure Code	SE	SE	AD-BRK	AD-BRK	AD	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	NON-FTB	
Shear						**Shear**
Shear Strength (ppi)	164	161	165	164	166	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-02-15

Mail To:
Brad Fureigh
Waste Management Inc (Seams)
95 Arlington Dr
Ward , Ar , 72176

Bill To:

Waste Management Inc (Seams)

e-mail:
bfureigh@promuseengineering.com dconrad@wm.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80119**
Material(s) Tested:	(3) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Waste Management Inc (Seams)
Project: ECO VISTA Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80119

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	111	156	142	154	139	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	154	155	155	154	151	**154**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-1A | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	117	100	112	117	115	**112**
Peel Incursion (%)	40	100	20	<5	<5	
Peel Locus Of Failure Code	AD-BRK	AD	AD-BRK	SE	SE	
Peel NSF Failure Code	FTB	NON-FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	164	163	163	164	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-1B | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	136	127	118	129	121	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	165	166	164	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-02-21

Mail To:
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Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80152**
Material(s) Tested:	(6) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80152

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: XDS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	134	86	104	124	138	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	171	166	167	165	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: XDS-2 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	103	108	114	88	118	**106**
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)	162	163	166	165	163	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: XDS-3 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	100	112	107	97	99	**103**
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)	165	166	163	167	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80152

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-4 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	119	118	122	124	143	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	173	171	174	171	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSX-5 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	115	145	121	140	154	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	167	165	164	167	163	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSX-6 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	119	125	116	105	133	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	162	163	162	168	166	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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95 Arlington Dr
Ward , Ar ,

Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80153**
Material(s) Tested:	(10) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
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NON-FTB	100% peel.

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

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80153

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-1AA | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	122	153	171	144	103	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	164	187	164	163	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-2 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	154	154	175	150	156	**158**
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)	167	162	183	162	159	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-3 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	150	155	146	149	141	**148**
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)	162	159	175	160	161	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80153

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-4A | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	119	113	155	105	121	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	162	160	182	162	165	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-4B | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	116	109	125	116	117	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	166	186	167	172	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-5 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	124	111	128	114	105	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	164	183	162	162	**167**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80153

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-6 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	105	99	121	107	115	**109**
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)	165	167	187	167	165	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-7 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	120	116	144	133	100	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	171	174	187	169	168	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-9 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	114	133	122	81	128	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	170	170	188	166	167	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80153

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-10 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	135	150	151	138	130	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	163	158	180	158	155	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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PROMUS ENGINEERING

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Date: 2024-02-22

Mail To:
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Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80160**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80160

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-7 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	109	109	100	91	116	**105**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	157	158	154	157	157	**157**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-02-22

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95 Arlington Dr
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Bill To:

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bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80161**
Material(s) Tested:	(3) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK

TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80161

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-8 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	145	142	153	145	156	**148**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	163	163	166	164	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-11 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	96	119	114	117	99	**109**
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)	171	169	169	170	163	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: CDS-12 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	110	123	125	122	121	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	163	166	166	167	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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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 Cell 13A**
TRI Job Reference Number:	**80182**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80182

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: CDS-13 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	145	129	144	138	148	**141**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	162	161	161	161	161	**161**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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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 Cell 13A**
TRI Job Reference Number:	**80183**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
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sigfile
geolab

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80183

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-8 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	120	150	120	154	151	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	160	158	160	164	160	**160**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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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 Cell 13A**
TRI Job Reference Number:	**80184**
Material(s) Tested:	(2) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
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NON-FTB	100% peel.

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Sincerely,
sigfile
geolab

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80184

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: XDS-4 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	104	98	94	103	110	**102**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	156	156	153	155	155	**155**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: XDS-5 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	121	144	123	152	126	**133**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	161	156	160	158	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2024-03-01

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Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80208**
Material(s) Tested:	(6) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
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Sincerely,
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80208

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 4DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	117	124	140	122	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	107	112	111	113	**111**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	161	162	165	164	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 4DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	108	111	107	115	138	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	120	121	119	108	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	160	161	162	161	152	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80208

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 4DS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	114	113	114	114	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	118	110	121	123	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	165	163	164	166	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 4DS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	123	126	127	126	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	117	124	110	111	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	163	165	165	165	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80208

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 4DS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	116	118	117	113	114	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	131	128	127	128	**129**
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)	165	167	165	165	166	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 4DS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	145	135	123	133	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	132	135	139	139	133	**136**
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)	168	170	166	171	175	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80208

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 4DS-4 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	111	117	106	127	137	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	162	163	163	167	161	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80209**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

CQA REVIEWED

B N. Fureigh
SIGNATURE

03/01/2024
DATE

PROMUS ENGINEERING

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not a
for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits rep

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80209

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 4DS-8 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	109	123	142	103	123	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	164	179	158	158	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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SIGNATURE

03/01/2024
DATE

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Date: 2024-03-07

Mail To:
Brad Fureigh
Promus Engineering (seams)
95 Arlington Dr
Ward , Ar ,

Bill To:

Promus Engineering (seams)

e-mail:
bfuriegh@promusengineering.com dconrad@wm.com cfincher@promusengineering.com

Dear Mr. Fureigh,

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 Cell 13A**
TRI Job Reference Number:	**80240**
Material(s) Tested:	(6) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

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

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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03/07/2024
DATE

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for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproc

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80240

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 3DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	116	126	127	117	122	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	112	112	111	113	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	163	161	164	163	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 3DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	134	133	132	130	**131**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	117	132	125	123	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	166	165	163	167	164	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80240

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 3DS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	97	136	123	123	112	**118**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	112	119	118	120	124	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	160	158	158	160	158	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 3DS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	118	115	113	118	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	107	113	111	109	109	**110**
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)	165	163	162	164	161	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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SIGNATURE

03/07/2024
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80240

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 3DS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	120	123	126	123	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	116	115	118	119	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	160	160	162	160	**161**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: 3DS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	152	126	119	118	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	121	115	124	114	**118**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	161	162	163	164	162	**162**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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SIGNATURE

03/07/2024
DATE

PROMUS ENGINEERING

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Promus Engineering (seams)
Project: Eco-Vista Cell 13A

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 80240

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: 3DS-7 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	130	123	123	121	74	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	165	164	162	164	162	**163**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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SIGNATURE

03/07/2024
DATE

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Material Inventory

PROMUS ENGINEERING

Geomembrane Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: textured or smooth)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	3101480001	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480002	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480003	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480004	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480005	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480006	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480007	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480008	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480009	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480010	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480011	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480012	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480013	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480014	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480015	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480016	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480017	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480018	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480019	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480020	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480021	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480022	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480023	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480024	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480025	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480026	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480027	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480028	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480029	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480030	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480031	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480032	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480033	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480034	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480035	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480036	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480037	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480038	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480039	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480040	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480041	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480042	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480043	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480044	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480045	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480046	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS

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Geomembrane Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: textured or smooth)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	3101480047	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480048	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480049	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480050	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480051	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480052	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480053	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480054	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480055	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480056	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480057	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480058	SKAPS 60 Mil HDPE	Good	500	23	11,500	LS
11/18/2023	3101480059	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480060	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480061	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480062	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480063	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480064	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480065	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480066	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480067	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480068	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480069	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480070	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480071	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480072	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480073	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480074	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480075	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480076	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480077	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480078	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480079	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480080	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480081	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS
11/18/2023	3101480082	SKAPS 60 Mil HDPE	Good	500	24	12,000	LS

APPENDIX F

DRAINAGE GEOCOMPOSITE

Laboratory Testing
Geocomposite (200-mil) MQC Conformance Data

October 25, 2023

Customer: **Waste Management**
Customer P.O.#: **12772925**
Project: **WM Eco Vista Landfill Cell 13A, AR**
Product: **TN 200-2-6**

We hereby certify that the TN 200-2-6 drainage geocomposite, meets or exceeds the project requirements as stated in the specifications. The properties listed in this section are:

Property	Test Method	Unit	Value	Qualifier
Geonet[3]				
Thickness	ASTM D 5199	mil	200	MAV[6]
Carbon Black	ASTM D 4218	%	2.0 - 3.0	Range
Tensile Strength	ASTM D 7179	lbs/in	45	MAV
Melt Flow	ASTM D 1238[2]	g/10 min	1.0	Maximum
Density	ASTM D 1505	g/cm^3	0.94	MAV
Transmissivity[1a]	ASTM D 4716	m^2/sec	2.0×10^{-3}	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in	1.0	MAV
Transmissivity[1b]	ASTM D 4716	m^2/sec	2.0×10^{-4}	MAV
Geotextile[3 & 4]				
Fabric Weight	ASTM D 5261	oz/yd^2	6.0	MARV[5]
Grab Strength	ASTM D 4632	lbs	160	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Puncture Resistance	ASTM D 4833	lbs	90	MARV
Water Flow Rate	ASTM D 4491	gpm/ft^2	110	MARV
Permittivity	ASTM D 4491	sec^{-1}	1.50	MARV
AOS	ASTM D 4751	US Sieve	70	MaxARV
UV Resistance (Certify Only)	ASTM D 4355	%/hrs	70/500	MARV

Notes:

1a. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.1 and a confining pressure of 10,000 psf between steel plates after 15 minutes.*
1b. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.1 and a confining pressure of 10,000 psf between steel plates after 15 minutes.*
2. *Condition 190/2.16*
3. *Geotextile and Geonet properties are prior to lamination.*
4. *Geotextile data is provided by the supplier.*
5. *MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.*
6. *Minium average value*

Quality Approval

Malkesh Patel

CQA REVIEWED

SIGNATURE 10/26/2023 DATE

PROMUS ENGINEERING

APPROVED 5 QA

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

CQA REVIEWED
SIGNATURE
10/26/2023
DATE
PROMUS ENGINEERING

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010001	2.54	3.86	3.14×10^{-4}	PSPX 002451	0.9528	222	2.69	60	2.53×10^{-3}
134801010002				PSPX 002451	0.9528				
134801010003				PSPX 002451	0.9528				
134801010004				PSPX 002451	0.9528				
134801010005				PSPX 002451	0.9528				
134801010006				PSPX 002451	0.9528				
134801010007				PSPX 002451	0.9528				
134801010008				PSPX 002451	0.9528				
134801010009				PSPX 002451	0.9528				
134801010010	2.70	1.68		PSPX 002451	0.9530	211	2.63	54	
134801010011				PSPX 002451	0.9530				
134801010012				PSPX 002451	0.9530				
134801010013				PSPX 002451	0.9530				
134801010014				PSPX 002451	0.9530				
134801010015				PSPX 002451	0.9530				
134801010016				PSPX 002451	0.9530				
134801010017				PSPX 002451	0.9530				
134801010018				PSPX 002451	0.9530				
134801010019				PSPX 002451	0.9530				
134801010020	1.87	2.20		PSPX 002451	0.9532	209	2.41	57	
134801010021				PSPX 002451	0.9532				
134801010022				PSPX 002451	0.9532				
134801010023				PSPX 002451	0.9532				
134801010024				PSPX 002451	0.9532				

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Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

CQA REVIEWED
SIGNATURE 10/26/2023 DATE
PROMUS ENGINEERING

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010025				PSPX 002451	0.9532				
134801010026				PSPX 002451	0.9532				
134801010027				PSPX 002451	0.9532				
134801010028				PSPX 002451	0.9532				
134801010029				PSPX 002451	0.9532				
134801010030	2.16	2.96		PSPX 002451	0.9527	219	2.67	59	
134801010031				PSPX 002451	0.9527				
134801010032				PSPX 002451	0.9527				
134801010033				PSPX 002451	0.9527				
134801010034				PSPX 002451	0.9527				
134801010035				PSPX 002451	0.9527				
134801010036				PSPX 002451	0.9527				
134801010037				PSPX 002451	0.9527				
134801010038				PSPX 002451	0.9527				
134801010039				PSPX 002451	0.9527				
134801010040	1.99	3.88		PSPX 002451	0.9531	210	2.50	53	
134801010041				PSPX 002451	0.9531				
134801010042				PSPX 002451	0.9531				
134801010043				PSPX 002451	0.9531				
134801010044				PSPX 002451	0.9531				
134801010045				PSPX 002451	0.9531				
134801010046				PSPX 002451	0.9531				
134801010047				PSPX 002451	0.9531				
134801010048				PSPX 002451	0.9531				

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Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010049				PSPX 002451	0.9531				
134801010050	2.04	2.72		PSPX 002451	0.9529	216	2.65	55	
134801010051				PSPX 002451	0.9529				
134801010052				PSPX 002451	0.9529				
134801010053				PSPX 002451	0.9529				
134801010054				PSPX 002451	0.9529				
134801010055				PSPX 002451	0.9529				
134801010056				PSPX 002451	0.9529				
134801010057				PSPX 002451	0.9529				
134801010058				PSPX 002451	0.9529				
134801010059				PSPX 002451	0.9529				
134801010060	3.75	3.00	2.89×10^{-4}	PSPX 002451	0.9531	214	2.46	56	2.34×10^{-3}
134801010061				PSPX 002451	0.9531				
134801010062				PSPX 002451	0.9531				
134801010063				PSPX 002451	0.9531				
134801010064				PSPX 002451	0.9531				
134801010065				PSPX 002451	0.9531				
134801010066				PSPX 002451	0.9531				
134801010067				PSPX 002451	0.9531				
134801010068				PSPX 002451	0.9531				
134801010069				PSPX 002451	0.9531				
134801010070	1.71	1.88		PSPX 002451	0.9527	223	2.62	58	
134801010071				PSPX 002451	0.9527				
134801010072				PSPX 002451	0.9527				

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Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010073				PSPX 002451	0.9527				
134801010074				PSPX 002451	0.9527				
134801010075				PSPX 002451	0.9527				
134801010076				PSPX 002451	0.9527				
134801010077				PSPX 002451	0.9527				
134801010078				PSPX 002451	0.9527				
134801010079				PSPX 002451	0.9527				
134801010080	2.82	3.97		PSPX 002451	0.9532	213	2.55	60	
134801010081				PSPX 002451	0.9532				
134801010082				PSPX 002451	0.9532				
134801010083				PSPX 002451	0.9532				
134801010084				PSPX 002451	0.9532				
134801010085				PSPX 002451	0.9532				
134801010086				PSPX 002451	0.9532				
134801010087				PSPX 002451	0.9532				
134801010088				PSPX 002451	0.9532				
134801010089				PSPX 002451	0.9532				
134801010090	2.47	2.26		PSPX 002451	0.9530	220	2.39	53	
134801010091				PSPX 002451	0.9530				
134801010092				PSPX 002451	0.9530				
134801010093				PSPX 002451	0.9530				
134801010094				PSPX 002451	0.9530				
134801010095				PSPX 002451	0.9530				
134801010096				PSPX 002451	0.9530				

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Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010097				PSPX 002451	0.9530				
134801010098				PSPX 002451	0.9530				
134801010099				PSPX 002451	0.9530				
134801010100	2.24	1.85		PSPX 002451	0.9528	225	2.49	59	
134801010101				PSPX 002451	0.9528				
134801010102				PSPX 002451	0.9528				
134801010103				PSPX 002451	0.9528				
134801010104				PSPX 002451	0.9528				
134801010105				PSPX 002451	0.9528				
134801010106				PSPX 002451	0.9528				
134801010107				PSPX 002451	0.9528				
134801010108				PSPX 002451	0.9528				
134801010109				PSPX 002451	0.9528				
134801010110	1.94	3.35		PSPX 002451	0.9530	215	2.51	54	
134801010111				PSPX 002451	0.9530				
134801010112				PSPX 002451	0.9530				
134801010113				PSPX 002451	0.9530				
134801010114				PSPX 002451	0.9530				
134801010115				PSPX 002451	0.9530				
134801010116				PSPX 002451	0.9530				
134801010117				PSPX 002451	0.9530				
134801010118				PSPX 002451	0.9530				
134801010119				PSPX 002451	0.9530				
134801010120	3.74	1.78	2.59×10^{-4}	PSPX 002451	0.9532	217	2.59	58	2.66×10^{-3}

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Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801010121				PSPX 002451	0.9532				
134801010122				PSPX 002451	0.9532				
134801010123				PSPX 002451	0.9532				
134801010124				PSPX 002451	0.9532				
134801010125				PSPX 002451	0.9532				
134801010126				PSPX 002451	0.9532				
134801010127				PSPX 002451	0.9532				
134801010128				PSPX 002451	0.9532				
134801010129				PSPX 002451	0.9532				
134801010130	3.18	2.53		PSPX 002451	0.9527	224	2.64	56	

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Waste Management
Project Name : WM Eco Vista Landfill Cell 13A, AR
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 200-2-6

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
M. Holland & Company	PSPX 002451	Density	ASTM D1505	g/cm^3	0.9500	0.9482
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.40	0.28

(a) Condition 190/2.16

* Data from SKAPS Quality Control

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Geotextile Certification

Product: TN 200-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

We hereby certify the following test results for the above referenced product/project :

GEOCOMP ROLL#	FABRIC SIDE	WEIGHT oz/yd^2	GRAB lbs. (MD)	GRAB ELG % (MD)	GRAB lbs. (XMD)	GRAB ELG % (XMD)	PUNCTURE lbs.	AOS us sieve	WATER-FLOW gpm/ft^2	PERM-ITY sec^{-1}
134801010001	Side A	6.49	160	68	179	83	100	70	133	1.77
	Side B	6.43	161	74	170	81	100	70	136	1.81
134801010020	Side A	6.21	164	67	180	75	97	70	136	1.81
	Side B	6.64	162	73	171	82	99	70	133	1.77
134801010040	Side A	6.41	163	69	175	79	98	70	136	1.81
	Side B	6.29	165	70	177	75	96	70	134	1.79
134801010060	Side A	6.21	164	67	180	75	97	70	136	1.81
	Side B	6.60	169	65	178	85	96	70	136	1.81
134801010080	Side A	6.33	166	71	173	84	95	70	136	1.81
	Side B	6.48	170	66	174	77	95	70	133	1.77
134801010100	Side A	6.48	170	66	174	77	95	70	133	1.77
	Side B	6.53	168	72	172	78	98	70	133	1.77
134801010120	Side A	6.21	164	67	180	75	97	70	136	1.81
	Side B	6.29	165	70	177	75	96	70	134	1.79

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*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Laboratory Testing
Geocomposite (250-mil) MQC Conformance Data

October 25, 2023

Customer: **Waste Management**
Customer P.O.#: **12772925**
Project: **WM Eco Vista Landfill Cell 13A, AR**
Product: **TN 250-2-6**

We hereby certify that the TN 250-2-6 drainage geocomposite, meets or exceeds the project requirements as stated in the specifications. The properties listed in this section are:

Property	Test Method	Unit	Value	Qualifier
Geonet[3]				
Thickness	ASTM D 5199	mil	250	MAV[6]
Carbon Black	ASTM D 4218	%	2.0 - 3.0	Range
Tensile Strength	ASTM D 7179	lbs/in	55	MAV
Melt Flow	ASTM D 1238[2]	g/10 min	1.0	Maximum
Density	ASTM D 1505	g/cm^3	0.94	MAV
Transmissivity[1a]	ASTM D 4716	m^2/sec	3.0×10^{-3}	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in	1.0	MAV
Transmissivity[1b]	ASTM D 4716	m^2/sec	5.0×10^{-4}	MAV
Geotextile[3 & 4]				
Fabric Weight	ASTM D 5261	oz/yd^2	6.0	MARV[5]
Grab Strength	ASTM D 4632	lbs	160	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Puncture Resistance	ASTM D 4833	lbs	90	MARV
Water Flow Rate	ASTM D 4491	gpm/ft^2	110	MARV
Permittivity	ASTM D 4491	sec^{-1}	1.50	MARV
AOS	ASTM D 4751	US Sieve	70	MaxARV
UV Resistance (Certify Only)	ASTM D 4355	%/hrs	70/500	MARV

Notes:

1a. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.1 and a confining pressure of 10,000 psf between steel plates after 15 minutes.*
1b. *Transmissivity measured using water at 21 ± 2 ° C (70 ± 4 ° F) with a gradient of 0.1 and a confining pressure of 10,000 psf between steel plates after 15 minutes.*
2. *Condition 190/2.16*
3. *Geotextile and Geonet properties are prior to lamination.*
4. *Geotextile data is provided by the supplier.*
5. *MARV is statistically defined as mean minus two standard deviations and it is the value which is exceeded by 97.5% of all the test data.*
6. *Minium average value*

Quality Approval

Malkesh Patel

CQA REVIEWED

SIGNATURE 10/26/2023 DATE

PROMUS ENGINEERING

APPROVED 5 QA

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 250-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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PROMUS ENGINEERING

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020001	1.89	3.81	8.38×10^{-4}	PSPX 007126	0.9534	266	2.47	67	5.96×10^{-3}
134801020002				PSPX 007126	0.9534				
134801020003				PSPX 007126	0.9534				
134801020004				PSPX 007126	0.9534				
134801020005				PSPX 007126	0.9534				
134801020006				PSPX 007126	0.9534				
134801020007				PSPX 007126	0.9534				
134801020008				PSPX 007126	0.9534				
134801020009				PSPX 007126	0.9534				
134801020010				PSPX 007126	0.9534				
134801020011				PSPX 007126	0.9534				
134801020012				PSPX 007126	0.9534				
134801020013				PSPX 007126	0.9534				
134801020014				PSPX 007126	0.9534				
134801020015	2.52	2.85		PSPX 007126	0.9531	264	2.61	66	
134801020016				PSPX 007126	0.9531				
134801020017				PSPX 007126	0.9531				
134801020018				PSPX 007126	0.9531				
134801020019				PSPX 007126	0.9531				
134801020020				PSPX 007126	0.9531				
134801020021				PSPX 007126	0.9531				
134801020022				PSPX 007126	0.9531				
134801020023				PSPX 007126	0.9531				
134801020024				PSPX 007126	0.9531				

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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020025				PSPX 007126	0.9531				
134801020026				PSPX 007126	0.9531				
134801020027				PSPX 007126	0.9531				
134801020028				PSPX 007126	0.9531				
134801020029				PSPX 007126	0.9531				
134801020030	3.46	3.91		PSPX 007126	0.9533	274	2.53	71	
134801020031				PSPX 007126	0.9533				
134801020032				PSPX 007126	0.9533				
134801020033				PSPX 007126	0.9533				
134801020034				PSPX 007126	0.9533				
134801020035				PSPX 007126	0.9533				
134801020036				PSPX 007126	0.9533				
134801020037				PSPX 007126	0.9533				
134801020038				PSPX 007126	0.9533				
134801020039				PSPX 007126	0.9533				
134801020040				PSPX 007126	0.9533				
134801020041				PSPX 007126	0.9533				
134801020042				PSPX 007126	0.9533				
134801020043				PSPX 007126	0.9533				
134801020044				PSPX 007126	0.9533				
134801020045	2.63	3.53		PSPX 007126	0.9535	271	2.58	69	
134801020046				PSPX 007126	0.9535				
134801020047				PSPX 007126	0.9535				
134801020048				PSPX 007126	0.9535				

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Product: TN 250-2-6
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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020049				PSPX 007126	0.9535				
134801020050				PSPX 007126	0.9535				
134801020051				PSPX 007126	0.9535				
134801020052				PSPX 007126	0.9535				
134801020053				PSPX 007126	0.9535				
134801020054				PSPX 007126	0.9535				
134801020055				PSPX 007126	0.9535				
134801020056				PSPX 007126	0.9535				
134801020057				PSPX 007126	0.9535				
134801020058				PSPX 007126	0.9535				
134801020059				PSPX 007126	0.9535				
134801020060	3.10	2.14	8.73×10^{-4}	PSPX 007126	0.9532	268	2.56	68	6.08×10^{-3}
134801020061				PSPX 007126	0.9532				
134801020062				PSPX 007126	0.9532				
134801020063				PSPX 007126	0.9532				
134801020064				PSPX 007126	0.9532				
134801020065				PSPX 007126	0.9532				
134801020066				PSPX 007126	0.9532				
134801020067				PSPX 007126	0.9532				
134801020068				PSPX 007126	0.9532				
134801020069				PSPX 007126	0.9532				
134801020070				PSPX 007126	0.9532				
134801020071				PSPX 007126	0.9532				
134801020072				PSPX 007126	0.9532				

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Product: TN 250-2-6
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Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020073				PSPX 007126	0.9532				
134801020074				PSPX 007126	0.9532				
134801020075	3.70	2.65		PSPX 007126	0.9530	265	2.54	70	
134801020076				PSPX 007126	0.9530				
134801020077				PSPX 007126	0.9530				
134801020078				PSPX 007126	0.9530				
134801020079				PSPX 007126	0.9530				
134801020080				PSPX 007126	0.9530				
134801020081				PSPX 007126	0.9530				
134801020082				PSPX 007126	0.9530				
134801020083				PSPX 007126	0.9530				
134801020084				PSPX 007126	0.9530				
134801020085				PSPX 007126	0.9530				
134801020086				PSPX 007126	0.9530				
134801020087				PSPX 007126	0.9530				
134801020088				PSPX 007126	0.9530				
134801020089				PSPX 007126	0.9530				
134801020090	3.06	2.88		PSPX 007126	0.9534	263	2.51	67	
134801020091				PSPX 007126	0.9534				
134801020092				PSPX 007126	0.9534				
134801020093				PSPX 007126	0.9534				
134801020094				PSPX 007126	0.9534				
134801020095				PSPX 007126	0.9534				
134801020096				PSPX 007126	0.9534				

*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Product: TN 250-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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PROMUS ENGINEERING

We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020097				PSPX 007126	0.9534				
134801020098				PSPX 007126	0.9534				
134801020099				PSPX 007126	0.9534				
134801020100				PSPX 007126	0.9534				
134801020101				PSPX 007126	0.9534				
134801020102				PSPX 007126	0.9534				
134801020103				PSPX 007126	0.9534				
134801020104				PSPX 007126	0.9534				
134801020105	3.00	1.88		PSPX 007126	0.9531	270	2.55	68	
134801020106				PSPX 007126	0.9531				
134801020107				PSPX 007126	0.9531				
134801020108				PSPX 007126	0.9531				
134801020109				PSPX 007126	0.9531				
134801020110				PSPX 007126	0.9531				
134801020111				PSPX 007126	0.9531				
134801020112				PSPX 007126	0.9531				
134801020113				PSPX 007126	0.9531				
134801020114				PSPX 007126	0.9531				
134801020115				PSPX 007126	0.9531				
134801020116				PSPX 007126	0.9531				
134801020117				PSPX 007126	0.9531				
134801020118				PSPX 007126	0.9531				
134801020119				PSPX 007126	0.9531				
134801020120	2.02	3.03	8.79×10^{-4}	PSPX 007126	0.9535	272	2.57	69	5.84×10^{-3}

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Product: TN 250-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020121				PSPX 007126	0.9535				
134801020122				PSPX 007126	0.9535				
134801020123				PSPX 007126	0.9535				
134801020124				PSPX 007126	0.9535				
134801020125				PSPX 007126	0.9535				
134801020126				PSPX 007126	0.9535				
134801020127				PSPX 007126	0.9535				
134801020128				PSPX 007126	0.9535				
134801020129				PSPX 007126	0.9535				
134801020130				PSPX 007126	0.9535				
134801020131				PSPX 007126	0.9535				
134801020132				PSPX 007126	0.9535				
134801020133				PSPX 007126	0.9535				
134801020134				PSPX 007126	0.9535				
134801020135	3.44	3.94		PSPX 007126	0.9530	275	2.49	71	
134801020136				PSPX 007126	0.9530				
134801020137				PSPX 007126	0.9530				
134801020138				PSPX 007126	0.9530				
134801020139				PSPX 007126	0.9530				
134801020140				PSPX 007126	0.9530				
134801020141				PSPX 007126	0.9530				
134801020142				PSPX 007126	0.9530				
134801020143				PSPX 007126	0.9530				
134801020144				PSPX 007126	0.9530				

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Product: TN 250-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

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We hereby certify the following test results for the above referenced product/project :

Geocomposite				Geonet					
Roll Number	Ply Adhesion (lb/in)		Transmissivity (m^2/sec)	Resin Lot Number	Density (g/cm^3)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
	Side "A"	Side "B"							
134801020145				PSPX 007126	0.9530				
134801020146				PSPX 007126	0.9530				
134801020147				PSPX 007126	0.9530				
134801020148				PSPX 007126	0.9530				
134801020149				PSPX 007126	0.9530				
134801020150	2.94	3.43		PSPX 007126	0.9533	269	2.45	66	
134801020151				PSPX 007126	0.9533				
134801020152				PSPX 007126	0.9533				
134801020153				PSPX 007126	0.9533				
134801020154				PSPX 007126	0.9533				
134801020155				PSPX 007126	0.9533				
134801020156				PSPX 007126	0.9533				
134801020157				PSPX 007126	0.9533				
134801020158				PSPX 007126	0.9533				
134801020159				PSPX 007126	0.9533				
134801020160				PSPX 007126	0.9533				
134801020161				PSPX 007126	0.9533				
134801020162				PSPX 007126	0.9533				

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Waste Management
Project Name : WM Eco Vista Landfill Cell 13A, AR
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 250-2-6

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
M. Holland & Company	PSPX 007126	Density	ASTM D1505	g/cm^3	0.9500	0.9485
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.40	0.21

(a) Condition 190/2.16

* Data from SKAPS Quality Control

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DATE

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Geotextile Certification

Product: TN 250-2-6
Project : WM Eco Vista Landfill Cell 13A, AR

We hereby certify the following test results for the above referenced product/project :

GEOCOMP ROLL#	FABRIC SIDE	WEIGHT oz/yd^2	GRAB lbs. (MD)	GRAB ELG % (MD)	GRAB lbs. (XMD)	GRAB ELG % (XMD)	PUNCTURE lbs.	AOS us sieve	WATER-FLOW gpm/ft^2	PERM-ITY sec^{-1}
134801020001	Side A	6.32	166	70	179	85	99	70	134	1.79
	Side B	6.58	166	65	177	83	95	70	133	1.77
134801020030	Side A	6.25	164	75	180	83	97	70	136	1.81
	Side B	6.24	168	72	171	76	95	70	134	1.79
134801020060	Side A	6.66	163	67	174	80	99	70	134	1.79
	Side B	6.26	162	66	176	77	100	70	136	1.81
134801020090	Side A	6.69	170	75	173	82	96	70	134	1.79
	Side B	6.31	160	73	180	78	97	70	133	1.77
134801020120	Side A	6.45	165	69	178	84	98	70	134	1.79
	Side B	6.24	168	72	171	76	95	70	134	1.79
134801020150	Side A	6.69	170	75	173	82	96	70	134	1.79
	Side B	6.58	166	65	177	83	95	70	133	1.77

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*571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com*

Laboratory Testing
Geocomposite (200-mil) CQA Conformance Data

September 26, 2023
October 2, 2023 Updated-Added Transmissivity

Mail To:

David Conrad
Waste Management, Inc.
100 Two Pine Dr.
North Little Rock AR 72117

email: dconrad@wm.com
cc email: bfureigh@promusengineering.com

Bill To:

<= Same (PO 04008375)

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 Cell**
TRI Job Reference Number:	23-003518
Material(s) Tested:	Five, Skaps TN200-2-6 Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC Thickness (ASTM D 5199) - GN Density (ASTM D 1505) - GN Carbon Black Content (ASTM D1603, mod.) - GN Tensile Properties (ASTM D 7179, 12 ipm strain rate) - GN Mass/Unit Area (ASTM D 5261) - GT Grab Tensile (ASTM D 4632) - GT Puncture Strength (ASTM D 4833) - GT Apparent Opening Size (ASTM D 4751) - GT Permittivity (ASTM D 4491) - GT

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

Sincerely,

Jarrett A. Nelson

Jarrett A. Nelson
Director of Operations
Geosynthetic Services Division

CQA REVIEWED
Jonathan King SIGNATURE 10/03/2023 DATE
PROMUS ENGINEERING

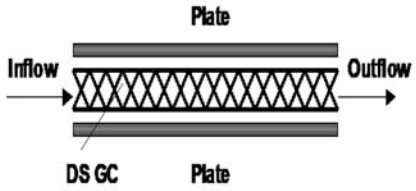
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010001
TRI Log #: 23-003518

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Hydraulic Transmissivity (ASTM D 4716)												
Direction Tested: Machine Direction												
Normal Load (psf): 10,000												
Hydraulic Gradient: 0.1												
Test Length (in) 12												
Test Width (in) 12												
Plate / Sample / Plate												
Seat Time (hours)	Specimen		1			2						
	Volume (cc)	628	632	624	573	574	575					
	Time (s)	35.54	35.53	35.47	50.40	50.38	50.43					
0.25	Flow Rate (GPM/ft width)	0.28	0.28	0.28	0.18	0.18	0.18				**0.23**	0.05
	Transmissivity (m^2/s)	5.77E-04	5.82E-04	5.76E-04	3.72E-04	3.73E-04	3.73E-04				**4.75E-04**	1.13E-04
	Test Temp (C)		20.3			20.3						
	Temp. Corr. Factor		0.997			0.997						
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	2.24	2.33	2.56	2.05	3.05						**2.45**	0.38
A - MD Average Peel Strength (g/in)	1017	1058	1162	931	1385						**1110**	174
B - MD Average Peel Strength (ppi)	2.43	9.78	3.75	3.20	6.76						**5.18**	3.05
B - MD Average Peel Strength (g/in)	1103	4440	1703	1453	3069						**2354**	1384
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	247	246	232	234	239	239	239	240	242	238	**240**	4
											232	<< min
Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.952	0.952	0.952								**0.952**	0.000
Carbon Black Content (ASTM D1603, mod.)			GEONET COMPONENT									
% Carbon Black	2.23	2.48									**2.36**	0.18
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	75	72	63	64	74						**70**	6
MD Elong. @ Max. Strength (%)	18	23	25	25	20						**22**	3

MD Machine Direction



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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010001
TRI Log #: 23-003518

GEOTEXTILE - SIDE A

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 - Mass (g)	2.67	2.95	2.82	2.83	2.73	2.69	2.86	2.75	3.02	2.72	**2.80**	0.11
Mass/Unit Area (oz/sq.yd)	6.21	6.86	6.56	6.58	6.35	6.26	6.65	6.40	7.02	6.33	**6.52**	0.27
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	179	179	177	173	175	209	176	167	189	180	**180**	12
TD - Tensile Strength (lbs)	204	208	283	214	199	190	204	218	219	237	**218**	26
MD - Elong. @ Max. Load (%)	92	93	88	87	89	93	89	85	91	85	**89**	3
TD - Elong. @ Max. Load (%)	91	103	103	108	101	105	97	93	93	108	**100**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	128	101	104	109	112						**111**	11
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.177	0.192	0.169	0.181	0.166						**0.177**	0.010
Sieve No.	70	70	70	70	70						**70**	
Permittivity (ASTM D 4491,Method C)												
Thickness (mil)	108	106	109	125	125	115	113	115	106	130	**115**	9
Thickness (mm)	2.74	2.69	2.76	3.16	3.17	2.93	2.86	2.92	2.70	3.29	**2.92**	0.22
Permittivity (Sec-1)	1.76	2.32	1.77	2.06	1.77	1.75	1.51	2.11	2.25	1.74	**1.90**	0.26
Permittivity (GPM/ft2)	131.6	173.5	132.4	154.1	132.4	130.9	112.9	157.8	168.3	130.2	**142.4**	19.7
Flow rate (LPM/m2)	5364	7071	5394	6278	5394	5333	4602	6431	6857	5303	**5803**	801
Permittivity (cm/sec)	0.483	0.625	0.489	0.651	0.562	0.513	0.432	0.616	0.607	0.573	**0.555**	0.073

MD Machine Direction TD Transverse Direction

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10/03/2023
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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010001
TRI Log #: 23-003518

GEOTEXTILE - SIDE B

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 - Mass (g)	2.71	2.66	3.05	2.56	3.10	2.79	3.02	3.01	2.91	2.90	**2.87**	0.18
Mass/Unit Area (oz/sq.yd)	6.30	6.19	7.09	5.95	7.21	6.49	7.02	7.00	6.77	6.75	**6.68**	0.43
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	174	183	180	195	176	182	164	172	133	172	**173**	16
TD - Tensile Strength (lbs)	177	223	169	230	177	229	178	211	190	185	**197**	24
MD - Elong. @ Max. Load (%)	89	97	83	92	84	82	83	81	78	95	**86**	6
TD - Elong. @ Max. Load (%)	103	102	94	103	100	96	101	91	85	91	**97**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	121	125	98	105	108						**111**	11
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.192	0.181	0.181	0.184	0.176						**0.183**	0.006
Sieve No.	70	70	70	70	70						**70**	
Permittivity (ASTM D 4491,Method C)												
Thickness (mil)	121	114	111	109	119	101	113	115	116	103	**112**	6
Thickness (mm)	3.06	2.90	2.83	2.76	3.01	2.56	2.86	2.92	2.93	2.61	**2.84**	0.16
Permittivity (Sec-1)	2.30	1.94	1.92	2.10	2.06	1.70	2.06	1.90	2.11	1.66	**1.98**	0.19
Permittivity (GPM/ft2)	172.0	145.1	143.6	157.1	154.1	127.2	154.1	142.1	157.8	124.2	**147.7**	14.5
Flow rate (LPM/m2)	7010	5913	5852	6400	6278	5181	6278	5791	6431	5059	**6019**	591
Permittivity (cm/sec)	0.704	0.562	0.543	0.579	0.620	0.436	0.589	0.555	0.619	0.434	**0.564**	0.082

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010029
TRI Log #: 23-003518

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	4.85	1.66	3.29	0.83	3.05						**2.74**	1.55
A - MD Average Peel Strength (g/in)	2202	754	1494	377	1385						**1242**	706
B - MD Average Peel Strength (ppi)	4.80	2.83	3.10	6.13	5.51						**4.47**	1.46
B - MD Average Peel Strength (g/in)	2179	1285	1407	2783	2502						**2031**	662
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)				GEONET COMPONENT								
Thickness (mils)	235	232	244	243	233	230	234	240	235	235	**236**	5
											230	<< min
Density (ASTM D 1505)				GEONET COMPONENT								
Density (g/cm3)	0.952	0.952	0.952								**0.952**	0.000
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.28	2.29									**2.29**	0.01
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	57	59	57	64	75						**62**	8
MD Elong. @ Max. Strength (%)	23	27	21	22	19						**22**	3

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010029
TRI Log #: 23-003518

GEOTEXTILE - SIDE A

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 - Mass (g)	2.36	2.58	2.54	3.03	3.10	2.84	2.99	2.60	2.66	2.54	**2.72**	0.25
Mass/Unit Area (oz/sq.yd)	5.49	6.00	5.91	7.05	7.21	6.61	6.95	6.05	6.19	5.91	**6.34**	0.58
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	155	194	126	183	137	183	160	143	205	201	**169**	28
TD - Tensile Strength (lbs)	204	193	203	223	253	226	237	189	209	148	**209**	29
MD - Elong. @ Max. Load (%)	83	88	114	90	83	81	85	83	87	89	**88**	9
TD - Elong. @ Max. Load (%)	105	107	96	96	98	89	93	94	104	115	**100**	8
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	87	92	113	144	116						**110**	23
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.191	0.168	0.161	0.169	0.167						**0.171**	0.011
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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Jonathan King
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10/03/2023
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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010029
TRI Log #: 23-003518

GEOTEXTILE - SIDE B

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 - Mass (g)	2.69	2.68	3.12	2.77	2.76	2.69	2.76	2.96	2.52	2.39	**2.73**	0.20
Mass/Unit Area (oz/sq.yd)	6.26	6.23	7.26	6.44	6.42	6.26	6.42	6.88	5.86	5.56	**6.36**	0.47
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	181	171	174	168	160	168	184	183	158	167	**171**	9
TD - Tensile Strength (lbs)	181	219	233	230	208	222	228	223	192	190	**212**	19
MD - Elong. @ Max. Load (%)	80	80	99	84	84	83	86	89	90	84	**86**	6
TD - Elong. @ Max. Load (%)	95	94	95	97	105	105	105	96	99	103	**100**	5
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	115	88	91	107	103						**101**	11
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.178	0.176	0.171	0.183	0.166						**0.175**	0.007
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010057
TRI Log #: 23-003518

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	4.33	2.02	4.44	2.45	1.43						**2.93**	1.37
A - MD Average Peel Strength (g/in)	1966	917	2016	1112	649						**1332**	624
B - MD Average Peel Strength (ppi)	4.48	4.19	8.22	4.19	2.24						**4.66**	2.18
B - MD Average Peel Strength (g/in)	2034	1902	3732	1902	1017						**2117**	990
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	242	244	236	239	228	228	224	224	228	220	**231**	8
											220	<< min
Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.950	0.950	0.951								**0.950**	0.001
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.27	2.44									**2.36**	0.12
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	55	55	58	68	80						**63**	11
MD Elong. @ Max. Strength (%)	24	25	23	20	20						**22**	2

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010057
TRI Log #: 23-003518

GEOTEXTILE - SIDE A

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 - Mass (g)	2.45	2.66	2.63	3.01	3.19	2.99	2.58	3.03	3.13	2.79	**2.85**	0.26
Mass/Unit Area (oz/sq.yd)	5.70	6.19	6.12	7.00	7.42	6.95	6.00	7.05	7.28	6.49	**6.62**	0.60
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	191	175	190	194	154	169	173	186	180	175	**179**	12
TD - Tensile Strength (lbs)	206	269	214	220	185	147	227	236	189	204	**210**	33
MD - Elong. @ Max. Load (%)	89	87	91	95	86	97	92	85	92	89	**90**	4
TD - Elong. @ Max. Load (%)	91	96	96	96	105	103	100	92	86	92	**96**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	109	75	108	108	124						**105**	18
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.170	0.155	0.173	0.169	0.188						**0.171**	0.012
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010057
TRI Log #: 23-003518

GEOTEXTILE - SIDE B

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 - Mass (g)	2.95	2.66	3.14	2.66	2.57	2.85	2.70	2.76	2.79	2.66	**2.77**	0.17
Mass/Unit Area (oz/sq.yd)	6.86	6.19	7.30	6.19	5.98	6.63	6.28	6.42	6.49	6.19	**6.45**	0.39
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	165	208	172	184	174	184	177	206	196	175	**184**	15
TD - Tensile Strength (lbs)	208	198	196	234	199	247	235	231	260	210	**222**	23
MD - Elong. @ Max. Load (%)	87	83	85	85	84	86	91	97	89	85	**87**	4
TD - Elong. @ Max. Load (%)	101	99	91	97	111	89	99	89	106	106	**99**	7
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	122	129	125	124	93						**119**	15
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.169	0.188	0.192	0.171	0.182						**0.180**	0.010
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010085
TRI Log #: 23-003518

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	2.13	2.30	2.50	5.57	0.62						**2.62**	1.81
A - MD Average Peel Strength (g/in)	967	1044	1135	2529	281						**1191**	821
B - MD Average Peel Strength (ppi)	5.91	2.80	4.57	7.16	1.48						**4.38**	2.29
B - MD Average Peel Strength (g/in)	2683	1271	2075	3251	672						**1990**	1041
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)				GEONET COMPONENT								
Thickness (mils)	235	231	231	232	245	249	251	236	231	242	**238**	8
											231	<< min
Density (ASTM D 1505)				GEONET COMPONENT								
Density (g/cm3)	0.951	0.951	0.951								**0.951**	0.000
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.25	2.24									**2.25**	0.01
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	56	59	78	76	57						**65**	11
MD Elong. @ Max. Strength (%)	25	25	21	18	24						**23**	3

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010085
TRI Log #: 23-003518

GEOTEXTILE - SIDE A

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 - Mass (g)	2.79	2.53	2.87	3.05	2.70	2.80	3.00	2.93	2.94	2.65	**2.83**	0.16
Mass/Unit Area (oz/sq.yd)	6.49	5.88	6.68	7.09	6.28	6.51	6.98	6.82	6.84	6.16	**6.57**	0.38
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	179	185	178	169	171	160	191	194	171	155	**175**	13
TD - Tensile Strength (lbs)	201	204	259	198	161	189	210	236	212	233	**210**	27
MD - Elong. @ Max. Load (%)	83	99	83	87	79	95	91	91	101	91	**90**	7
TD - Elong. @ Max. Load (%)	95	112	92	91	96	103	89	90	96	108	**97**	8
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	130	119	113	128	128						**124**	7
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.166	0.162	0.165	0.161	0.168						**0.164**	0.003
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010085
TRI Log #: 23-003518

GEOTEXTILE - SIDE B

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 - Mass (g)	2.54	2.68	2.70	2.60	2.46	2.56	2.62	2.71	2.66	2.66	**2.62**	0.08
Mass/Unit Area (oz/sq.yd)	5.91	6.23	6.28	6.05	5.72	5.95	6.09	6.30	6.19	6.19	**6.09**	0.19
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	140	180	182	154	192	155	176	179	183	134	**168**	20
TD - Tensile Strength (lbs)	173	239	203	220	185	195	237	215	202	206	**207**	21
MD - Elong. @ Max. Load (%)	85	92	85	81	84	80	91	85	91	79	**85**	5
TD - Elong. @ Max. Load (%)	91	96	96	96	91	97	105	105	94	94	**97**	5
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	69	123	139	90	112						**106**	28
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.192	0.165	0.190	0.173	0.192						**0.182**	0.013
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010113
TRI Log #: 23-003518

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	2.43	1.31	4.96	3.03	4.65						**3.28**	1.53
A - MD Average Peel Strength (g/in)	1103	595	2252	1376	2111						**1487**	695
B - MD Average Peel Strength (ppi)	3.44	3.37	5.47	8.53	6.42						**5.45**	2.17
B - MD Average Peel Strength (g/in)	1562	1530	2483	3873	2915						**2472**	984
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	232.8	231	232	232	232	231	227	234	231	233	**232**	2
											227	<< min
Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.952	0.952	0.952								**0.952**	0.000
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.21	2.21									**2.21**	0.00
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	64	66	57	59	59						**61**	4
MD Elong. @ Max. Strength (%)	25	23	25	26	26						**25**	1

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010113
TRI Log #: 23-003518

GEOTEXTILE - SIDE A

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 - Mass (g)	2.83	2.87	2.97	2.92	2.57	2.72	2.36	2.65	2.76	2.63	**2.73**	0.18
Mass/Unit Area (oz/sq.yd)	6.58	6.68	6.91	6.79	5.98	6.33	5.49	6.16	6.42	6.12	**6.35**	0.43
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	162	190	187	197	170	190	202	209	193	174	**187**	15
TD - Tensile Strength (lbs)	174	237	201	217	231	189	225	260	230	162	**213**	30
MD - Elong. @ Max. Load (%)	80	95	83	93	87	73	96	89	88	84	**87**	7
TD - Elong. @ Max. Load (%)	97	105	106	106	107	85	100	100	95	106	**101**	7
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	103	118	79	108	99						**101**	15
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.177	0.167	0.174	0.160	0.167						**0.169**	0.007
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN200-2-6 Double Sided Geocomposite
Sample Identification: 0134801010113
TRI Log #: 23-003518

GEOTEXTILE - SIDE B

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 - Mass (g)	2.74	2.73	2.70	2.87	2.79	3.21	2.71	2.85	3.01	2.69	**2.83**	0.17
Mass/Unit Area (oz/sq.yd)	6.37	6.35	6.28	6.68	6.49	7.47	6.30	6.63	7.00	6.26	**6.58**	0.39
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	163	228	174	181	151	178	168	191	166	156	**176**	22
TD - Tensile Strength (lbs)	183	274	265	219	208	203	226	228	218	248	**227**	28
MD - Elong. @ Max. Load (%)	88	99	83	85	95	81	89	81	98	85	**88**	7
TD - Elong. @ Max. Load (%)	95	101	101	106	99	102	113	107	107	91	**102**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	101	119	116	114	149						**120**	18
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.162	0.165	0.166	0.174	0.175						**0.168**	0.006
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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Laboratory Testing
Geocomposite (250-mil) CQA Conformance Data

September 29, 2023
October 2, 2023 Updated-Added Transmissivity

Mail To:

David Conrad
Waste Management, Inc.
100 Two Pine Dr.
North Little Rock AR 72117

email: dconrad@wm.com
cc email: bfureigh@promusengineering.com

Bill To:

<= Same (PO 04008375)

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 Cell**
TRI Job Reference Number:	23-003503
Material(s) Tested:	Five, Skaps TN250-2-6 Double Sided Geocomposite(s)
Test(s) Requested:	Transmissivity (ASTM D 4716) - GC Peel Strength (ASTM D 7005) - GC Thickness (ASTM D 5199) - GN Density (ASTM D 1505) - GN Carbon Black Content (ASTM D1603, mod.) - GN Tensile Properties (ASTM D 7179, 12 ipm strain rate) - GN Mass/Unit Area (ASTM D 5261) - GT Grab Tensile (ASTM D 4632) - GT Puncture Strength (ASTM D 4833) - GT Apparent Opening Size (ASTM D 4751) - GT Permittivity (ASTM D 4491) - GT

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

Sincerely,

Jarrett A. Nelson

Jarrett A. Nelson
Director of Operations
Geosynthetic Services Division

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020001
TRI Log #: 23-003503

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Hydraulic Transmissivity (ASTM D 4716)												
Direction Tested: Machine Direction												
Normal Load (psf):	10,000											
Hydraulic Gradient:	0.1											
Test Length (in)	12											
Test Width (in)	12											

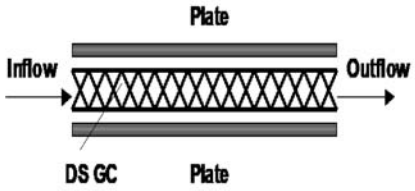

Plate / Sample / Plate

Seat Time (hours)		Specimen	1			2				MEAN	STD. DEV.
	Volume (cc)		522	522	522	559	550	548			
	Time (s)		10.34	10.37	10.38	10.54	10.43	10.41			
0.25	Flow Rate (GPM/ft width)		0.80	0.80	0.80	0.84	0.83	0.83		**0.82**	0.02
	Transmissivity (m^2/s)		1.65E-03	1.65E-03	1.65E-03	1.73E-03	1.73E-03	1.72E-03		**1.69E-03**	4.34E-05
	Test Temp (C)			20.3			20.3				
	Temp. Corr. Factor			0.997			0.997				

Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	10.18	6.67	8.51	6.58	6.84						**7.76**	1.57
A - MD Average Peel Strength (g/in)	4622	3028	3864	2987	3105						**3521**	712
B - MD Average Peel Strength (ppi)	9.57	3.87	8.19	7.59	8.84						**7.61**	2.22
B - MD Average Peel Strength (g/in)	4345	1757	3718	3446	4013						**3456**	1007

Note: A and B represent a randomly assigned top and bottom of the sample

Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	293	294	275	275	276	271	287	285	272	277	**280**	8
											271	<< min

Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.952	0.952	0.952								**0.952**	0.000

Carbon Black Content (ASTM D1603, mod.)			GEONET COMPONENT									
% Carbon Black	2.42	2.47									**2.45**	0.04

Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	104	120	112	101	98						**107**	9
MD Elong. @ Max. Strength (%)	25	24	21	21	25						**23**	2

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020001
TRI Log #: 23-003503

GEOTEXTILE - SIDE A

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 - Mass (g)	2.89	2.80	2.76	2.82	2.41	2.90	2.75	3.18	3.04	2.81	**2.84**	0.20
Mass/Unit Area (oz/sq.yd)	6.72	6.51	6.42	6.56	5.61	6.75	6.40	7.40	7.07	6.54	**6.60**	0.47
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	149	202	203	152	161	179	190	197	174	180	**179**	20
TD - Tensile Strength (lbs)	219	267	269	235	208	212	195	215	221	219	**226**	24
MD - Elong. @ Max. Load (%)	81	90	91	119	103	91	90	86	90	86	**93**	11
TD - Elong. @ Max. Load (%)	86	99	101	93	103	101	91	95	89	97	**96**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	139	101	119	127	139						**125**	16
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.169	0.207	0.192	0.177	0.175						**0.184**	0.015
Sieve No.	70	70	70	70	70						**70**	
Permittivity (ASTM D 4491,Method C)												
Thickness (mil)	134	126	128	126	115	123	117	119	96	105	**119**	11
Thickness (mm)	3.39	3.19	3.26	3.20	2.92	3.13	2.96	3.02	2.44	2.67	**3.02**	0.29
Permittivity (Sec-1)	1.92	2.68	2.25	1.96	1.89	1.92	1.84	1.80	1.83	1.65	**1.97**	0.29
Permittivity (GPM/ft2)	143.6	200.5	168.3	146.6	141.4	143.6	137.6	134.6	136.9	123.4	**147.7**	21.8
Flow rate (LPM/m2)	5852	8168	6857	5973	5760	5852	5608	5486	5577	5029	**6016**	887
Permittivity (cm/sec)	0.651	0.856	0.733	0.627	0.552	0.601	0.545	0.544	0.447	0.441	**0.600**	0.126

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020001
TRI Log #: 23-003503

GEOTEXTILE - SIDE B

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 - Mass (g)	2.64	2.91	3.04	2.81	2.67	2.82	3.01	2.97	2.92	2.58	**2.84**	0.16
Mass/Unit Area (oz/sq.yd)	6.14	6.77	7.07	6.54	6.21	6.56	7.00	6.91	6.79	6.00	**6.60**	0.38
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	177	185	208	188	160	177	178	183	156	192	**180**	15
TD - Tensile Strength (lbs)	183	193	204	239	204	187	199	245	197	189	**204**	21
MD - Elong. @ Max. Load (%)	83	95	88	91	90	84	85	78	85	96	**88**	6
TD - Elong. @ Max. Load (%)	99	96	91	99	90	99	93	89	98	101	**96**	4
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	126	130	97	133	107						**119**	15
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.191	0.173	0.176	0.178	0.168						**0.177**	0.009
Sieve No.	70	70	70	70	70						**70**	
Permittivity (ASTM D 4491,Method C)												
Thickness (mil)	116	111	110	107	117	115	109	106	118	119	**113**	5
Thickness (mm)	2.95	2.81	2.79	2.72	2.97	2.92	2.76	2.68	3.00	3.01	**2.86**	0.12
Permittivity (Sec-1)	2.03	1.91	2.07	2.04	1.84	1.95	2.23	1.96	2.04	1.92	**2.00**	0.11
Permittivity (GPM/ft2)	151.8	142.9	154.8	152.6	137.6	145.9	166.8	146.6	152.6	143.6	**149.5**	8.1
Flow rate (LPM/m2)	6187	5821	6309	6217	5608	5943	6796	5973	6217	5852	**6092**	331
Permittivity (cm/sec)	0.599	0.537	0.578	0.554	0.546	0.569	0.615	0.526	0.613	0.578	**0.571**	0.031

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020035
TRI Log #: 23-003503

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	4.20	4.58	8.68	6.80	12.19						**7.29**	3.28
A - MD Average Peel Strength (g/in)	1907	2079	3941	3087	5534						**3310**	1490
B - MD Average Peel Strength (ppi)	4.60	4.99	10.99	8.46	14.30						**8.67**	4.10
B - MD Average Peel Strength (g/in)	2088	2265	4989	3841	6492						**3935**	1861
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	276	275	276	272	277	279	284	284	289	284	**279**	6
											272	<< min
Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.951	0.951	0.951								**0.951**	0.000
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.47	2.49									**2.48**	0.01
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	94	96	96	96	107						**98**	5
MD Elong. @ Max. Strength (%)	23	25	23	23	23						**23**	1

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020035
TRI Log #: 23-003503

GEOTEXTILE - SIDE A

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 - Mass (g)	3.03	3.02	2.80	2.67	2.27	2.85	3.00	2.85	2.60	2.71	**2.78**	0.23
Mass/Unit Area (oz/sq.yd)	7.05	7.02	6.51	6.21	5.28	6.63	6.98	6.63	6.05	6.30	**6.47**	0.54
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	195	214	196	158	167	163	188	198	187	192	**186**	18
TD - Tensile Strength (lbs)	203	262	229	201	221	184	216	223	218	207	**216**	21
MD - Elong. @ Max. Load (%)	83	94	94	89	89	103	97	89	93	91	**92**	5
TD - Elong. @ Max. Load (%)	95	101	93	93	101	89	99	99	99	102	**97**	5
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	99	112	110	112	93						**105**	9
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.194	0.189	0.202	0.190	0.190						**0.193**	0.005
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020035
TRI Log #: 23-003503

GEOTEXTILE - SIDE B

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 - Mass (g)	2.56	3.04	3.01	2.96	2.76	2.56	2.62	2.69	2.60	2.74	**2.75**	0.19
Mass/Unit Area (oz/sq.yd)	5.95	7.07	7.00	6.88	6.42	5.95	6.09	6.26	6.05	6.37	**6.41**	0.43
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	141	155	197	161	147	151	164	192	161	159	**163**	18
TD - Tensile Strength (lbs)	207	205	231	229	185	172	270	189	185	224	**210**	29
MD - Elong. @ Max. Load (%)	79	94	97	109	87	85	94	91	87	91	**92**	8
TD - Elong. @ Max. Load (%)	99	97	93	111	96	77	111	113	99	101	**100**	11
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	96	106	125	86	93						**101**	15
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.178	0.190	0.172	0.178	0.175						**0.179**	0.007
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020070
TRI Log #: 23-003503

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	6.51	4.39	5.61	8.47	8.02						**6.60**	1.69
A - MD Average Peel Strength (g/in)	2956	1993	2547	3845	3641						**2996**	766
B - MD Average Peel Strength (ppi)	6.82	5.34	6.41	10.49	10.17						**7.85**	2.33
B - MD Average Peel Strength (g/in)	3096	2424	2910	4762	4617						**3562**	1060
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)				GEONET COMPONENT								
Thickness (mils)	288	281	287	287	285	284	279	282	282	283	**284**	3
											279	<< min
Density (ASTM D 1505)				GEONET COMPONENT								
Density (g/cm3)	0.950	0.950	0.951								**0.950**	0.001
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.49	2.57									**2.53**	0.06
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	121	109	95	89	86						**100**	15
MD Elong. @ Max. Strength (%)	19	21	25	27	27						**24**	4

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020070
TRI Log #: 23-003503

GEOTEXTILE - SIDE A

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 - Mass (g)	2.73	2.55	2.36	2.40	2.80	2.94	2.63	2.79	2.99	2.67	**2.69**	0.21
Mass/Unit Area (oz/sq.yd)	6.35	5.93	5.49	5.58	6.51	6.84	6.12	6.49	6.95	6.21	**6.25**	0.49
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	164	212	176	169	196	142	156	140	154	169	**168**	23
TD - Tensile Strength (lbs)	182	222	230	248	185	204	204	199	218	214	**211**	20
MD - Elong. @ Max. Load (%)	85	95	87	84	84	81	92	87	89	89	**87**	4
TD - Elong. @ Max. Load (%)	87	103	95	95	99	109	101	95	104	103	**99**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	121	106	125	121	95						**114**	13
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.181	0.196	0.201	0.178	0.186						**0.188**	0.010
Sieve No.	70	70	70	70	70						**70**	

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020070
TRI Log #: 23-003503

GEOTEXTILE - SIDE B

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 - Mass (g)	2.72	2.57	2.72	2.53	2.60	2.45	2.47	2.75	2.53	2.21	**2.56**	0.16
Mass/Unit Area (oz/sq.yd)	6.33	5.98	6.33	5.88	6.05	5.70	5.75	6.40	5.88	5.14	**5.94**	0.37
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	146	160	199	163	153	132	185	181	173	159	**165**	20
TD - Tensile Strength (lbs)	170	241	242	192	228	199	251	244	197	225	**219**	28
MD - Elong. @ Max. Load (%)	75	91	88	85	79	78	96	89	87	84	**85**	7
TD - Elong. @ Max. Load (%)	99	94	95	114	110	95	103	93	92	99	**100**	7
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	113	101	95	109	118						**107**	9
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.203	0.189	0.201	0.174	0.189						**0.191**	0.012
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020104
TRI Log #: 23-003503

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	6.38	2.90	8.98	4.67	9.73						**6.53**	2.87
A - MD Average Peel Strength (g/in)	2897	1317	4077	2120	4417						**2966**	1302
B - MD Average Peel Strength (ppi)	6.95	6.69	8.01	4.54	7.66						**6.77**	1.35
B - MD Average Peel Strength (g/in)	3155	3037	3637	2061	3478						**3074**	615
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)	GEONET COMPONENT											
Thickness (mils)	295	292	278	283	283	284	285	281	279	286	**284**	5
											278	<< min
Density (ASTM D 1505)	GEONET COMPONENT											
Density (g/cm3)	0.952	0.952	0.952								**0.952**	0.000
Carbon Black Content (ASTM D1603, mod.)	GEONET COMPONENT											
% Carbon Black	2.44	2.42									**2.43**	0.01
Tensile Properties (ASTM D7179, 12 ipm strain rate)	GEONET COMPONENT											
MD Max. Strength (ppi)	101	94	91	88	89						**93**	5
MD Elong. @ Max. Strength (%)	22	28	24	25	25						**25**	2

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020104
TRI Log #: 23-003503

GEOTEXTILE - SIDE A

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 - Mass (g)	2.72	2.51	2.95	2.46	2.71	2.65	2.93	3.04	2.71	2.51	**2.72**	0.20
Mass/Unit Area (oz/sq.yd)	6.33	5.84	6.86	5.72	6.30	6.16	6.82	7.07	6.30	5.84	**6.32**	0.47
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	171	161	184	152	177	185	158	194	176	154	**171**	14
TD - Tensile Strength (lbs)	226	181	233	236	191	195	247	198	229	202	**214**	23
MD - Elong. @ Max. Load (%)	83	93	89	84	83	85	93	90	95	85	**88**	5
TD - Elong. @ Max. Load (%)	93	103	88	105	105	91	92	125	96	91	**99**	11
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	104	120	92	78	78						**95**	18
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.183	0.172	0.179	0.190	0.184						**0.182**	0.007
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020104
TRI Log #: 23-003503

GEOTEXTILE - SIDE B

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 - Mass (g)	2.75	2.88	2.87	2.75	2.63	2.93	2.51	2.64	2.85	2.55	**2.74**	0.15
Mass/Unit Area (oz/sq.yd)	6.40	6.70	6.68	6.40	6.12	6.82	5.84	6.14	6.63	5.93	**6.36**	0.34
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	168	170	184	169	159	130	156	169	168	190	**166**	17
TD - Tensile Strength (lbs)	201	198	198	237	162	224	224	239	249	182	**211**	28
MD - Elong. @ Max. Load (%)	91	104	109	90	81	82	84	86	83	90	**90**	10
TD - Elong. @ Max. Load (%)	95	99	105	100	100	86	101	105	105	97	**99**	6
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	112	97	111	128	122						**114**	12
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.186	0.179	0.186	0.182	0.190						**0.185**	0.004
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

CQA REVIEWED
Jonathan King
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10/03/2023
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PROMUS ENGINEERING

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020138
TRI Log #: 23-003503

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Peel Strength (ASTM D 7005)												
A - MD Average Peel Strength (ppi)	9.85	6.42	7.08	9.52	13.63						**9.30**	2.84
A - MD Average Peel Strength (g/in)	4472	2915	3214	4322	6188						**4222**	1291
B - MD Average Peel Strength (ppi)	6.12	4.25	7.51	9.07	14.39						**8.27**	3.86
B - MD Average Peel Strength (g/in)	2778	1930	3410	4118	6533						**3754**	1750
Note: A and B represent a randomly assigned top and bottom of the sample												
Thickness (ASTM D 5199)			GEONET COMPONENT									
Thickness (mils)	282	280	290	284	286	290	285	282	288	279	**284**	4
											279	<< min
Density (ASTM D 1505)			GEONET COMPONENT									
Density (g/cm3)	0.951	0.951	0.951								**0.951**	0.000
Carbon Black Content (ASTM D1603, mod.)				GEONET COMPONENT								
% Carbon Black	2.42	2.42									**2.42**	0.00
Tensile Properties (ASTM D7179, 12 ipm strain rate)					GEONET COMPONENT							
MD Max. Strength (ppi)	88	93	99	93	93						**93**	4
MD Elong. @ Max. Strength (%)	26	24	24	22	26						**24**	2

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020138
TRI Log #: 23-003503

GEOTEXTILE - SIDE A

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 - Mass (g)	2.63	2.93	2.95	2.75	2.98	2.83	2.69	2.69	2.92	2.43	**2.78**	0.17
Mass/Unit Area (oz/sq.yd)	6.12	6.82	6.86	6.40	6.93	6.58	6.26	6.26	6.79	5.65	**6.47**	0.41
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	160	165	169	180	174	163	187	212	186	196	**179**	17
TD - Tensile Strength (lbs)	195	204	209	229	219	198	207	210	198	188	**206**	12
MD - Elong. @ Max. Load (%)	79	90	82	87	82	83	89	89	85	93	**86**	4
TD - Elong. @ Max. Load (%)	91	90	90	107	97	97	92	96	96	102	**96**	5
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	101	115	111	132	112						**114**	11
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.174	0.172	0.180	0.179	0.184						**0.178**	0.005
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Waste Management, Inc.
Project: Eco Vista Landfill Cell

Material: Skaps TN250-2-6 Double Sided Geocomposite
Sample Identification: 0134801020138
TRI Log #: 23-003503

GEOTEXTILE - SIDE B

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 - Mass (g)	2.60	2.79	2.82	2.67	2.52	2.79	2.66	2.84	2.57	2.53	**2.68**	0.12
Mass/Unit Area (oz/sq.yd)	6.05	6.49	6.56	6.21	5.86	6.49	6.19	6.61	5.98	5.88	**6.23**	0.29
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	163	201	181	192	176	169	208	201	188	153	**183**	18
TD - Tensile Strength (lbs)	198	232	236	271	180	199	249	268	168	180	**218**	38
MD - Elong. @ Max. Load (%)	81	96	81	89	90	110	96	81	85	77	**89**	10
TD - Elong. @ Max. Load (%)	95	100	91	95	95	95	107	104	91	98	**97**	5
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	121	96	100	102	121						**108**	12
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.171	0.182	0.175	0.169	0.182						**0.176**	0.006
Sieve No.	70	70	70	70	70						**70**	

MD Machine Direction TD Transverse Direction

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Material Inventory

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Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801010001	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010002	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010003	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010004	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010005	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010006	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010007	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010008	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010009	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010010	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010011	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010012	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010013	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010014	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010015	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010016	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010017	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010018	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010019	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010020	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010021	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010022	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010023	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010024	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010025	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010026	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010027	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010028	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010029	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010030	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010031	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010032	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010033	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010034	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010035	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010036	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010037	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010038	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010039	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010040	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010041	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010042	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010043	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010044	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010045	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010046	Skaps TN200-2-6	Good	250	14.5	3,625	LS

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Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801010047	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010048	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010049	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010050	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010051	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010052	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010053	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010054	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010055	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010056	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010057	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010058	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010059	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010060	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010061	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010062	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010063	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010064	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010065	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010066	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010067	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010068	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010069	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010070	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010071	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010072	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010073	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010074	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010075	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010076	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010077	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010078	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010079	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010080	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010081	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010082	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010083	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010084	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010085	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010086	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010087	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010088	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010089	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010090	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010091	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010092	Skaps TN200-2-6	Good	250	14.5	3,625	LS

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Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801010093	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010094	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010095	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010096	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010097	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010098	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010099	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010100	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010101	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010102	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010103	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010104	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010105	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010106	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010107	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010108	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010109	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010110	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010111	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010112	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010113	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010114	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010115	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010116	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010117	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010118	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010119	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010120	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010121	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010122	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010123	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010124	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010125	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010126	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801010127	Skaps TN200-2-6	Good	250	14.5	3,625	LS
11/18/2023	134801020001	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020002	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020003	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020004	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020005	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020006	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020007	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020008	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020009	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020010	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020011	Skaps TN250-2-6	Good	200	14.5	2,900	LS

PROMUS ENGINEERING

Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801020012	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020013	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020014	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020015	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020016	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020017	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020018	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020019	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020020	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020021	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020022	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020023	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020024	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020025	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020026	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020027	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020028	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020029	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020030	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020031	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020032	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020033	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020034	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020035	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020036	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020037	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020038	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020039	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020040	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020041	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020042	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020043	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020044	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020045	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020046	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020047	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020048	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020049	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020050	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020051	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020052	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020053	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020054	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020055	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020056	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020057	Skaps TN250-2-6	Good	200	14.5	2,900	LS

PROMUS ENGINEERING

Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801020058	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020059	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020060	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020061	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020062	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020063	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020064	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020065	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020066	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020067	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020068	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020069	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020070	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020071	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020072	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020073	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020074	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020075	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020076	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020077	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020078	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020079	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020080	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020081	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020082	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020083	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020084	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020085	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020086	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020087	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020088	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020089	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020090	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020092	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020093	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020094	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020096	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020097	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020099	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020100	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020101	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020102	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020103	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020104	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020105	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020106	Skaps TN250-2-6	Good	200	14.5	2,900	LS

PROMUS ENGINEERING

Geocomposite Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	134801020107	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020110	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020112	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020113	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020114	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020115	Skaps TN250-2-6	Good	185	14.5	2,683	LS
11/18/2023	134801020116	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020117	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020118	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020119	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020120	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020121	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020122	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020123	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020124	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020125	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020126	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020127	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020128	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020129	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020130	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020131	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020132	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020133	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020134	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020135	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020136	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020137	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020139	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020140	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020141	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020142	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020143	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020144	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020145	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020146	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020150	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020151	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020152	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020154	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020155	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020156	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020157	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020158	Skaps TN250-2-6	Good	200	14.5	2,900	LS
11/18/2023	134801020159	Skaps TN250-2-6	Good	200	14.5	2,900	LS

APPENDIX G

GEOTEXTILE

Laboratory Testing
Geotextile MQC Conformance Data

SKAPS Industries (Nonwoven Division)
335 Athena Drive
Athens, GA 30601 (U.S.A.)
Phone (706) 354-3700 Fax (706) 354-3737
E-mail: contact@skaps.com

July 7, 2023
Waste Management

PO : 12772925

Dear Sir/Madam:

This is to certify that SKAPS GE112 is a high quality needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, randomly networked to form a high strength dimensionally stable fabric. SKAPS GE112 resists ultraviolet deterioration, rotting, biological degradation. The fabric is inert to commonly encountered soil chemicals. Polypropylene is stable within a pH range of 2 to 13. SKAPS GE112 conforms to the property values listed below:

PROPERTY	TEST METHOD	UNITS	M.A.R.V. Minimum Average Roll Value
Weight	ASTM D 5261	oz/sy (g/m^2)	11.10 (376)
Grab Tensile	ASTM D 4632	lbs (kN)	300 (1.33)
Grab Elongation	ASTM D 4632	%	50
CBR Puncture	ASTM D 6241	lbs (kN)	950 (4.23)
Permittivity*	ASTM D 4491	sec^{-1}	0.70
AOS*	ASTM D 4751	US Sieve (mm)	70 (0.21)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:
* At the time of manufacturing. Handling may change these properties.

KOUROSH SABZEVARI
QUALITY CONTROL MANAGER

CQA REVIEWED
SIGNATURE
10/26/2023
DATE
PROMUS ENGINEERING

www.skaps.com

Product : GE112-180

ROLL # ASTM METHOD	WEIGHT D5261	MD TENSILE D4632	MD ELONG D4632	XMD TENSILE D4632	XMD ELONG D4632	CBR PUNCTURE D6241	AOS D4751	PERMITTIVITY D4491
UNITS	oz/sq yd	lbs.	%	lbs	%	lbs.	US Sieve	sec^{-1}
TARGET	11.10	300	50	300	50	950	70	0.70
76992.1	12.26	343	79	358	89	976	100	0.98
76992.2	12.26	343	79	358	89	976	100	0.98
76992.3	12.26	343	79	358	89	976	100	0.98
76992.4	12.26	343	79	358	89	976	100	0.98
76992.5	12.30	339	75	351	88	976	100	0.98
76992.6	12.30	339	75	351	88	976	100	0.98
76992.7	12.30	339	75	351	88	976	100	0.98
76992.8	12.30	339	75	351	88	976	100	0.98
76992.9	12.30	339	75	351	88	976	100	0.98
76992.10	12.61	335	80	358	89	978	100	0.98
76992.11	12.61	335	80	358	89	978	100	0.98
76992.12	12.61	335	80	358	89	978	100	0.98
76992.13	12.61	335	80	358	89	978	100	0.98

CQA REVIEWED

SIGNATURE

10/26/2023
DATE

PROMUS ENGINEERING

*All values are MARV.

SKAPS Industries (Nonwoven Division)
335 Athena Drive
Athens, GA 30601 (U.S.A.)
Phone (706) 354-3700 Fax (706) 354-3737
E-mail: contact@skaps.com

February 6, 2024
Waste Management

PO : 13432870

Dear Sir/Madam:

This is to certify that SKAPS GE112 is a high quality needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, randomly networked to form a high strength dimensionally stable fabric. SKAPS GE112 resists ultraviolet deterioration, rotting, biological degradation. The fabric is inert to commonly encountered soil chemicals. Polypropylene is stable within a pH range of 2 to 13. SKAPS GE112 conforms to the property values listed below:

PROPERTY	TEST METHOD	UNITS	M.A.R.V. Minimum Average Roll Value
Weight	ASTM D 5261	oz/sy (g/m^2)	11.10 (376)
Grab Tensile	ASTM D 4632	lbs (kN)	300 (1.33)
Grab Elongation	ASTM D 4632	%	50
CBR Puncture	ASTM D 6241	lbs (kN)	950 (4.23)
Permittivity*	ASTM D 4491	sec^{-1}	0.70
AOS*	ASTM D 4751	US Sieve (mm)	70 (0.21)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:
* At the time of manufacturing. Handling may change these properties.

KOUROSH SABZEVARI
QUALITY CONTROL MANAGER

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SIGNATURE
02/06/2024
DATE
PROMUS ENGINEERING

www.skaps.com

Product : GE112-180

ROLL #	WEIGHT	MD TENSILE	MD ELONG	XMD TENSILE	XMD ELONG	CBR PUNCTURE	AOS	PERMITTIVITY
ASTM METHOD	D5261	D4632	D4632	D4632	D4632	D6241	D4751	D4491
UNITS	oz/sq yd	lbs.	%	lbs	%	lbs.	US Sieve	sec^{-1}
TARGET	11.10	300	50	300	50	950	70	0.70
76992.14	12.61	335	80	358	89	978	100	0.98
76992.15	12.18	347	84	362	92	966	100	0.98

CQA REVIEWED

SIGNATURE

02/06/2024
DATE

PROMUS ENGINEERING

*All values are MARV.

Laboratory Testing
Geotextile CQA Conformance Data

September 7, 2023

Mail To:

David Conrad
Waste Management

email: dconrad@wm.com
ccemail: bfureigh@promusengineering.com

Bill To:

<= Same

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 Cell**
TRI Job Reference Number:	23-003051
Material(s) Tested:	One, Skaps GE112 Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D5261) Grab Tensile (ASTM D4632) Puncture Strength (ASTM D4833) Apparent Opening Size (ASTM D4751) Permittivity (ASTM D4491)

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

CQA REVIEWED
SIGNATURE
09/07/2023
DATE
PROMUS ENGINEERING

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
Project: Eco Vista Landfill Cell

Material: Skaps GE112 Nonwoven Geotextile
Sample Identification: 76992.1
TRI Log #: 23-003051

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Mass/Unit Area (ASTM D5261)												
5" diameter circle (grams)	5.90	5.37	5.30	5.39	5.24	5.98	5.99	5.93	5.18	5.66	**5.59**	0.33
Mass/Unit Area (oz/sq.yd)	13.72	12.49	12.33	12.54	12.19	13.91	13.93	13.79	12.05	13.17	**13.01**	0.77
Grab Tensile Properties (ASTM D4632)												
MD - Tensile Strength (lbs)	430	445	440	452	453	383	383	419	416	474	**430**	30
TD - Tensile Strength (lbs)	371	345	423	454	394	347	343	498	409	354	**394**	52
MD - Elong. @ Max. Load (%)	78	81	88	91	89	91	87	81	84	72	**84**	6
TD - Elong. @ Max. Load (%)	119	95	94	104	97	109	93	93	95	111	**101**	9
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	238	232	216	258	278						**244**	24
Apparent Opening Size (ASTM D4751, Method B.)												
Opening Size Diameter (mm)	0.131	0.145	0.141	0.151	0.142						**0.142**	0.007
Sieve No.	100	100	100	70	100						**100**	
Permittivity (ASTM D4491,Method C)												
Thickness (mil)	170	175	166	170.5	142.5	176.5	170.5	179	171.6	212.5	**173.4**	17.0
Thickness (mm)	4.32	4.45	4.22	4.33	3.62	4.48	4.33	4.55	4.36	5.40	**4.40**	0.43
Permittivity (Sec-1)	0.78	1.08	1.01	1.14	1.01	1.38	1.12	1.17	1.10	1.04	**1.08**	0.15
Permittivity (GPM/ft2)	58.3	80.8	75.5	85.3	75.5	103.2	83.8	87.5	82.3	77.8	**81.0**	11.3
Permittivity (cm/sec)	0.337	0.480	0.426	0.494	0.366	0.619	0.485	0.532	0.479	0.561	**0.478**	0.085

MD Machine Direction TD Transverse Direction

CQA REVIEWED
SIGNATURE 09/07/2023 DATE
PROMUS ENGINEERING

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.

March 1, 2024

Mail To:

David Conrad
Waste Management, Inc. - Eco Vista
100 Two Pine Dr.
North Little Rock, AR 72117

email: dconrad@wm.com
ccemail: bfureigh@promusengineering.com

Bill To:

<= Same (P.O. # 13383837 (2024))

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 Cell 13A**
TRI Job Reference Number:	24-000595
Material(s) Tested:	One, SKAPS Industries GE112 Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D5261) Grab Tensile (ASTM D4632) Puncture Strength (ASTM D4833) Apparent Opening Size (ASTM D4751) Permittivity (ASTM D4491)

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

CQA REVIEWED

SIGNATURE

03/05/2024
DATE

PROMUS ENGINEERING

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GEOTEXTILE TEST RESULTS
TRI Client: Waste Management, Inc. - Eco Vista
Project: Eco Vista Landfill Cell 13A

Material: SKAPS Industries GE112 Nonwoven Geotextile
Sample Identification: 76992.14
TRI Log #: 24-000595

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Mass/Unit Area (ASTM D5261)												
5" diameter circle (grams)	6.08	5.44	5.06	5.29	5.32	5.36	4.65	4.94	5.14	5.27	**5.26**	0.37
Mass/Unit Area (oz/sq.yd)	14.14	12.65	11.77	12.30	12.37	12.47	10.82	11.49	11.96	12.26	**12.22**	0.87
Grab Tensile Properties (ASTM D4632)												
MD - Tensile Strength (lbs)	449	395	385	403	391	363	364	409	520	371	**405**	48
TD - Tensile Strength (lbs)	364	376	375	501	361	398	388	432	442	472	**411**	49
MD - Elong. @ Max. Load (%)	71	73	73	82	83	78	75	75	79	80	**77**	4
TD - Elong. @ Max. Load (%)	108	103	93	106	92	93	105	93	93	109	**100**	7
Puncture Resistance (ASTM D4833)												
Puncture Strength (lbs)	239	201	183	183	188						**199**	23
Apparent Opening Size (ASTM D4751, Method B.)												
Opening Size Diameter (mm)	0.147	0.145	0.154	0.154	0.144						**0.149**	0.005
Sieve No.	100	100	70	70	100						**100**	
Permittivity (ASTM D4491,Method C)												
Thickness (mil)	174	189	177	166	174	187	179	183	176	176	**178.0**	6.9
Thickness (mm)	4.42	4.81	4.49	4.21	4.41	4.74	4.54	4.65	4.48	4.46	**4.52**	0.17
Permittivity (Sec-1)	1.02	0.99	1.16	1.18	1.01	0.88	0.97	0.95	1.07	0.96	**1.02**	0.09
Permittivity (GPM/ft2)	76.3	74.1	86.8	88.3	75.5	65.8	72.6	71.1	80.0	71.8	**76.2**	7.0
Flow rate (LPM/m2)	3109	3017	3535	3596	3078	2682	2956	2895	3261	2926	**3106**	286
Permittivity (cm/sec)	0.451	0.476	0.521	0.497	0.446	0.418	0.440	0.442	0.479	0.428	**0.460**	0.032

MD Machine Direction TD Transverse Direction

CQA REVIEWED

SIGNATURE

03/05/2024
DATE

PROMUS ENGINEERING

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Material Inventory
Geotextile

PROMUS ENGINEERING

Geotextile Inventory

Project: **ECO-VISTA CELL 13A** Project No.: **230181**

Location: **SPRINGDALE, ARKANSAS**

Date Recorded	Roll Number	Material Description (ex: manufacturer and product ID)	Observations of Material Condition at Inventory	Roll Length (FT)	Roll Width (FT)	Roll Area (SF)	Tech ID
11/18/2023	76992.1	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.2	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.3	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.4	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.5	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.6	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.7	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.8	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.9	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.10	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.11	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.12	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
11/18/2023	76992.13	SKAPS GE112 NW Geotextile	Good	480	15	7,200	LS
3/5/2024	76992.14	SKAPS GE112 NW Geotextile	Good	480	15	7,200	RW
3/5/2024	76992.15	SKAPS GE112 NW Geotextile	Good	480	15	7,200	RW

APPENDIX H

PROTECTIVE COVER SOIL LAYER AND LDS/LCS AGGREGATE

TABLE H-1

Eco-Vista Class 1 Landfill, Cell 13A

Laboratory Test Data - Protective Cover Soil Layer

Sample ID	Grain Size Percent Finer (%) 1-in	Permeability k (cm/sec)	Comments
PC-1	100.0	1.5E-02	Pre-Construction Sample
209A	100.0	2.9E-02	Construction Sample
209B	100.0	5.8E-02	Construction Sample

Statistical Summary

Minimum	100.0	1.5E-02
Maximum	100.0	5.8E-02
Average	100.0	4.1E-02 (2)
Standard Deviation	0.0	N/A
Material Requirements	100	≥1.0E-3
Total Tests, Preconstruction	1	1
Total Tests, Construction	2	2
Required Frequency, Precon.	1/Source	1/Source
Test Frequency, Precon.	1/Source	1/Source
Required Frequency, Const.	1/5000 CY	1/5000 CY
Test Frequency, Const. (1)	1/3654 CY	1/3654 CY

Notes:

(1) Actual test frequencies are approximate and based on single source and 7308 CY of material placed.

(2) Geometric mean.

TABLE H-2

Eco-Vista Class 1 Landfill, Cell 13A

Laboratory Test Data - LDS/LCS Aggregate

Sample ID	Grain Size Percent Finer (%) #200	Permeability k (cm/sec)	Comments
1018C	0.7	1.0E-01	Pre-Construction Sample
1206E	0.6	3.8E+01	Construction Sample

Statistical Summary

Minimum	0.6	1.0E-01
Maximum	0.7	3.8E+01
Average	0.7	1.9E+00 (2)
Standard Deviation	0.1	N/A
Material Requirements	≤ 5	≥ 1.0E-1
Total Tests, Preconstruction	1	1
Total Tests, Construction	1	1
Required Frequency, Precon.	1/Source	1/Source
Required Frequency, Const.	1/5000 CY	1/5000 CY
Test Frequency, Precon.	1/1500 CY	1/1500 CY
Test Frequency, Const. (1)	1/5000 CY	1/5000 CY

Notes:

(1) Actual test frequencies are approximate and based on single source and 1500 CY of material placed.

(2) Geometric mean.

Laboratory Testing
Protective Cover Soil Layer

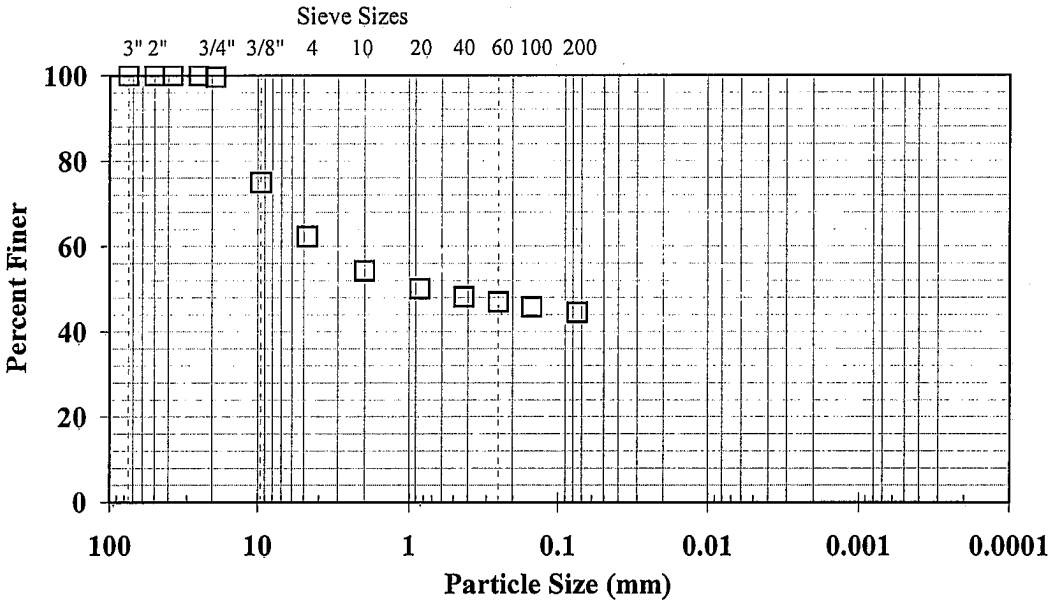
TRI/ENVIRONMENTAL, INC.

A Texas Research International Company

Particle Size Analysis for Soils

Client: Shepherd Engineering Design Co., Inc.
Project: Eco Vista Landfill Cap
Sample: PC-1 (North Slope)

TRI Log#: E2325-85-07
Test Method: ASTM D 422
Test Date: 10/03/09



Sieve Analysis	
Sieve Size	Percentage Passing (%)
3 in.	100.0
2 in.	100.0
1.5 in.	100.0
1 in.	100.0
3/4 in.	99.7
3/8 in.	75.0
No. 4 (4.75 mm)	62.3
No. 10 (2.00 mm)	54.3
No. 20 (850 µm)	50.1
No. 40 (425 µm)	48.2
No. 60 (250 µm)	46.9
No. 100 (150 µm)	45.8
No. 200 (75 µm)	44.5

Notes: Soil classifies as a clayey sand with gravel (SC) in accordance with ASTM D 2488.

Types	Percentage Retain (%)
Gravel	37.7
Sand	17.8
Fines	44.5

Cheng-Wei Chen, 10/08/09
Quality Review/Date
Tested by: Larry Miller

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

9063 Bee Caves Road □ Austin, TX 78733-6201 □ (512) 263-2101 □ (512) 263-2558 □ 1-800-880-TEST

TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

Rigid Wall Constant Head Permeability

Client: Shepherd Engineering Design Co., Inc.

Project: Eco Vista Landfill Cap

Sample: PC-1 (North Slope)

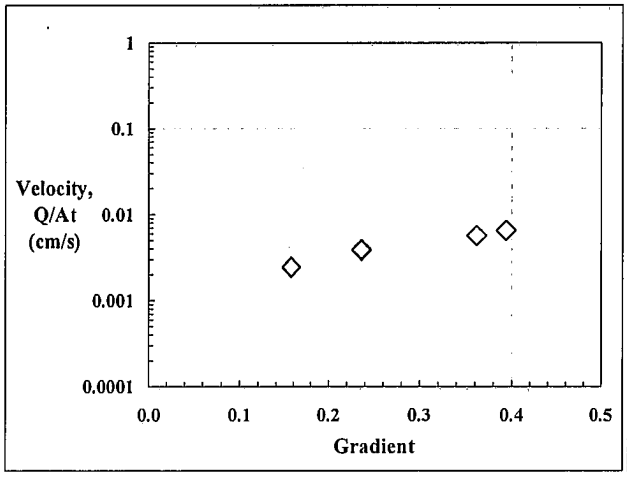
TRI Log#: E2308-85-07

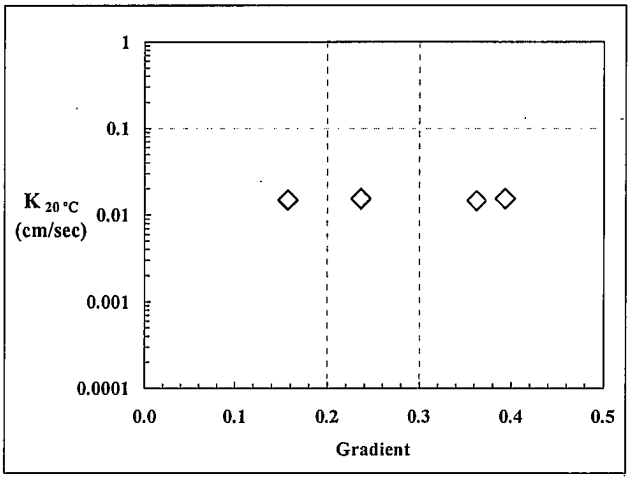
Test Method: ASTM D 2434

Test Date: 10/05/09

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										
2.3	1.3	0.2	9.2	120	21.9	0.076	2.4E-03	1.5E-02	1.5E-02	**1.5E-02**
2.3	1.3	0.2	9.3	120	21.9	0.078	2.5E-03	1.6E-02	1.5E-02	
Gradient No. 2										
4.7	3.2	0.2	14.8	120	22.6	0.124	3.9E-03	1.7E-02	1.6E-02	**1.5E-02**
4.7	3.2	0.2	14.5	120	22.6	0.121	3.8E-03	1.6E-02	1.5E-02	
Gradient No. 3										
9.0	6.5	0.4	18.5	90	22.9	0.205	6.5E-03	1.6E-02	1.5E-02	**1.5E-02**
9.0	6.7	0.4	16.1	90	22.9	0.179	5.7E-03	1.6E-02	1.5E-02	

Specimen Cross-sectional Area, A (cm^2): 31.67





Remolded Dry Density (pcf):	65.9
Remolded Moisture Content (%):	4.6
% fines as determined by ASTM D 1140	44.5

Note: Soil specimen was tamped in place, which based on the test request.

Cheng-Wei Chen, 10/08/08

Quality Review/Date

Tested by: Adam Lewis

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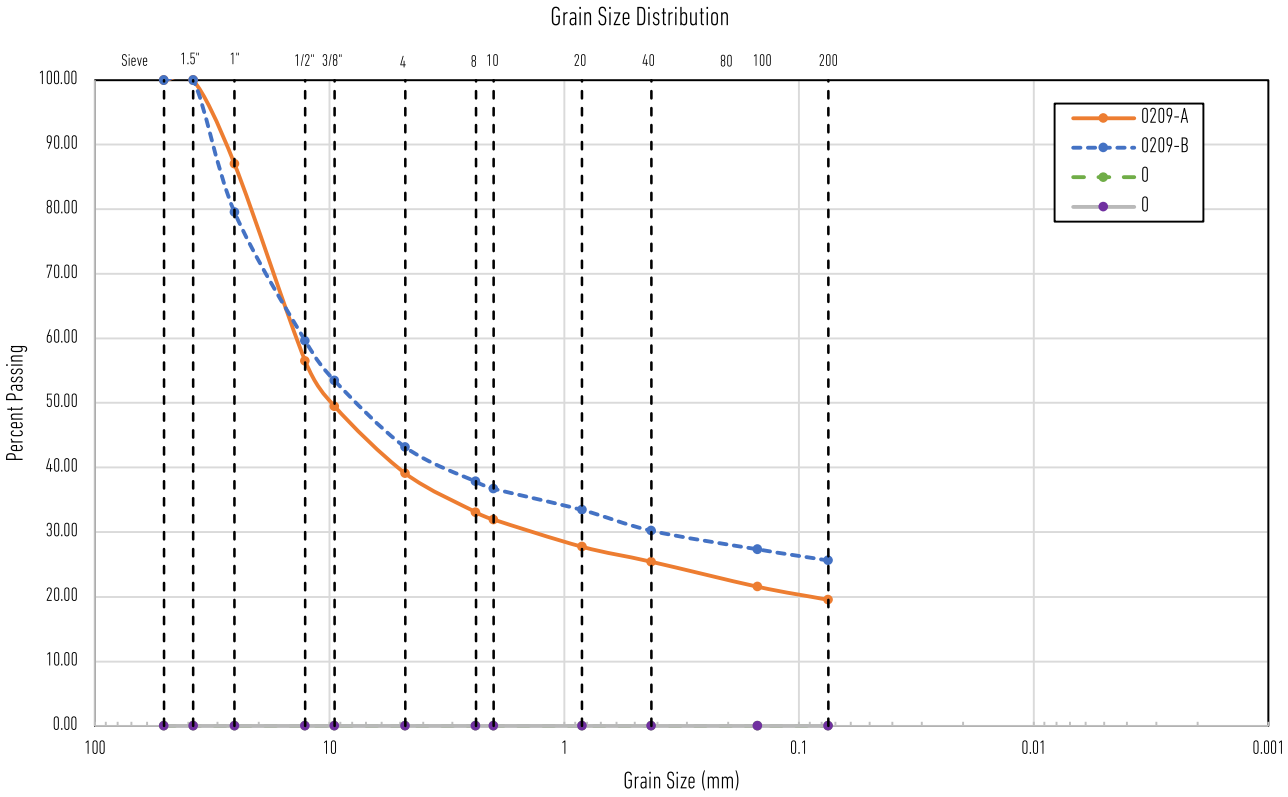
GRAIN SIZE ANALYSIS TEST RESULTS



Sample	% GRAVEL	% MED. TO COARSE SAND	% FINE SAND	% FINES (SILT AND CLAY)
0209-A	43.48	24.58	12.42	19.52
0209-B	40.37	22.89	11.10	25.64

Sample	**0209-A**	**0209-B**		
Source				
MC	31.9%	29.3%		
2.0"	100.00	100.00		
1.5"	100.00	100.00		
1"	87.04	79.55		
1/2"	56.52	59.63		
3/8"	49.49	53.47		
No. 4	39.12	43.16		
No. 8	33.08	37.83		
No. 10	31.94	36.74		
No. 20	27.75	33.46		
No. 40	25.41	30.23		
No. 200	19.52	25.64		

PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405

PROJECT: Eco Vista Landfill

PROJECT NO: 230181 TEST DATE: 21-Feb-24

CLIENT: Waste Management

FIGURE

CONSTANT HEAD PERMEABILITY TEST RESULTS

ASTM D 2434

Sample ID: 0209-A
Description: LCS PC
Source:

Sample Date: 9-Feb
Test Date: 21-Feb

Initial Moisture Content

Tare ID:	SB12	
Tare Wt.:	88.86	g
Wet Wt. w/Tare:	353.36	g
Dry Wt. w/Tare	289.41	g
Moisture Content	31.9%	

Test Specimen Data

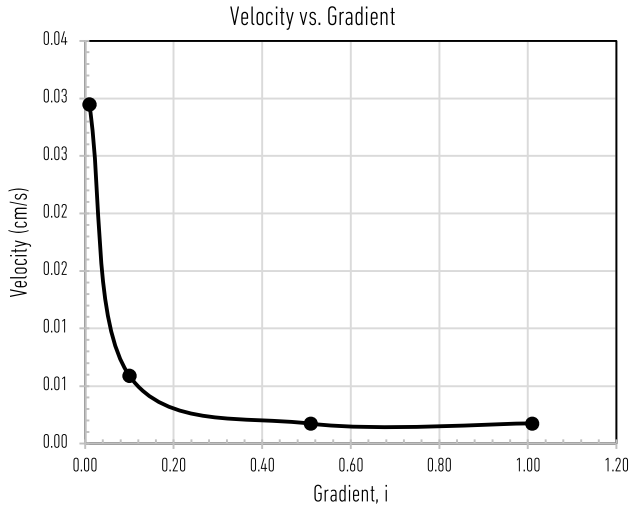
Diameter, D:	10.16	cm
Area, A:	81.07	cm^2
Init. Length:	10.16	cm
Deformation:	0.20	cm
Final Length, L:	9.96	cm
Volume, V:	807.5	cm^3

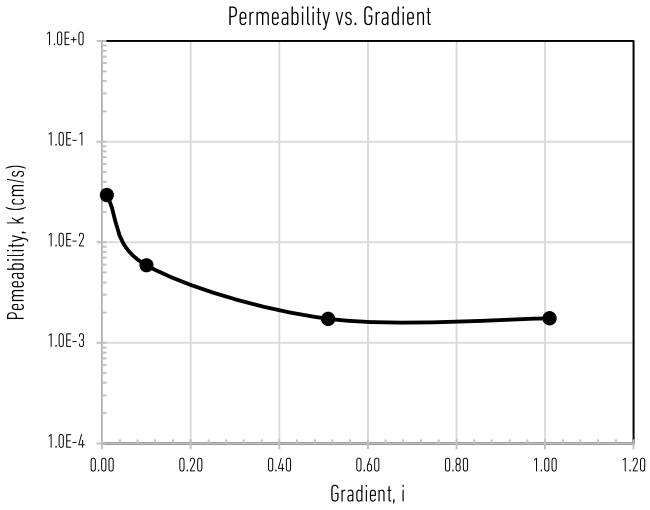
Unit Weight

Tare ID:	SP06	
Tare Wt.:	183.49	g
Dry Wt. w/Tare:	1508.31	g
Dry Unit Weight:	102.3	lb/ft^3

Test Data

Test Run	Head, H (cm)	Gradient, i	Res. Reading Start	Res. Reading End	Time, t (s)	Flow, Q (cm^3)	Water Temp. °C	Perm., k (cm/s)
1	0.1	0.01	53.3	53.2	300	8.1	27.1	2.9E-2
2	1.0	0.10	53.2	53.0	300	16.2	27.2	5.9E-3
3	5.1	0.51	53.0	52.7	300	24.3	27.2	1.7E-3
4	10.1	1.01	52.7	52.1	300	48.6	27.3	1.8E-3
5								
6								
7								





PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405 (888) 811-9066

PROJECT: Eco-Vista Landfill
PROJECT NO: 230181 TEST DATE: 21-Feb-24
CLIENT: Waste Management

FIGURE

CONSTANT HEAD PERMEABILITY TEST RESULTS

ASTM D 2434

Sample ID: 0209-B
Description: LCS PC
Source:

Sample Date: 9-Feb
Test Date: 21-Feb

Initial Moisture Content

Tare ID:	SB07	
Tare Wt.:	91.26	g
Wet Wt. w/Tare:	387.29	g
Dry Wt. w/Tare	320.15	g
Moisture Content	29.3%	

Test Specimen Data

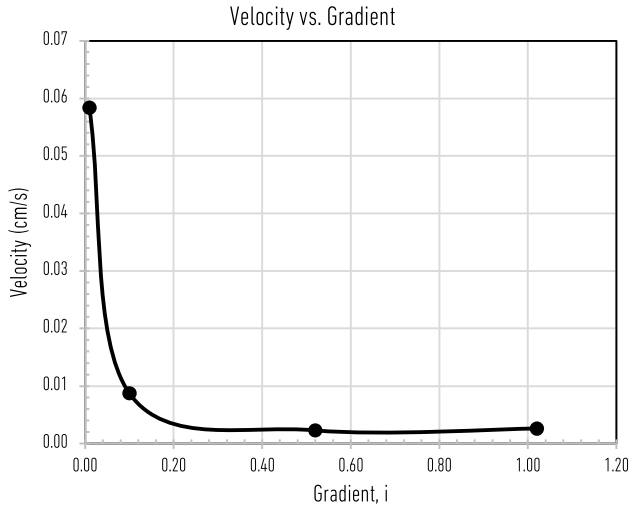
Diameter, D:	10.16	cm
Area, A:	81.07	cm^2
Init. Length:	10.16	cm
Deformation:	0.30	cm
Final Length, L:	9.86	cm
Volume, V:	799.4	cm^3

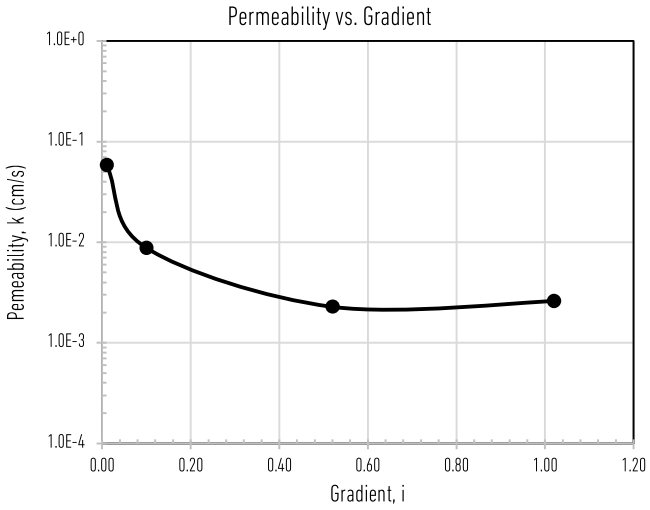
Unit Weight

Tare ID:	SP08	
Tare Wt.:	181.2	g
Dry Wt. w/Tare:	1482.31	g
Dry Unit Weight:	101.5	lb/ft^3

Test Data

Test Run	Head, H (cm)	Gradient, i	Res. Reading Start	Res. Reading End	Time, t (s)	Flow, Q (cm^3)	Water Temp. °C	Perm., k (cm/s)
1	0.1	0.01	53.4	53.2	300	16.2	27.0	5.8E-2
2	1.0	0.10	53.2	52.9	300	24.3	27.1	8.8E-3
3	5.1	0.52	52.9	52.5	300	32.4	27.2	2.3E-3
4	10.1	1.02	52.5	51.6	300	73.0	27.4	2.6E-3
5								
6								
7								



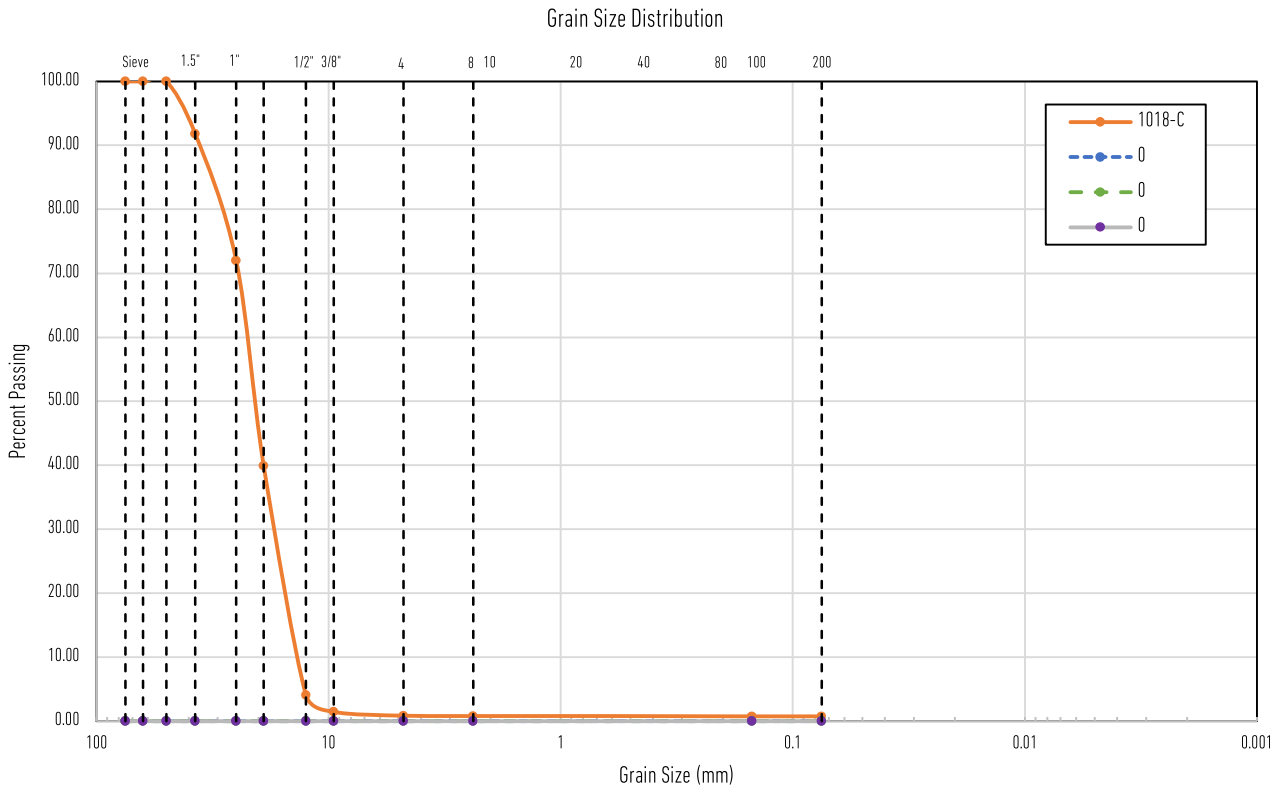


PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405 (888) 811-9066

PROJECT: Eco-Vista Landfill
PROJECT NO: 230181 TEST DATE: 21-Feb-24
CLIENT: Waste Management

FIGURE

GRAIN SIZE ANALYSIS TEST RESULTS



Sample	% GRAVEL	% SAND	% FINES (SILT AND CLAY)
1018-C	99.17	0.09	0.74

Sample	**1018-C**			
Source				
MC	0.1%			
3.0"	100.00			
2.5"	100.00			
2.0"	100.00			
1.5"	91.81			
1.0"	72.02			
3/4"	39.91			
1/2"	4.07			
3/8"	1.46			
No. 4	0.83			
No. 8	0.79			
No. 200	0.74			

PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405 (888) 811-9066

PROJECT: Eco Vista Landfill

PROJECT NO: 230181 TEST DATE: 2-Nov-23

CLIENT: Waste Management

FIGURE

Laboratory Testing
LDS/LCS Aggregate

CONSTANT HEAD PERMEABILITY TEST RESULTS

ASTM D 2434

Sample ID: 1018-C
Description: Gravel
Source:

Sample Date: 18-Oct
Test Date: 31-Oct

Initial Moisture Content

Tare ID:	SP10	
Tare Wt.:	178.39	g
Wet Wt. w/Tare:	789.63	g
Dry Wt. w/Tare	788.71	g
Moisture Content	0.2%	

Test Specimen Data

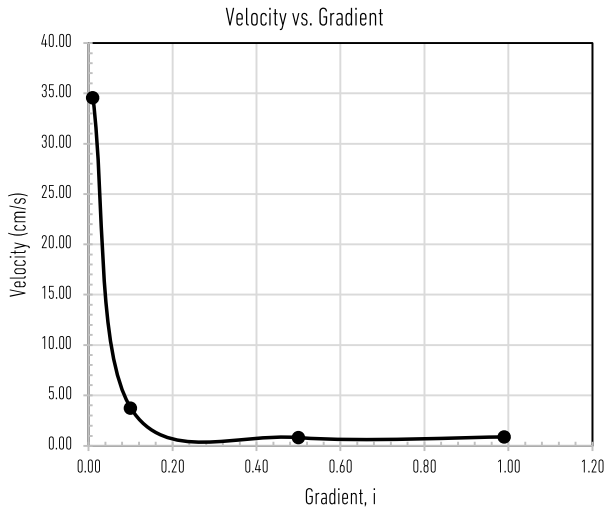
Diameter, D:	10.16	cm
Area, A:	81.07	cm^2
Init. Length:	10.16	cm
Deformation:	0.00	cm
Final Length, L:	10.16	cm
Volume, V:	823.7	cm^3

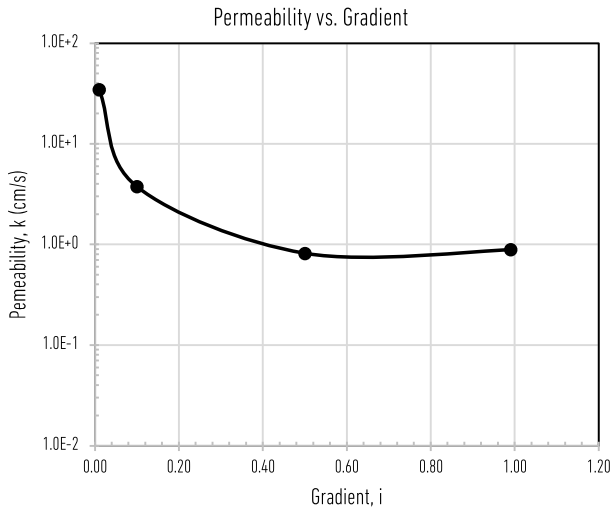
Unit Weight

Tare ID:	SP10	
Tare Wt.:	178.39	g
Dry Wt. w/Tare:	1592.91	g
Dry Unit Weight:	107.1	lb/ft^3

Test Data

Test Run	Head, H (cm)	Gradient, i	Res. Reading Start	Res. Reading End	Time, t (s)	Flow, Q (cm^3)	Water Temp. °C	Perm., k (cm/s)
1	0.1	0.01	53.1	30.1	60	1864.7	26.8	3.5E+1
2	1.0	0.10	30.1	5.1	60	2026.8	26.9	3.8E+0
3	5.1	0.50	52.8	25.1	60	2245.7	27.0	8.2E-1
4	10.1	0.99	53.2	23.4	30	2416.0	27.1	8.9E-1
5								
6								
7								



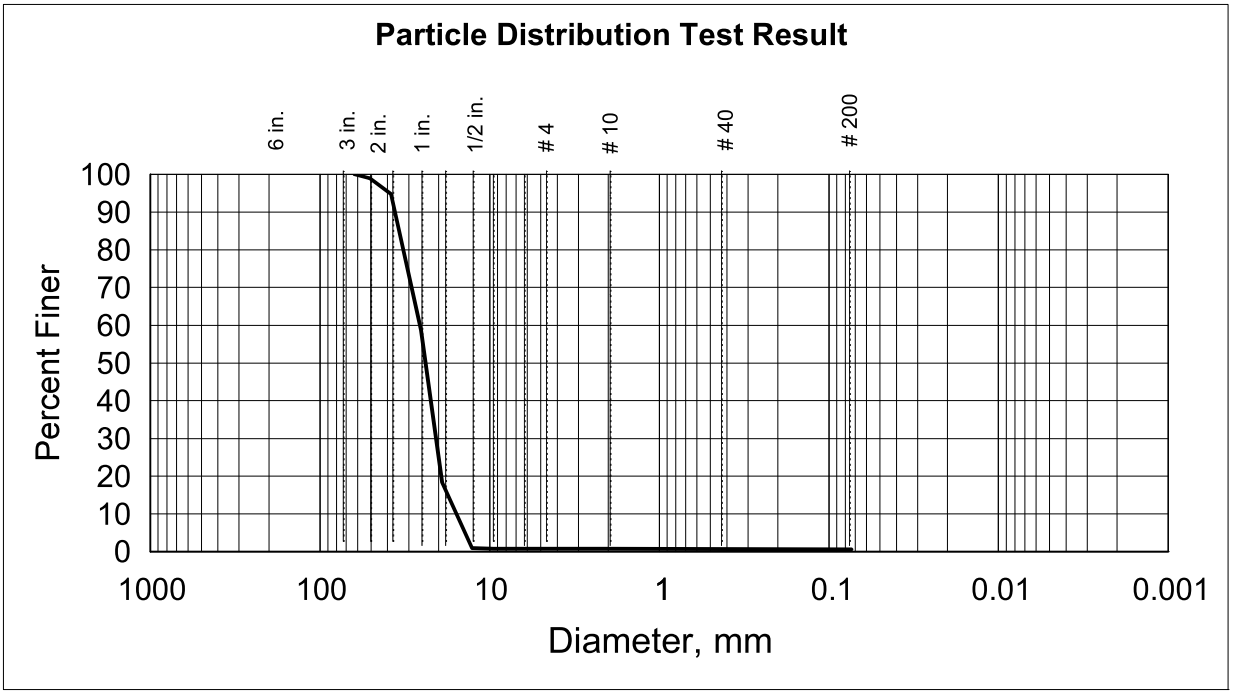


PROMUS ENGINEERING
1200 Mountain Creek Rd. Ste 102, Chattanooga TN 37405 (888) 811-9066

PROJECT: Eco-Vista Landfill
PROJECT NO: 230181 TEST DATE: 31-Oct-23
CLIENT: Waste Management

FIGURE

CQA Testing Laboratory Lab ID: 05091



Proj. Name: Eco-Vista Landfill, Cell 13 A	**Gravel, %**	**Sand, %**	**P-200**		**LL**	**PI**
Project No.: 2330	99.2	0.2	0.6		N/A	N/A
Date of Report: 12.14.2023	**Description and Classification**					
Project Loc. Arkansas	**Gravel, Poorly graded, GP**					
	Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type	6 "		2.5 "	100.0	3/8 "	0.8
1206 E Bulk Sample Sample wt Kg 22000	5 "		2 "	98.9	1/4 "	0.8
Date Received 12.08.2023 **NMC, %** **0.6**	4.5 "		1- 1/2 "	94.7	# 4	0.8
Dry sample prep., ASTM C136, C117	4 "		1 "	58.7	# 10	0.8
Balance ID: 1, 2	3.5 "		3/4 "	18.3	# 40	0.7
Tested By: JMB Reveiwed By BMG	3 "		1/2 "	0.9	# 200	0.6

Page ID: 1206 E **Grain-size**

CQA Testing Laboratory 14194 Florida BLVD Livingston, LA. 70754 Phone 225-435-0408 Mobile 812-603-6840

CQA Testing Laboratory

Lab ID: 05091

Permeability of Granular Material, ASTM D2434

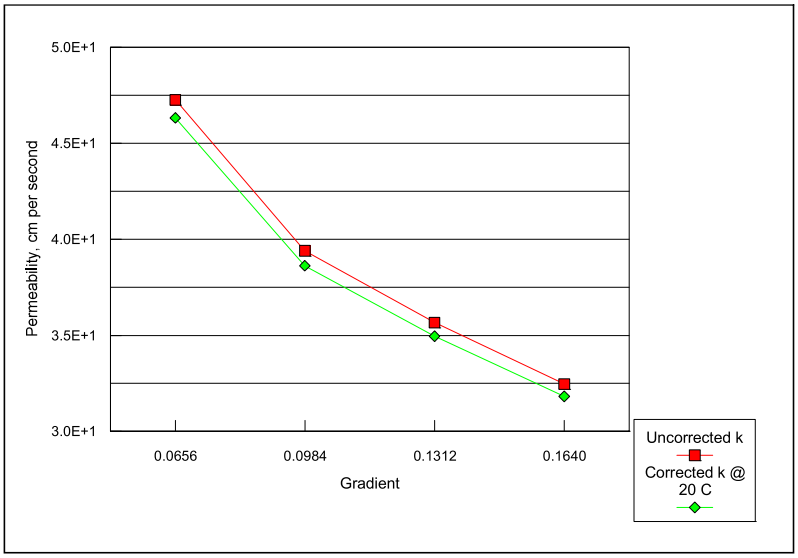
Date of Test:	12.09.2023	**Date of Sample Receipt:**	1208.2023	**Technician:**	JMB
Client Name:	Waste Management of Arkansas			**Reviewed By:**	BMG
Project Name:	Eco-Vista Landfill, Cell 13 A			**Balance ID:**	2
Project Number:	2330			**Thermometer ID:**	2

Sample Number:	1206 E
Sample Location:	Bulk Gravel Sample
Other:	None

Specimen Data	
Specimen Area, cm^2 (A)	182.415
Specimen Weight, lbs.	16.3
Specimen Height, cm (L)	30.48
Moisture Content, (as Tested), %	0.6
Dry Unit Weight, pcf	83.0
As Tested (Wet), pcf	83.5

Test Constants	
Bubble Tube, cm^2	6.35
Reservoir Effective Area, cm^2	176.07

Avg. k Corrected @ 20 C, cm/sec	**3.8E+001**



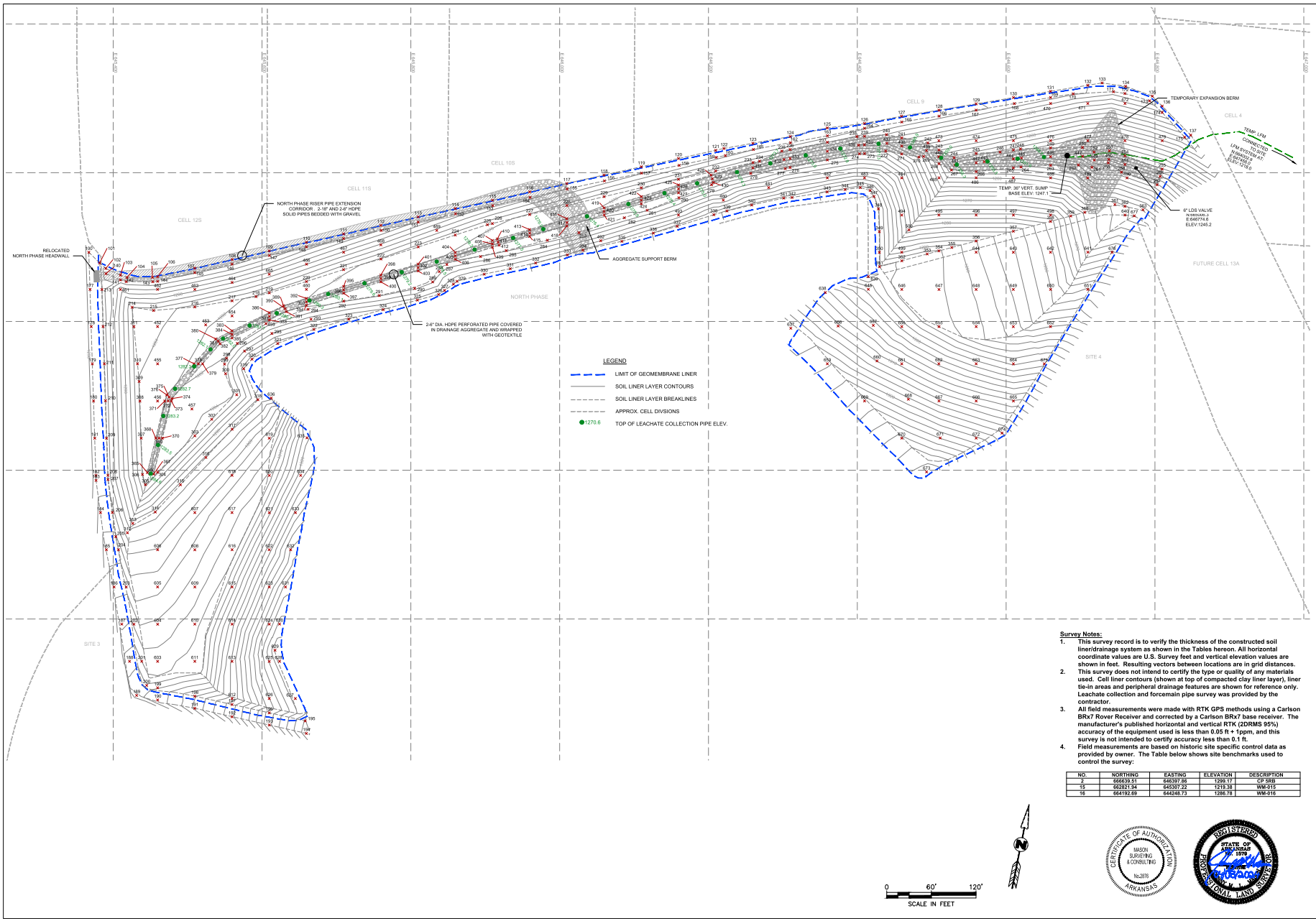
Height of Bubble Tube, cm (h)	Gradient (h/L)	Manometer Readings Start, cm	Manometer Readings Finish, cm	Quantity of Flow (Q)	Time, sec. (t)	Permeant Temperature, C	Uncorrected k	Corrected k @ 20 C
2.00	0.0656	50	0	8803.25	15.56	21	4.7E+001	4.6E+001
3.00	0.0984	50	0	8803.25	12.44	21	3.9E+001	3.9E+001
4.00	0.1312	50	0	8803.25	10.31	21	3.6E+001	3.5E+001
5.00	0.1640	50	0	8803.25	9.06	21	3.2E+001	3.2E+001

Remarks: k = QL/Ath, and Corrected for temp @ 20 C = k * (-0.02452 * temp + 1.495)

CQA Testing Laboratory 14194 Florida BLVD Livingston, LA. 70754 Phone 225-435-0408 Mobile 812-603-6840

APPENDIX I

AS-BUILT DRAWINGS



Survey Notes:

1. This survey record is to verify the thickness of the constructed soil liner/drainage system as shown in the Tables hereon. All horizontal coordinate values are U.S. Survey feet and vertical elevation values are shown in feet. Resulting vectors between locations are in grid distances.
2. This survey does not intend to certify the type or quality of any materials used. Cell liner contours (shown at top of compacted clay liner layer), liner tie-in areas and peripheral drainage features are shown for reference only. Leachate collection and forcemain pipe survey was provided by the contractor.
3. All field measurements were made with RTK GPS methods using a Carlson BRx7 Rover Receiver and corrected by a Carlson BRx7 base receiver. The manufacturer's published horizontal and vertical RTK (2DRMS 95%) accuracy of the equipment used is less than 0.05 ft + 1ppm, and this survey is not intended to certify accuracy less than 0.1 ft.
4. Field measurements are based on historic site specific control data as provided by owner. The Table below shows site benchmarks used to control the survey:

NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	666639.51	646397.86	1299.17	CP 5RB
15	662821.94	645307.22	1219.38	WM-015
16	664192.69	644248.73	1286.78	WM-016

CERTIFICATE OF AUTHORIZATION — MASON SURVEYING & CONSULTING — No.2876 — ARKANSAS

REGISTERED — STATE OF ARKANSAS — No. 1976 — PROFESSIONAL LAND SURVEYOR

REVISIONS

NO.	DATE	DESCRIPTION

mason SURVEYING & CONSULTING, INC.
PO BOX 571 • GENTRY, AR 72734 • (479)238-3109

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
CELL 13A CONSTRUCTION

LINER THICKNESS VERIFICATION SURVEY MAP

WASTE MANAGEMENT

DRN: JMLM | APP: JMLM
DATE: APRIL 2024
PROJECT NO.: 23122
DRAWING NO:

POINTS REQUIRING VERIFICATION OF 2FT CLAY LINER(CL)

	DATE OF FINAL SURVEY		10/16/2023	12/11/2023		4/1/2024	
PNT. NO.	NORTHING	EASTING	SG ELEV	CL ELEV	CL DEPTH	PC ELEV	PC DEPTH
100	6648913.1	645367.2	1296.9	1299.1	2.2	1300.9	1.8
101	6648788.7	645381.8	1296.7	1298.7	2.1	1299.9	1.2
102	6648713.3	645390.1	1295.6	1297.8	2.2	1300.1	2.3
103	6648628.3	645409.7	1295.3	1297.6	2.3	1300.2	2.6
104	6648459.2	645418.6	1295.3	1297.5	2.2	1300.2	2.7
105	6648459.3	645452.8	1295.5	1297.8	2.2	1300.1	2.3
106	6648660.1	645459.7	1295.5	1297.8	2.2	1300.1	2.3
107	6648771.7	645459.6	1296.1	1298.3	2.2	1300.2	1.9
108	6648883.3	645559.9	1296.3	1298.4	2.1	1300.1	1.7
109	6648944.9	645609.7	1295.1	1297.2	2.2	1300.1	2.9
110	6649066.5	645659.7	1293.0	1295.2	2.1	1299.3	4.1
111	6649117.8	645709.7	1291.2	1293.4	2.2	1299.8	6.4
112	6649229.3	645759.7	1289.4	1291.6	2.1	1296.8	5.2
113	6649340.6	645809.8	1287.2	1289.5	2.3	1295.5	5.9
114	6649451.9	645859.7	1285.3	1287.5	2.1	1293.7	6.2
115	6649563.1	645909.7	1283.5	1285.6	2.1	1292.4	6.8
116	6649674.3	645959.8	1282.6	1284.7	2.1	1292.0	7.3
117	6649785.5	646009.5	1281.9	1284.0	2.2	1288.1	4.1
118	6649896.9	646059.6	1281.1	1283.1	2.0	1286.9	3.7
119	6650008.0	646109.8	1280.0	1282.2	2.2	1284.6	2.4
120	6650119.1	646159.6	1279.4	1281.6	2.2	1283.7	2.1
121	6650230.1	646209.7	1278.6	1280.7	2.1	1282.7	2.0
122	6650332.6	646220.6	1278.5	1280.7	2.1	1282.7	2.1
123	6650339.6	646269.6	1278.0	1280.2	2.2	1282.4	2.2
124	6650448.7	646309.9	1277.3	1279.5	2.2	1281.5	2.0
125	6650560.3	646359.5	1276.6	1278.8	2.2	1280.9	2.1
126	6650666.3	646409.6	1275.9	1278.1	2.3	1280.3	2.1
127	6650776.0	646459.4	1275.1	1277.1	2.0	1279.2	2.1
128	6650884.1	646509.7	1274.6	1276.7	2.0	1278.9	2.2
129	6650902.7	646559.8	1273.9	1276.1	2.2	1278.2	2.2
130	6651001.1	646609.8	1272.9	1275.0	2.1	1277.2	2.2
131	6651099.4	646659.6	1272.5	1274.7	2.3	1276.8	2.1
132	6651117.6	646709.7	1271.8	1274.0	2.2	1275.0	1.0
133	6651220.7	646729.0	1271.4	1273.7	2.2	1274.7	1.1
134	6651316.1	646760.7	1271.8	1274.1	2.3	1275.1	1.0
135	6651403.0	646796.4	1271.2	1273.2	2.1	1274.4	1.2
136	6650889.6	646809.8	1268.6	1270.8	2.2	1271.9	1.0
137	6650560.6	646848.1	1259.8	1262.0	2.3	1263.5	1.5
138	6649864.3	645390.2	1299.2	1297.4	2.2	1299.3	1.9
141	6648655.9	645409.7	1295.2	1297.4	2.2	1299.9	2.5
142	6648533.6	645417.5	1295.2	1297.3	2.1	1300.1	2.8
143	6648553.5	645453.2	1295.5	1297.7	2.2	1299.8	2.1
144	6648540.0	645459.8	1295.4	1297.7	2.3	1299.7	2.0
145	6648657.9	645509.7	1296.2	1298.4	2.2	1299.6	1.3
146	6648777.2	645559.7	1296.3	1298.5	2.3	1299.9	1.4
147	6648888.7	645609.9	1295.1	1297.4	2.2	1298.7	1.3
148	6649000.4	645659.6	1293.1	1295.3	2.2	1296.8	1.5
149	6649115.5	645709.7	1291.2	1293.4	2.2	1295.0	1.6
150	6649222.4	645760.2	1289.5	1291.7	2.2	1293.0	1.3
151	6649333.6	645809.8	1287.4	1289.6	2.2	1291.9	2.3
152	6649444.8	645859.8	1285.3	1287.4	2.2	1289.0	1.6
153	6649955.8	645910.2	1283.5	1285.8	2.3	1289.0	3.2
154	6649066.9	645960.2	1282.6	1284.8	2.2	1287.0	2.2
155	6649378.2	646010.0	1281.8	1283.9	2.2	1287.3	3.4
156	6649389.0	646060.1	1281.0	1283.1	2.1	1284.3	1.2
157	6649399.5	646110.0	1280.1	1282.2	2.1	1283.4	1.2
158	6650009.9	646160.5	1279.4	1281.5	2.0	1282.7	1.2
159	6650020.7	646210.4	1278.7	1280.8	2.1	1282.1	1.2
160	6650231.1	646222.7	1278.5	1280.7	2.2	1281.9	1.2
161	6650311.2	646260.3	1277.9	1280.1	2.2	1281.4	1.3
162	6650400.4	646310.2	1277.3	1279.5	2.2	1280.7	1.2
163	6650449.7	646359.8	1276.7	1278.9	2.2	1280.1	1.1
164	6650509.8	646409.7	1276.0	1278.3	2.3	1279.5	1.2
165	6650608.2	646459.7	1275.3	1277.6	2.3	1278.8	1.2
166	6650706.1	646509.9	1274.7	1277.0	2.2	1278.3	1.3
167	6650804.1	646559.7	1274.1	1276.2	2.2	1277.5	1.3
168	6650903.0	646611.0	1273.2	1275.4	2.2	1276.6	1.2
169	6651001.2	646659.7	1272.6	1274.8	2.2	1276.0	1.2
170	6651036.1	646690.3	1272.1	1274.3	2.2	1275.4	1.0
171	6651038.9	646744.3	1271.1	1273.3	2.2	1274.3	1.0
172	6651065.5	646759.7	1271.5	1273.7	2.1	1274.7	1.1
173	6650996.7	646792.8	1271.3	1273.3	2.0	1274.3	1.0
174	6650981.0	646809.7	1267.6	1269.9	2.3	1270.9	1.0
175	6650947.9	646839.9	1260.3	1262.5	2.2	1263.6	1.1
176	6650883.1	646859.7	1257.1	1259.3	2.2	1260.2	1.0
177	6648483.1	645370.3	1297.0	1299.1	2.1	1300.3	1.3
178	6647793.1	645370.5	1297.0	1299.1	2.1	1300.3	1.3
179	6647743.1	645372.0	1297.0	1299.1	2.1	1300.1	1.0
180	6649033.2	645373.6	1296.9	1299.1	2.1	1300.0	1.0
181	6649643.1	645375.2	1297.0	1299.2	2.2	1300.3	1.1
182	6649593.2	645376.9	1297.0	1299.1	2.2	1300.1	1.0
183	6649586.4	645376.9	1296.9	1299.0	2.1	1300.1	1.1
184	6649543.1	645383.0	1298.9	1300.9	2.1	1301.9	1.0
185	6649493.1	645390.9	1300.9	1302.9	2.0	1302.9	0.0
186	6649493.1	645407.0	1301.1	1303.2	2.2	1304.3	1.1
205	6645410.7	645403.5	1300.3	1302.3	2.0	1303.6	1.3
206	6645443.3	645398.9	1298.8	1300.8	2.0	1301.8	1.0
207	6645487.6	645393.0	1297.0	1299.2	2.2	1300.3	1.2
208	6645593.3	645393.0	1297.0	1299.0	2.1	1300.1	1.1
209	6646410.0	645391.1	1297.0	1299.3	2.2	1300.2	1.0
210	6646903.5	645389.6	1297.0	1299.2	2.2	1300.2	1.0
211	6647743.1	645388.1	1297.0	1299.3	2.3	1300.3	1.1
212	6647793.2	645386.4	1297.0	1299.2	2.1	1300.2	1.0
213	6648843.0	645384.9	1296.9	1299.1	2.2	1300.2	1.1

POINTS REQUIRING VERIFICATION OF 2FT CLAY LINER(CL)

	DATE OF FINAL SURVEY		10/16/2023	12/11/2023		4/1/2024	
PNT. NO.	NORTHING	EASTING	SG ELEV	CL ELEV	CL DEPTH	PC ELEV	PC DEPTH
214	6648819.1	645425.4	1283.8	1286.1	2.3	1287.2	1.2
215	6648143.8	645454.3	1282.7	1285.0	2.3	1286.3	1.3
216	6648119.6	645509.7	1281.0	1283.3	2.2	1284.4	1.2
217	6648027.8	645559.8	1280.0	1282.3	2.3	1283.5	1.3
218	6648333.5	645592.0	1279.4	1281.7	2.2	1282.9	1.3
219	6648368.5	645609.7	1279.1	1281.3	2.2	1282.6	1.3
220	6648518.8	645659.7	1278.6	1280.9	2.3	1282.1	1.1
221	6648679.7	645709.6	1278.1	1280.3	2.2	1281.4	1.1
222	6648884.0	645759.8	1277.5	1279.7	2.2	1281.6	1.9
223	6649003.3	645809.8	1277.0	1279.2	2.1	1280.5	1.3
224	6649116.3	645859.8	1276.5	1278.8	2.3	1280.0	1.2
225	6649301.1	645909.0	1276.1	1278.4	2.3	1279.6	1.2
226	6649331.7	645909.7	1276.0	1278.3	2.3	1279.5	1.2
227	6649343.8	645959.7	1275.5	1277.7	2.2	1278.9	1.2
228	6649555.9	646009.7	1274.8	1277.1	2.3	1290.2	13.1
229	6649679.9	646059.7	1274.3	1276.5	2.2	1277.8	1.3
230	6649779.8	646109.7	1273.9	1276.2	2.3	1277.4	1.2
231	6649991.2	646159.6	1273.4	1275.7	2.3	1276.9	1.2
232	6650032.4	646209.7	1272.9	1275.1	2.2	1276.3	1.2
233	6650131.7	646259.7	1272.5	1274.6	2.1	1275.7	1.1
234	6650515.6	646268.6	1272.3	1274.5	2.2	1275.6	1.1
235	6650529.2	646298.5	1274.6	1276.8	2.2	1278.0	1.2
236	6650331.3	646309.7	1274.4	1276.7	2.2	1277.8	1.1
237	6650414.0	646359.7	1274.0	1276.2	2.2	1277.3	1.2
238	6650488.6	646399.6	1273.7	1275.8	2.1	1276.9	1.1
239	6650489.1	646409.7	1271.1	1275.3	2.1	1276.3	1.1
240	6650521.2	646439.1	1271.7	1273.9	2.2	1275.1	1.1
241	6650466.9	646459.7	1268.9	1271.0	2.1	1272.2	1.1
242	6650400.1	646494.9	1264.2	1266.4	2.2	1267.6	1.2
243	6650380.6	646509.7	1260.0	1262.3	2.3	1263.5	1.2
244	6650320.3	646530.1	1255.0	1257.2	2.2	1258.4	1.2
245	6650259.9	646559.7	1255.0	1257.1	2.1	1258.3	1.1
246	6650227.8	646591.9	1253.4	1255.5	2.1	1256.6	1.1
247	6650380.6	646609.8	1253.0	1255.3	2.2	1256.4	1.1
248	6650392.0	646659.8	1252.8	1255.0	2.2	1256.0	1.1
249	6650313.5	646659.8	1250.4	1252.6	2.2	1253.8	1.2
250	6650304.0	646702.6	1247.6	1249.9	2.3	1256.2	6.3
252	6650227.8	646718.1	1245.1	1247.4	2.3	1262.1	14.8
253	6650219.5	646758.8	1245.0	1247.2	2.2	1261.8	14.6
254	6650222.9	646759.7	1244.6	1246.9	2.3	1256.5	9.6
255	6650304.9	646809.6	1243.5	1245.8	2.3	1251.1	5.3
256	6649995.1	646836.9	1238.3	1240.5	2.2	1249.6	9.1
257	6649883.8	646802.9	1244.2	1246.4	2.1	1250.4	4.0
258	6650300.8	646759.5	1244.3	1246.4	2.2	1257.9	11.4
259	6650134.7	646737.2	1241.0	1243.4	2.3	1260.6	17.3
261	6650307.3	646715.4	1244.6	1246.8	2.2	1262.7	15.9
262	6650302.5	646697.1	1247.7	1249.9	2.1	1255.5	5.6
263	6650099.9	646659.7	1250.4	1252.5	2.1	1253.6	1.1
264	6650027.7	646620.0	1252.6	1254.7	2.1	1255.8	1.1
265	6650306.5	646609.6	1253.0	1255.1	2.1	1256.2	1.1
266	6650301.4	646559.8	1254.8	1256.8	2.1	1258.0	1.1
267	6650303.6	646526.5	1254.3	1256.5	2.2	1257.7	1.2
268	6650121.1	646509.8	1258.2	1260.4	2.2	1261.7	1.2
269	6650221.9	646489.2	1263.0	1265.3	2.3	1266.5	1.2
270	6650211.1	646482.8	1265.2	1267.4	2.2	1268.5	1.1
271	6650225.2	646459.7	1268.1	1270.5	2.3	1271.6	1.1
272	6650329.2	646438.2	1271.1	1273.3	2.2	1274.3	1.1
273	6650325.8	646409.7	1273.3	1275.5	2.2	1276.8	1.3
274	6650325.4	646402.8	1273.7	1275.8	2.1	1276.9	1.1
275	6650317.2	646359.7	1273.8	1276.1	2.2	1277.2	1.1
276	6650307.0	646309.7	1274.6	1276.7	2.1	1277.8	1.1
277	6650055.5	646303.2	1274.7	1276.8	2.1	1277.9	1.1
278	6649999.1	646256.8	1272.5	1274.7	2.2	1276.2	1.5
279	6649983.8	646204.1	1272.4	1274.6	2.2	1275.7	1.1
280	6649966.4	646160.3	1272.9	1275.2	2.3	1276.4	1.2
281	6649491.6	646117.6	1273.5	1275.8	2.3	1277.0	1.2
282	6649399.5	646087.0	1274.2	1276.4	2.3	1277.6	1.2
283	6649319.5	646025.9	1274.8	1277.1	2.3	1288.0	11.0
284	6649309.3	645983.5	1274.9	1277.1	2.2	1278.3	1.2
285	6649308.2	645958.2	1275.5	1277.7	2.2	1279.0	1.4
286	6648887.3	645893.7	1275.8	1278.0	2.2	1279.4	1.4
287	6648676.6	645848.4	1276.2	1278.4	2.2	1279.7	1.3
288	6648671.8	645838.2	1276.9	1279.1	2.2	1280.2	1.1
289	6648553.2	645829.2	1277.5	1279.7	2.2	1280.9	1.2
290	6648464.9	645809.8	1277.9	1279.5	2.2	1280.7	1.2
291	6648349.9	645757.5	1277.4	1279.7	2.3	1281.1	1.3
292	6648227.4	645709.8	1277.6	1279.8	2.3	1281.3	1.4
293	6648031.1	645665.8	1282.8	1285.1	2.3	1286.2	1.2
294	6648116.4	645661.8	1277.9	1280.2	2.3	1281.5	1.4
295	6647893.9	645613.3	1283.7	1285.9	2.2	1287.1	1.2
296	6647700.6	645566.8	1279.4	1281.6	2.2	1282.9	1.3
297	6647760.2	645576.7	1284.1	1286.3	2.2	1287.6	1.4
298	6647750.7	645552.5	1280.0	1282.2	2.2	1283.4	1.2
299	6647742.7	645549.7	1280.3	1282.6	2.3	1283.9	1.2
300	6647729.8	645551.1	1280.8	1283.0	2.2	1284.3	1.3
301	6647701.6	645566.0	1282.5	1284.6	2.1	1286.0	1.4
302	6646668.6	645532.4	1282.4	1284.6	2.2	1285.9	1.3
303	6646646.3	645509.8	1282.0	1284.1	2.2	1285.5	1.3
304	6645997.5	645459.7	1281.4	1283.6	2.3	1285.1	1.5
305	6645980.6	645443.4	1281.5	1283.8	2.3	1285.3	1.6
306	6645994.4	645439.4	1281.7	1283.9	2.3	1285.5	1.6
307	6646443.1	645437.6	1281.5	1283.8	2.3	1285.4	1.6
308	6646903.0	645435.9	1281.6	1283.9	2.3	1285.2	1.4

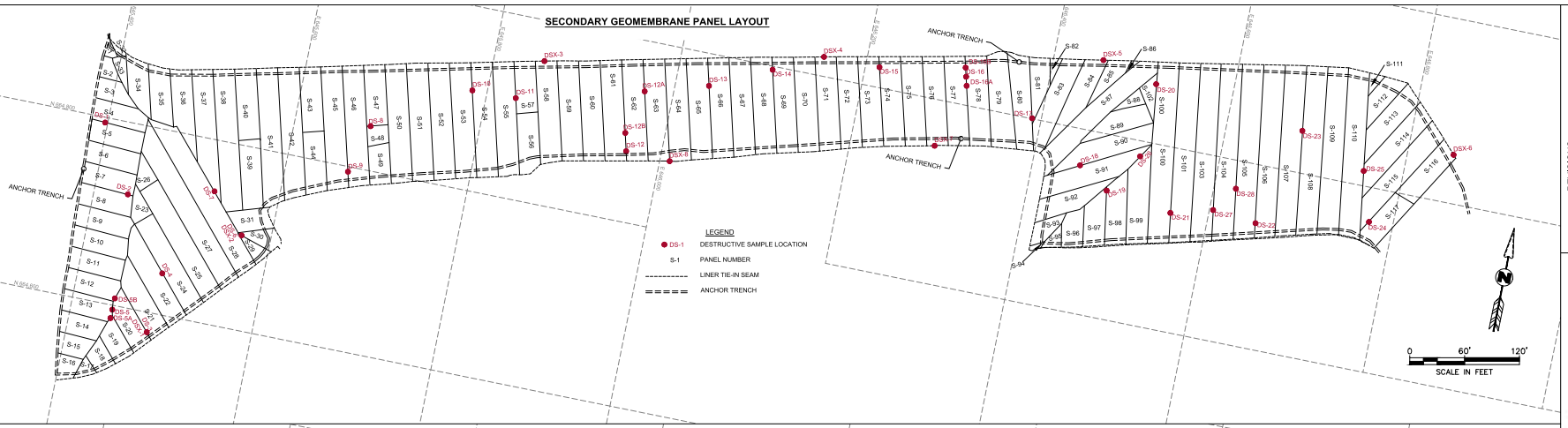
POINTS REQUIRING VERIFICATION OF 2FT CLAY LINER(CL)

	DATE OF FINAL SURVEY		10/16/2023	12/11/2023		4/1/2024	
PNT. NO.	NORTHING	EASTING	SG ELEV	CL ELEV	CL DEPTH	PC ELEV	PC DEPTH
309	6647719.4	645834.9	1281.6	1283.9	2.3	1285.1	1.2
310	6647743.1	645832.7	1282.1	1284.4	2.2	1285.6	1.3
311	6647703.1	645427.9	1283.1	1285.5	2.3	1286.7	1.2
312	6645160.4	645459.2	1294.6	1296.8	2.2	1297.9	1.1
313	6645228.7	645426.3	1292.9	1295.1	2.2	1296.3	1.2
314	6645243.8	645456.6	1293.0	1295.0	2.0	1296.1	1.0
315	6645580.5	645490.4	1292.5	1294.8	2.3	1295.7	1.0
316	6646117.2	645524.6	1292.3	1294.5	2.2	1295.5	1.0
317	6646555.2	645559.8	1291.6	1293.9	2.3	1294.9	1.0
318	6646594.8	645594.5	1290.1	1292.3	2.2	1293.4	1.1
319	6647366.6	645575.4	1288.7	1290.9	2.2	1292.1	1.2
320	6647409.4	645586.6	1288.9	1291.1	2.2	1292.2	1.1
321	6647703.4	645621.2	1288.8	1291.1	2.3	1292.4	1.3
322	6647869.4	645669.7	1287.5	1289.7	2.2	1290.9	1.2
323	6648063.1	645716.6	1286.2	1288.5	2.3	1289.9	1.4
324	6648115.9	645762.8	1284.0	1286.2	2.2	1287.4	1.1
325	6648228.7	645808.8	1282.6	1284.8	2.2	1285.9	1.1
326	6648363.3	645837.4	1283.2	1285.4	2.2	1286.5	1.1
327	6648441.8	645845.3	1283.3	1285.5	2.2	1286.7	1.2
328	6648502.2	645857.2	1283.7	1285.8	2.1	1287.3	1.6
329	6648540.8	645862.1	1283.8	1285.9	2.1	1287.3	1.4
330	6648633.6	645898.6	1283.7	1285.9	2.2	1287.1	1.2
331	6648703.9	645933.6	1283.7	1285.9	2.2	1287.2	1.3
332	6648766.6	645967.8	1283.7	1286.0	2.3	1287.3	1.3
333	6648895.5	646010.4	1284.0	1286.3	2.3	1287.7	1.4
334	6648964.0	646031.2	1284.1	1286.3	2.3	1288.4	2.0
335	6649067.8	646083.6	1284.9	1287.2	2.3	1288.3	1.1
336	6649318.9	646125.9	1285.8	1288.0	2.2	1289.3	1.2
337	6649528.0	646158.0	1286.7	1288.8	2.1	1289.9	1.1
338	6649343.6	646207.3	1287.8	1289.8	2.0	1291.1	1.3
339	6649348.6	646234.8	1288.0	1290.1	2.1	1291.3	1.1
340	6649956.5	646258.0	1288.3	1290.7	2.3	1291.8	1.2
341	6649655.9	646301.1	1288.7	1290.8	2.1	1292.0	1.1
342	6649646.7	646312.3	1289.1	1291.1	2.0	1292.3	1.2
343	6649744.2	646359.4	1290.2	1292.2	2.0	1293.4	1.1
344	6649377.4	646383.5	1290.7	1292.7	2.0	1293.7	1.0
345	6649380.0	646404.0	1290.9	1292.9	2.0	1294.1	1.1
346	6649576.1	646417.2	1291.1	1293.1	2.0	1294.3	1.1
347	6649468.0	646422.4	1291.9	1294.2	2.3	1295.3	1.2
348	6649511.2	646428.4	1292.0	1294.2	2.2	1295.3	1.0
349	6649520.8	646429.6	1292.0	1294.2	2.2	1295.3	1.2
350	6648913.0	646429.6	1292.0	1294.3	2.3	1295.5	1.2
351	6648373.7	646429.8	1292.3	1294.5	2.2	1295.6	1.1
352	6648181.6	646459.8	1291.6	1293.8	2.2	1294.9	1.1
353	6648090.8	646494.0	1291.0	1293.2	2.2	1294.3	1.0
354	6648894.9	646509.8	1290.0	1292.2	2.2	1293.3	1.1
355	6648899.5	646535.9	1289.9	1291.2	2.3	1292.3	1.2
356	6649008.2	646559.7	1286.0	1288.1	2.1	1289.2	1.2
357	6649211.3	646609.6	1281.4	1283.6	2.2	1284.7	1.0
358	6649344.6	646659.7	1274.8	1277.0	2.2	1278.1	1.1
359	6649341.8	646686.8	1267.2	1269.4	2.2	1270.5	1.0
360	6649346.8	646705.7	1263.4	1265.5	2.1	1267.0	1.5
361	6649357.4	646746.2	1258.9	1261.1	2.2	1263.8	2.7
362	6649354.9	646759.7	1258.2	1260.2	2.0	1261.8	1.7
363	6649350.3	646784.0	1256.9	1259.0	2.2	1260.0	1.6
365	6649596.9	645449.5	1281.1	1283.2	2.1	1284.7	1.5
366	6649595.9	645450.1	1279.9	1282.1	2.2	1286.3	4.2
367	6649595.0	645454.4	1281.2	1283.2	2.0	1285.5	2.3
368	6649643.1	645457.2	1280.7	1282.8	2.1	1283.9	1.1
369	6649643.1	645461.6	1278.6	1280.9	2.3	1285.6	4.7
370	6649643.1	645466.1	1280.5	1282.7	2.2	1284.0	1.3
371	6649693.0	645469.2	1280.1	1282.3	2.2	1283.8	1.5
372	6649693.2	645473.8	1278.2	1280.5	2.3	1285.2	4.6
373	6649693.2	645478.2	1280.0	1282.2	2.2	1283.6	1.4
374	6649696.3	645479.0	1280.0	1282.3	2.2	1283.5	1.3
375	6649698.4	645475.1	1278.1	1280.4	2.3	1285.2	4.7
376	6647701.3	645471.9	1280.0	1282.2	2.2	1283.4	1.3
377	6647743.1	645508.7	1279.4	1281.7	2.3	1283.2	1.5
378	6647743.1	645514.4	1277.6	1279.8	2.3	1284.9	5.1
379	6647743.1	645530.1	1279.3	1281.6	2.3	1283.1	1.5
380	6647776.5	645537.8	1279.0	1281.2	2.2	1282.7	1.5
381	6647773.7	645541.1	1277.2	1279.5	2.3	1284.4	4.9
382	6647701.1	645543.6	1279.0	1281.3	2.3	1282.7	1.5
383	6647857.5	645559.7	1278.8	1281.0	2.2	1282.4	1.3
384	6647827.7	645559.7	1276.8	1279.2	2.3	1284.2	5.1
385	6647777.8	645559.7	1278.8	1281.0	2.2	1282.3	1.3
386	6648111.8	645609.7	1278.3	1280.6	2.3	1281.8	1.2
387	6648106.9	645609.8	1276.3	1278.6	2.3	1283.3	4.7
388	6648102.1	645609.7	1278.2	1280.4	2.3	1281.7	1.3
389	6648211.1	645629.0	1278.1	1280.2	2.1	1281.4	1.2
390	6648117.2	645631.1	1276.1	1278.5	2.4	1282.8	4.4
391	6648113.2	645632.6	1278.0	1280.2	2.2	1281.5	1.3
392	6648131.0	645659.6	1277.8	1280.0	2.3	1281.3	1.3
393	6648126.5	645659.7	1275.6	1278.0	2.4	1282.7	4.7
394	6648121.9	645659.7	1277.7	1279.9	2.2	1281.3	1.3
395	6648147.1	645709.8	1277.2	1279.4	2.2	1280.6	1.2
396	6648142.6	645709.7	1275.2	1277.5	2.3	1282.1	4.6
397	6648138.0	645709.7	1277.2	1279.4	2.2	1281.0	1.6
398	6648124.4	645759.7	1276.8	1278.9	2.1	1280.2	1.3
399	6648157.8	645759.7	1274.6	1277.0	2.4	1281.7	4.7
400	6648153.3	645759.7	1276.6	1278.9	2.3	1280.2	1.3
401	6648177.1	645809.7	1276.2	1278.4	2.2	1279.6	1.2
402	6648172.5	645809.7	1274.1	1276.5	2.4	1281.1	4.6

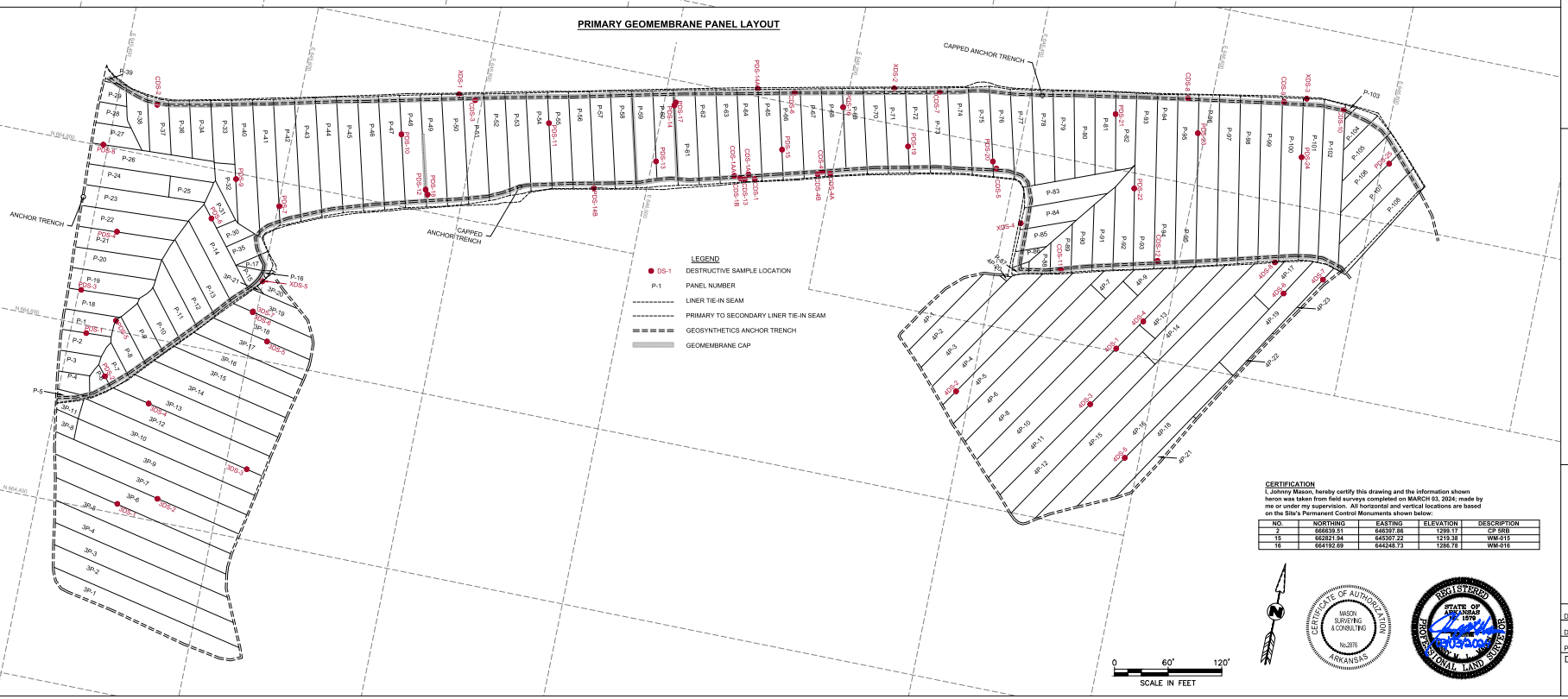
POINTS REQUIRING VERIFICATION OF 2FT CLAY LINER(CL)

	DATE OF FINAL SURVEY		10/16/2023	12/11/2023		4/1/2024	
PNT. NO.	NORTHIN G	EASTING	SG ELEV	CL ELEV	CL DEPTH	PC ELEV	PC DEPTH
403	6648668.1	645809.7	1276.2	1278.3	2.2	1279.6	1.3
404	6648928.8	645859.7	1275.7	1277.9	2.2	1279.1	1.2
405	6648888.3	645859.8	1273.6	1276.0	2.4	1280.4	4.4
406	6648833.7	645859.7	1275.6	1277.8	2.2	1279.2	1.4
407	6648908.

SECONDARY GEOMEMBRANE PANEL LAYOUT



PRIMARY GEOMEMBRANE PANEL LAYOUT



CERTIFICATION

I, Johnny Mason, hereby certify this drawing and the information shown heron was taken from field surveys completed on MARCH 03, 2024; made by me or under my supervision. All horizontal and vertical locations are based on the Site's Permanent Control Monuments shown below:

NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	666639.51	646397.86	1299.17	CP 5RB
15	662821.94	645307.22	1219.38	WM-015
16	664192.69	644248.73	1286.78	WM-016

CERTIFICATE OF AUTHORIZATION — MASON SURVEYING & CONSULTING — No.2876 — ARKANSAS

REGISTERED — STATE OF ARKANSAS — No. 1578 — PROFESSIONAL LAND SURVEYOR

REVISIONS

NO.	DATE	DESCRIPTION

mason SURVEYING & CONSULTING, INC.
PO BOX 571 • GENTRY, AR 72734 • (479)238-3109

ECO-VISTA, LLC
ECO VISTA CLASS 1 LANDFILL
CELL 13A CONSTRUCTION

60-MIL HDPE GEOMEMBRANE PANEL LAYOUT

WASTE MANAGEMENT

DRN:	JMLM	APP:	JMLM
DATE:	MARCH 2024		
PROJECT NO.:	23122		
DRAWING NO:	1		