NM1 - ___35_____

Engineering Certification Report Unit IIA Construction

Dec. 13, 2021

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LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO
OCD FACILITY PERMIT NO. NM-1-0035

ENGINEERING CERTIFICATION REPORT

UNIT IIA CONSTRUCTION

Prepared for

Lea Land, LLC

December 2021

Prepared by

Weaver Consultants Group, LLC
6420 Southwest Blvd., Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 6041-001-17-00

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Weaver Consultants Group

December 13, 2021
Project No. 6041-001-17-01

Ms. Leigh Barr
Permitting Supervisor
Oil Conservation Division (OCD)
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Engineering Certification Report – Unit IIA Construction
Lea Land Landfill, LLC
OCD Facility Permit No. NM-1-35
Lea County, New Mexico

Dear Ms. Barr:

On behalf of Lea Land, LLC, please find attached the above-referenced Engineering Certification Report prepared under New Mexico Administrative Code (NMAC) 19.15.36. This report has been developed consistent with the currently approved liner Construction Quality Assurance (CQA) Plan as well as applicable New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division (OCD) rules for surface waste management facilities (19.15.36 NMAC). More specifically, this Engineering Certification Report addresses the standards identified in the Permit Modification Approval dated June 22, 2020 (i.e., Permit Conditions No. 6.B.). The currently approved CQA plan was prepared by Gordon Environmental/PSC in June 2019.

One original copy of this submittal is provided for your review, and the following link Master Submittal provides access to this Certification Report as well as the other attachments to the Master Transmittal (i.e., Vadose Zone Well Installation Report). This document has been signed and sealed by a qualified NM Professional Engineer in accordance with applicable OCD Rules for surface waste management facilities (19.15.36 NMAC). A copy of this submittal was placed in the Facility Operating Record for this facility.

Please contact us with your questions and comments.

Sincerely,
Weaver Consultants Group, LLC

Jonathan V. Queen, P.E.
Project Director

Attachments: Engineering Certification Report – Unit IIA (three hard copies)

cc: Ms. Stephanie Grantham, Lea Land, LLC, lealand.sgrantham@gmail.com
Mr. Mark Turnbough, Ph.D., turnboughmark@sbcglobal.net
Mr. I. Keith Gordon, P.E., IKG, LLC, wbcsw@aol.com
Mr. Joe Ontiveros, Lea Land, LLC (Facility Operating Record)

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Jonathan V. Queen, P.E.	M1
Bill Johnson	M3
Mike Mendenhall	M4
Keshav Parikh	M6

UNIT IIA CONSTRUCTION
ENGINEERING CERTIFICATION REPORT
LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO
OCD FACILITY PERMIT NO. NM-1-0035

1.0 Introduction

This Engineering Certification Report presents field and laboratory test results for the construction of Unit IIA at the Lea Land Landfill. The landfill is owned and operated by Lea Land, LLC. The frequency of tests conducted for this evaluation meets or exceeds the testing frequency requirements included in the Construction Quality Assurance (CQA) Plan prepared by Gordon Environmental/PSC or those discussed in Section 7 – Protective Cover.

Unit IIA encompasses approximately 365,904 square feet (8.4 acres). Unit IIA is located in the southeastern portion of Unit II, north of the existing landfill, as shown on Drawing A1 in Appendix A. The limits of Unit IIA are shown in Appendix A on Drawings A2 and A3. The following parties were responsible for construction of the liner:

- Owner/Operator – Lea Land, LLC
- Construction Quality Assurance – Weaver Consultants Group, LLC (WCG)
- Earthwork Contractor – Enviroworks LLC
- Surveyor – S3 Surveying
- Geosynthetic Installation – Southwest Liner Systems (SLS)
- Geosynthetics CQA Testing – TRI/Environmental, Inc. (TRI)

Some field adjustments were made during construction of Unit IIA as required by operational or site constraints. These adjustments include:

1. Excavation grades were raised 20 feet above permitted grades based on operational limitations.
2. Additional geosynthetic material was extended in the center section of Unit I/IIA tie-in location. The Unit I geosynthetic liner did not extend north consistent with the area to the west and east. Therefore, the liner system was extended south to align with the permitted Unit I limits of waste.

2.0 Subgrade Excavation/Preparation

The subgrade for GCL placement is 6 inches of compacted subgrade soil. Subgrade preparation was performed by Enviroworks prior to installation of the GCL. The subgrade material was excavated from an onsite borrow area and hauled to the Unit IIA area. The subgrade material was compacted in a single lift to 90 percent of the maximum dry density as determined by standard Proctor (ASTM D 698) for the borrow soil prior to construction (refer to Appendix B for soil testing results). The subgrade was approved by SLS, WCG, and Lea Land prior to GCL placement. The subgrade was prepared to meet the requirements of the CQA Plan.

Subgrade elevations for the new liner area were verified by the surveyor at a minimum frequency of one measurement for each 10,000 square feet. Each surveyed location was used to verify compacted clay liner thickness. Surveying data is included on Drawing A8 Subgrade As-built Exhibit in Appendix A.

Material used for construction of the perimeter berm at the east end of Unit IIA was excavated from an onsite borrow area and compacted in 9-inch lifts to a maximum of 90 percent of the maximum dry density as determined by Standard Proctor (ASTM D 698) for the borrow soil prior to construction (refer to Appendix B for soil testing results).

3.0 Geosynthetic Clay Liner (GCL)

3.1 Material Information

The GCL consists of sodium bentonite encased by two geotextiles. The GCL used was manufactured by Colloid Environmental Technologies Company, LLC (CETCO). Pertinent information about the GCL is summarized in Table 2, GCL Documentation. The GCL was inventoried at the site prior to the beginning of installation by the CQA Monitor. The inventory is listed on the GCL Inventory in Appendix D.

Table 2
GCL Documentation

GCL Material	Installation Location	Roll Width/ Length	Area Received sq. ft.	No. Conformance Samples	QA/QC Documentation	
					Appendix	Pages
Bentomat ST	Floor and sideslopes	15.5 ft / 150 ft	459,000	5	D	D-1 through D-22

Based on the number of material lots and square footage of the GCL, five conformance samples were required by the CQA Plan. The samples were shipped to TRI by CETCO, where they were tested for the following properties:

- Clay Mass/Unit Area, ASTM D 5993
- Index Flux/Hydraulic Conductivity, ASTM D 5887
- Geotextile Mass/Unit Area, ASTM D 5261
- Free Swell, ASTM D 5890
- Fluid Loss, ASTM D 5891
- Tensile Stress (Machine Direction), ASTM D 6768
- Peel Strength, ASTM D 6496
- Shear Strength, ASTM D 6243
- Percent Strength Retained, ASTM D 6768

Conformance test results indicate the GCL meets the requirements of the specifications. Results of the conformance testing are in Appendix D. In addition to the third party CQA testing, the GCL manufacturer was required to perform manufacturer's quality control (MQC) testing. WCG reviewed the MQC test results (see Appendix D) prior to accepting the GCL.

3.2 GCL Installation

Bottom liner GCL installation commenced in the southwest portion of the cell. GCL placement proceeded north and then east. Bottom liner GCL overlaps were oriented parallel to the line of maximum slope and shingled in the direction of positive slope to prevent potential runoff from entering the overlap zone. Each bottom liner GCL seam was overlapped a minimum of 6 inches in the longitudinal direction and end-of-roll overlaps were a minimum of 12 inches.

The location of the installation documentation is summarized in the following table.

Table 3
GCL Installation Documentation

Document	Appendix	Pages
GCL Panel Layout Drawing	A	Drawing A8
GCL Deployment Log	E	E-1 through E-12

Details of the installation procedure are discussed in the following paragraphs.

3.2.1 GCL Panel Placement

The GCL panels were arranged as shown in Appendix A on Drawing A8. Each roll of GCL was suspended from a rubber-tired loader and hauled to the location where deployment was to begin. The end of the roll was held in place by several members of the installation crew, while the loader backed up deploying the GCL. The GCL placement log in Appendix E lists dimensions of each of the panels. The CQA monitor visually monitored the GCL during installation.

3.2.2 GCL Seams

Panels were overlapped as discussed earlier for the bottom liner and side slope liner seams for the GCL. Bentonite-enhanced seams were constructed by overlapping adjacent panels to the manufacturer-designed line on each panel. Supplemental bentonite was added at a rate of 0.25 lbs/lf to end-of-roll seams and longitudinal seams per manufacturer recommendations.

4.0 Geomembrane

4.1 Material Information

The GM consists of 60-mil-thick textured HDPE on the sideslopes and smooth HDPE on the floor. Pertinent information about the GM is summarized in Table 4, Geomembrane Documentation. The GM was inventoried at the site prior to the beginning of installation, by the CQA Monitor. The inventory is listed on the Geomembrane Inventory in Appendix F.

Table 4
Geomembrane Documentation

Roll Width/Length	Area Received sq. ft.	No. Conformance Samples	QA/QC Documentation	
			Appendix	Pages
23.5 ft / 510 ft (smooth)	413,600	5	F	F-1 through F-27
23.5 ft / 510 ft (textured)	587,382.5	6	F	

Based on the number of material lots and square footage of the GM, five (smooth) and six (textured) conformance samples were required by the CQA Plan on each material. The samples were tested by TRI for the following properties:

- Thickness, ASTM D 5199 for smooth and ASTM D 5994 for textured
- Density, ASTM D 1505

- Carbon black content, ASTM D 4218
- Carbon black dispersion, ASTM D 5596
- Tensile properties, ASTM D 6693, type IV
- Tear Resistance, ASTM D 1004
- Puncture Resistance, ASTM D 4833
- Stress Crack Resistance, ASTM D 5397
- Standard Oxidation Time and Oven Aging at 85°c, ASTM D 3895
- UV Resistance High Pressure Oxidation Induction Time, ASTM D 5885
- Asperity Height, ASTM D 7446 for textured

Conformance test results indicate the GM meets the requirements of the specifications. Results of the conformance testing are in Appendix F. In addition to the third party CQA testing, the GM manufacturer was required to perform manufacturer's quality control (MQC) testing. WCG reviewed the MQC test results (see Appendix F) prior to accepting the GM. All manufacturer test data met the requirements of the CQA Plan prepared by Gordon Environmental/PSC in June 2019.

4.2 Primary and Secondary CQA Plan Geomembrane Installation

Geomembrane placement began in the southwest portion of the cell and proceeded north and then east.

The location of the installation documentation is summarized in the following table.

Table 5
Primary and Secondary Geomembrane Installation Documentation

Document	Appendix	Pages
Trial Welds	G	G-1 through G-5
Tensiometer Calibration Certificate	G	G-13 through G-15
Welders' Résumés	G	G-16 through G-19
Geomembrane Deployment Log	H	H-1 through H-6
Seaming Log	H	H-13 through H-21
Nondestructive Seam Testing	H	H-31 through H-39
Destructive Seam Test Log	I	I-1 through I-5
Destructive Seam Test Laboratory Data	I	I-10 through I-34
Repair Log	J	J-1 through J-8

Details of the installation procedure are discussed in the following paragraphs.

4.2.1 Geomembrane Panel Placement

The HDPE GM panels were arranged as shown in Appendix A on Drawings A9 and A10. GM was placed by a loader suspending the roll and a four-wheeler (with assistance from the liner crew) pulled the panels into place. Panel placement was completed carefully to not damage the underlying GCL. Sandbags were then placed on the panel to hold it in place until it could be seamed. The GM placement log in Appendix H lists dimensions of each of the panels. The CQA monitor visually monitored the GM during installation. Any suspected defects in the GM panels or seams were marked, evaluated, and repaired where defective. Repairs are documented in Appendix J.

4.2.2 Geomembrane Seams

Panels were joined together by dual hot wedge fusion welding and extrusion welding. A GM Seaming Log is included in Appendix H. Trial seams were made by the GM installer's personnel to test the operators and seaming apparatus under the prevailing site conditions. Each day that seaming operations were conducted, trial seams were made at the beginning of the day and after the midday break.

Destructive testing of welded geomembrane seams was performed onsite by SLS under the observation of WCG and offsite at TRI. Welded seam testing included shear and peel strengths of the welded seams. A minimum of one destructive sample was taken for approximately 500 linear feet of welded geomembrane seam. Each seam sample was approximately 16 inches long by 12 inches wide and was cut into three separate samples. One sample was tested by TRI, one sample was tested by the installer as part of the Contractor's construction quality control (CQC) requirements, and one sample was archived by Lea Land at the site for possible future use.

Destructive seam test sample locations are shown in Appendix A, on Drawings A9 and A10. The test criteria is summarized in Table 6, Destructive Seam Testing Criteria. Test results for field and laboratory destructive testing are included in Appendix I.

The installer conducted nondestructive air pressure tests on fusion welded seams. Air pressure tests were conducted in accordance with the CQA Plan. Any leaks detected were located and isolated, repairs were performed on the seam, and the seam was then retested. The CQA Monitor observed and documented the non-destructive on all air seams testing.

All extrusion welded repairs were vacuum-tested by the installer. The vacuum testing equipment and operating techniques were monitored by the CQA Monitor.

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Leaks detected by vacuum testing were marked and recorded for repair. After a leak was repaired, the extrusion weld was retested with the vacuum box.

Repairs were performed at all seam intersections, destructive seam tests, air pressure tests, and all other locations where the CQA monitors determined that some form of repair was required. Repair locations are shown in Appendix A, on Drawings A9 and A10.

Table 6
Destructive Seam Testing Criteria

	Fusion	Extrusion
Shear		
Minimum Yield Strength, ppi[1]	121	121
Failure Mechanism	FTB	FTB
Peel		
Minimum Yield Strength, ppi[1]	98	78
Failure Mechanism	FTB	FTB

[1] 4 of 5 must meet the minimum strength criteria (the 5th specimen can be as low as 80 percent of the listed values), and the average of all 5 specimens must meet the strength criteria.

5.0 Leak Detection System

The leak detection system for this sector consists of a 200-mil geonet on the floor and sideslopes that is installed between the primary and secondary GM. MQC documentation for the geonet is included in Appendix K and meets the requirements of the CQA Plan. Details of the geonet leak detection system are shown in Appendix A, Drawings A3 through A7.

6.0 Leachate Collection System

The LCS installed for this cell consists of:

- 2 foot of protective cover
- Drainage Geocomposite
- Leachate collection trench (pipe, aggregate, and geotextile) that drains into the permanent leachate collection sump.

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The leachate collection pipe in Unit IIA runs west to east at a 2.5 percent slope. The pipe location is shown on Drawing A2 in Appendix A. The leachate collection pipe intercepts leachate in the protective cover and conveys it to the LCS sump.

The leachate collection layer is a geocomposite drainage material, which consists of a HDPE geonet with geotextile bonded to both sides (double-sided GC). Double-sided GC was rolled out over the entire cell.

At longitudinal seams, the geonet is overlapped a minimum of 12 inches and tied with plastic ties every five feet. End seams were overlapped and tied every 12 inches with the plastic tie. The geotextile was peeled back, and the geonet tied at 1-foot intervals. MQC documentation for the geotextile and geocomposite is included in Appendix K and meets the requirements of the CQA Plan.

The LCS trenches consist of 6-inch-diameter HDPE SDR13.5 perforated piping surrounded by aggregate. The aggregate is protected by a 10-ounce per square yard geotextile (see QC data in Appendix L). The aggregate material is free of organics, foreign objects, and other deleterious materials and was tested for gradation (See Appendix L for testing results). Details of the LCS pipe, aggregate, and geotextile are shown in Appendix A, on Drawings A4 through A7.

Table 7
Geocomposite Documentation

Type	Area Received sq ft	Transmissivity Conformance Tests	QA/QC Documentation	
			Appendix	Pages
200-mil Double Sided	498,800	5	K	K-1 through K-42

7.0 Protective Cover

The geosynthetics are covered by a minimum of 2 feet of protective cover. The depth of the soil protective cover was determined by the surveyor prior to placement of protective cover and after the placement of the protective cover. Results of the survey are contained in Appendix A, Drawings A11 and A12.

As a result of limited material availability, two different materials were used as protective cover. Material #1 (a red/brown sand purchased from a third party) meets the permeability, gradation, and uniformity coefficient specification as required by the CQA Plan and was installed on the floor of Unit IIA. Material #2 (a pink caliche material pulled from excavated material) meets the permeability spec required by the CQA Plan and was installed on the sideslopes.

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Protective cover soil was advanced from the southwest corner of Unit IIA. Material was advanced to the north and east using a header bank procedure. Dump trucks would drop their load of soil near the edge of the protective cover. Dozers would then advance the soils using a method that causes the soils to roll onto rather than slide across the geocomposite. With assistance from laborers positioned on the liner, this method minimized wrinkles in the geosynthetics.

At least three feet of soil was maintained in areas where trucks were traveling. After enough soil was in place and no more truck traffic was needed in an area, the dozers would thin the protective cover to a minimum of 24 inches.

Integrity and minimum thickness of the protective cover may be verified prior to advancing the fill face over new sections of the liner. The tested area will include the footprint where the next lift of waste will be placed plus a buffer from at least 50 feet ahead of the advancing fill face. Thickness will be verified with a blunt instrument on a grid not to exceed 100 feet. Areas that do not meet the minimum require thickness will be supplemented with select protective cover material from the designated stockpile. Records regarding the protective cover layer will be maintained onsite.

8.0 Summary

Observations at the site and results of field and laboratory testing (as discussed above and documented herein) support the following conclusions:

- Unit IIA consist of 6 inches of prepared subgrade soil (Appendix B) overlain by a GCL.
- The GCL is overlain by the secondary 60-mil HDPE geomembrane. The geomembrane is overlain by the leak detection system geonet (200 mil). The leak detection system geonet drains into the leak detection sump in the eastern portion of Unit IIA.
- The leak detection system geonet is overlain by the primary 60-mil HDPE membrane.
- The leachate collection system consists of a geocomposite (200-mil geonet with 10oz/sy geotextile mat bonded to both sides) installed on top of the primary geomembrane.
- The leachate collection system drains into the leachate collection pipe (6-inch perforated HDPE SDR 13.5 pipe).
- The perforated 6-inch HDPE SDR 13.5 pipe drains into the sump in the eastern portion of Unit IIA. The sump is connected to extraction and clean

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out risers for the leachate collection system and an extraction riser for the leak detection system.

- A minimum of 2 feet of protective cover material was placed over the liner.
- The subgrade preparation GCL, primary/secondary geomembrane, leak detection system, LCS, and protective cover construction were performed in accordance with the requirements of the CQA Plan prepared by Gordon Environmental/PSC in June 2019 or those discussed in Section 7.0 – Protective Cover.

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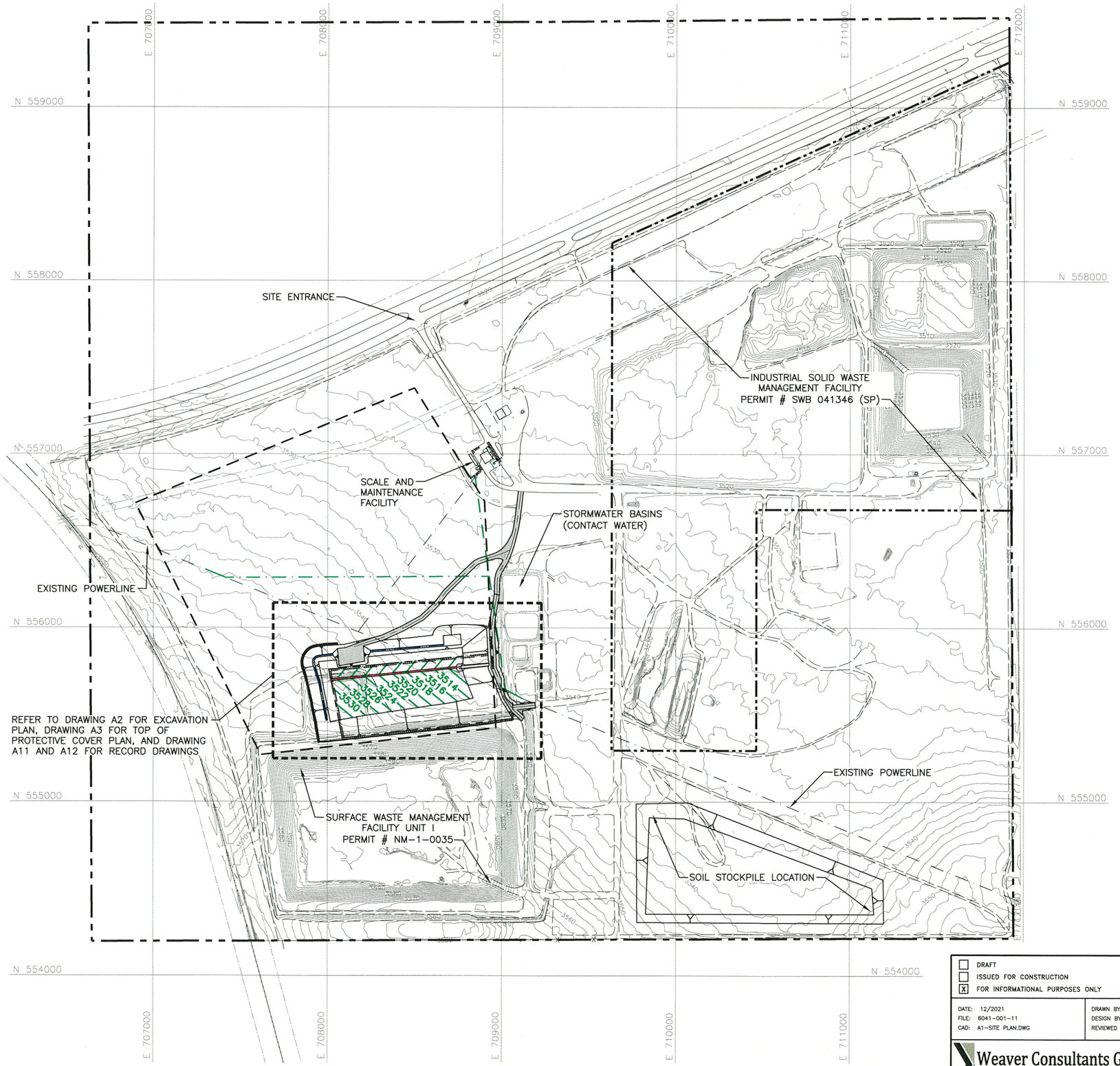
APPENDIX A

AS-BUILT DRAWINGS



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SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- PERMIT #SWB 041346 BOUNDARY
- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3520 EXISTING CONTOUR
- N 558000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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FILE: 6041-001-11
CAD: A1-SITE PLAN.DWG

DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

UNIT IIA
ENGINEERING CERTIFICATION REPORT
SITE PLAN

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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DRAWING A1

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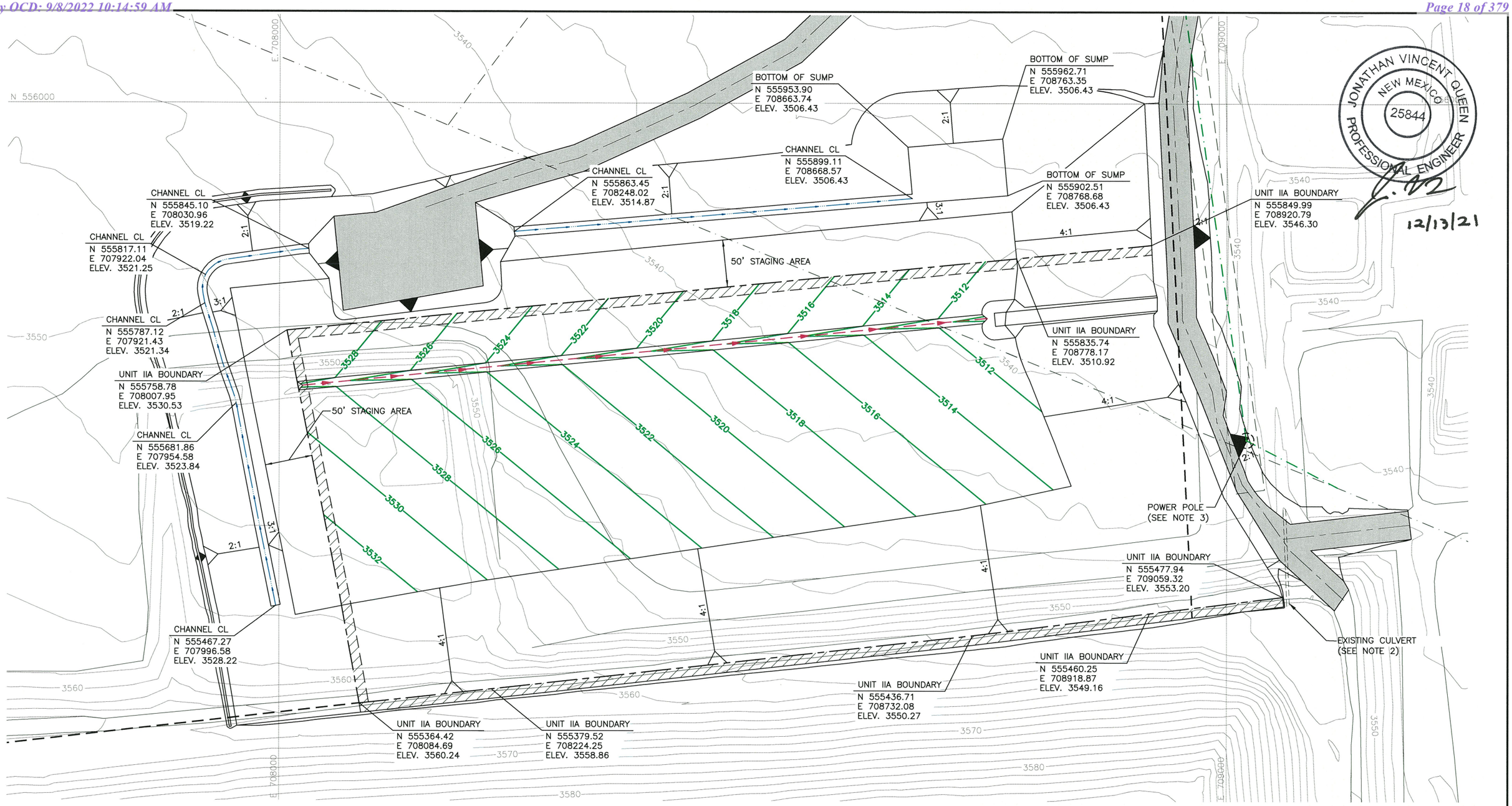

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER

12/13/21

LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- POWERLINE EASEMENT

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.
3. EAST BERM WAS FIELD FIT TO ACCOMMODATE EXISTING POWER POLE. THE SITE PLANS TO RELOCATE POWER POLE AND WIDEN THE BERM IN THE FUTURE.

- [ ] DRAFT
- [ ] ISSUED FOR CONSTRUCTION
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CAD: A2-EXCAVATION PLAN.DWG
DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

PREPARED FOR
LEA LAND, LLC

REVISIONS

NO.	DATE	DESCRIPTION

Weaver Consultants Group

UNIT IIA
ENGINEERING CERTIFICATION REPORT
EXCAVATION PLAN

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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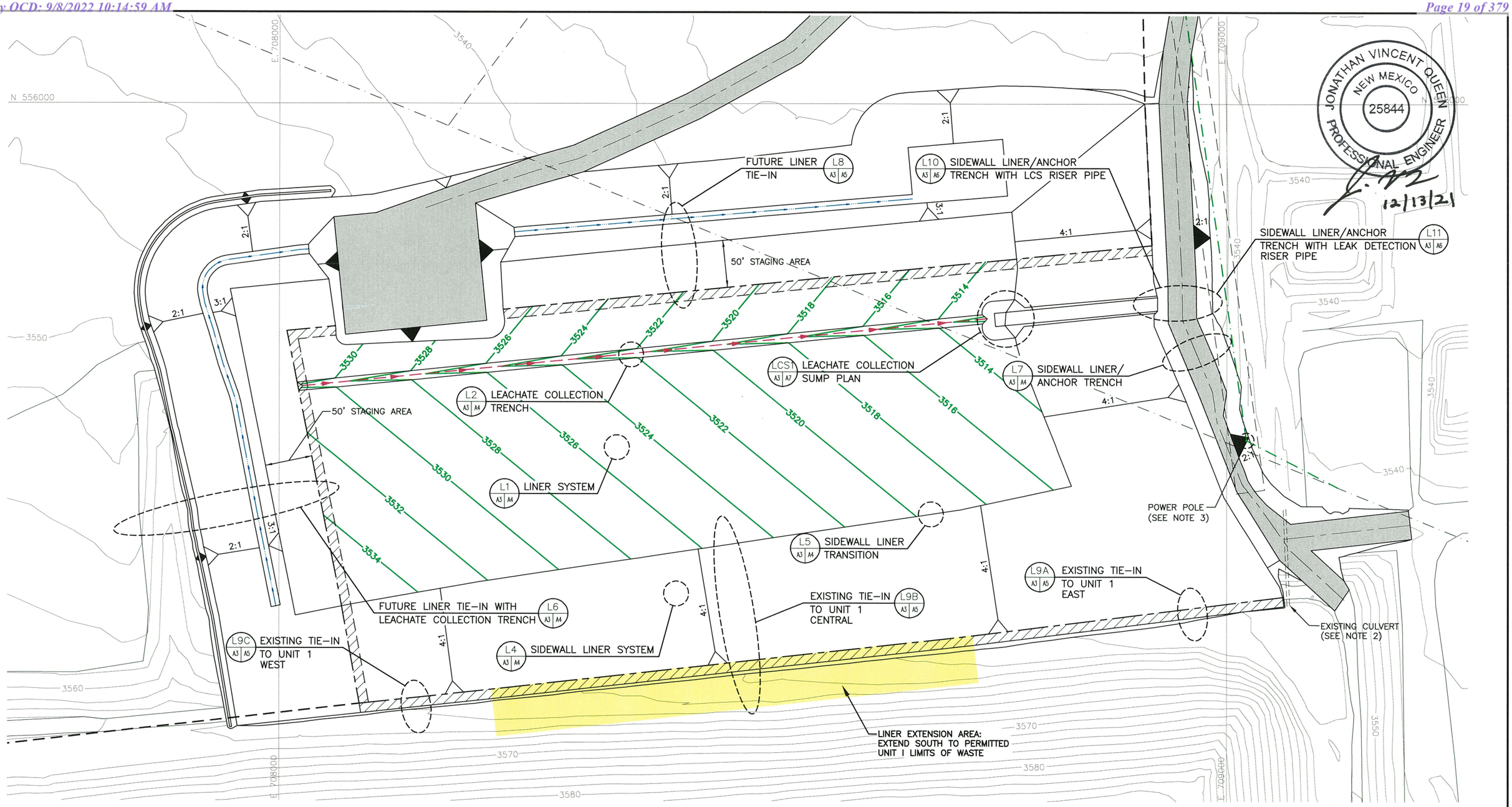

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3516 TOP OF PROTECTIVE COVER CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- POWERLINE EASEMENT

N

0 50 100
SCALE IN FEET

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.
3. EAST BERM WAS FIELD FIT TO ACCOMMODATE EXISTING POWER POLE. THE SITE PLANS TO RELOCATE POWER POLE AND WIDEN THE BERM IN THE FUTURE.

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DATE: 12/2021
FILE: 6041–001–11
CAD: A3–TOP OF PROT. COVER PLAN.DWG
DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

UNIT IIA ENGINEERING CERTIFICATION REPORT TOP OF PROTECTIVE COVER PLAN

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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DRAWING A3

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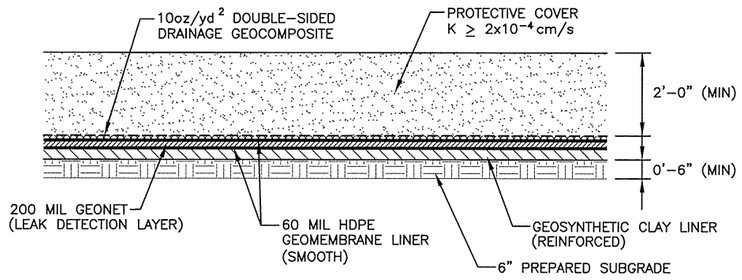
O:\6041\01\UNIT IIA\ENGINEERING CERT REPORT\A3–TOP OF PROTECTIVE COVER PLAN.dwg, sford, 1:2

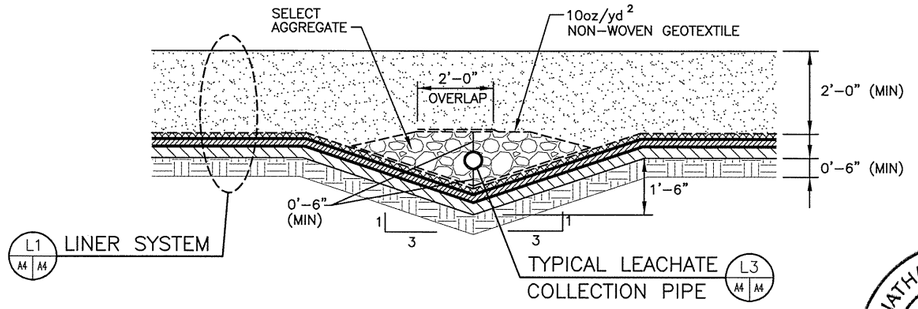


LINER SYSTEM L1 (M4)

0 2 4

SCALE IN FEET

A3,M4,A5,A7



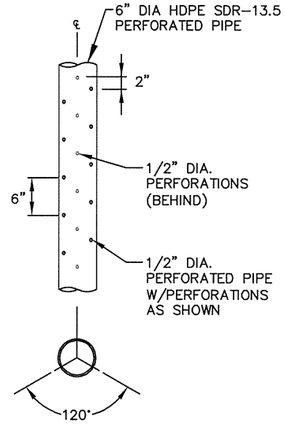
L1 (M4 | M4) LINER SYSTEM

TYPICAL LEACHATE COLLECTION PIPE L3 (M4 | M4)

LEACHATE COLLECTION TRENCH (SEE NOTE 2) L2 (A3 | M4)

0 2 4

SCALE IN FEET

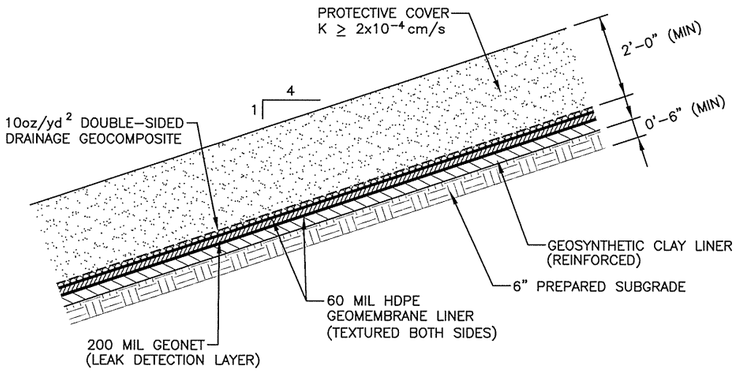


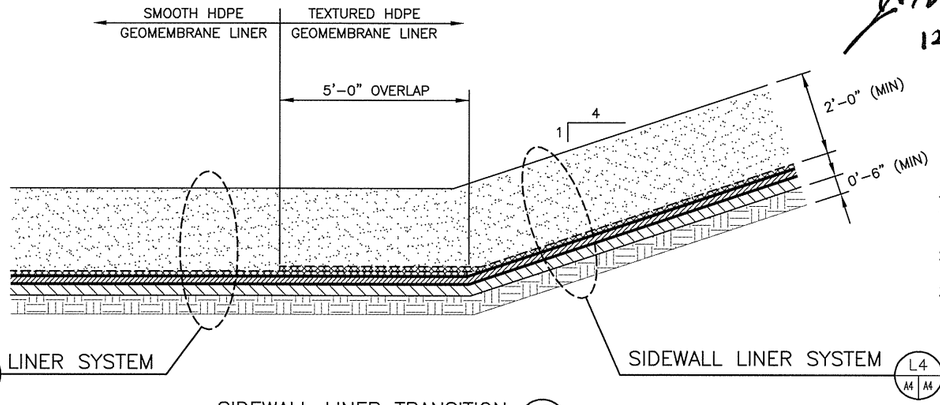
TYPICAL LEACHATE COLLECTION PIPE L3 (M4 | M4)

0 1 2

SCALE IN SCALE

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21





L1 (M4 | M4) LINER SYSTEM

SIDEWALL LINER SYSTEM L4 (M4 | M4)

SIDEWALL LINER SYSTEM L4 (M4)

0 2 4

SCALE IN FEET

A3,M4,A5,A6

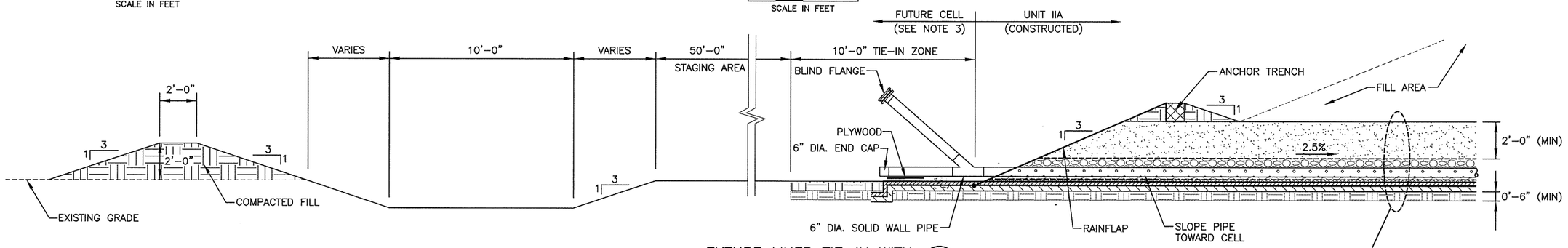
SIDEWALL LINER TRANSITION L5 (A3 | M4)

0 2 4

SCALE IN FEET

NOTES:

1. REFER TO THE CQA PLAN FOR GEOMEMBRANE, GEOCOMPOSITE, GEOTEXTILE WRAP, AND DRAINAGE AGGREGATE MATERIAL REQUIREMENTS.
2. LEACHATE COLLECTION TRENCH DIMENSIONS REVISED TO ACCOMMODATE INDUSTRY STANDARD 15-FOOT WIDE GEOTEXTILE.
3. PROTECTIVE COVER FOR FUTURE CELLS WILL NEED TO BE CERTIFIED PAST THE EDGE OF THE 10-FOOT TIE-IN ZONE TO THE LIMITS OF UNIT IIA.

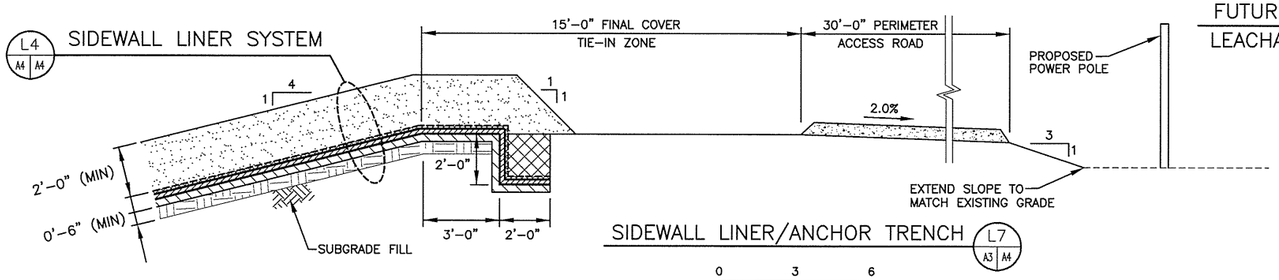


FUTURE LINER TIE-IN WITH LEACHATE COLLECTION PIPE L6 (A3 | M4)

0 3 6

SCALE IN FEET

L2 (M4 | M4) LEACHATE COLLECTION TRENCH



L4 (M4 | M4) SIDEWALL LINER SYSTEM

SIDEWALL LINER/ANCHOR TRENCH L7 (A3 | M4)

0 3 6

SCALE IN FEET

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DATE: 12/2021
FILE: 6041-01-11
CAD: A4-LINER SYSTEM DETAILS.DWG

DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS

NO.	DATE	DESCRIPTION

UNIT IIA ENGINEERING CERTIFICATION REPORT LINER, LEACHATE COLLECTION SYSTEM, AND LEAK DETECTION DETAILS

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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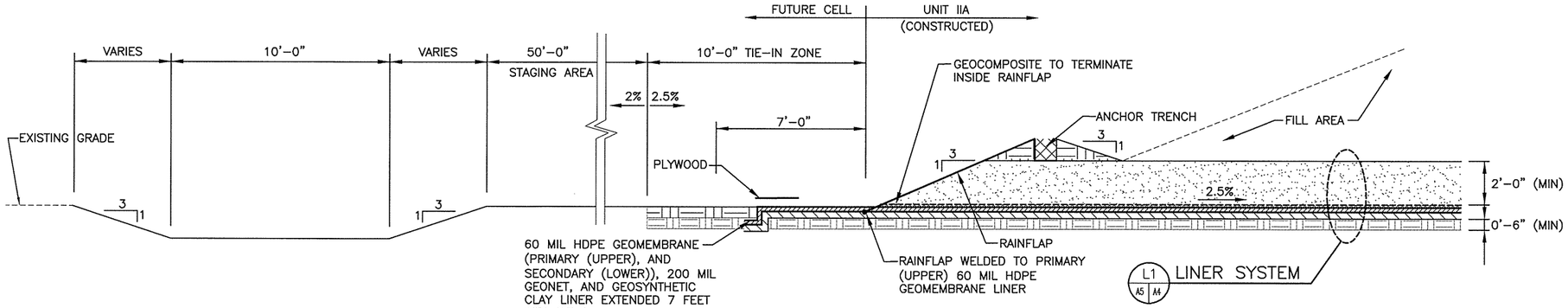
0:\6041\01\UNIT IIA\ENGINEERING CERT REPORT\A4-LINER AND LEACHATE DETAILS.dwg, rarrington, 1:2



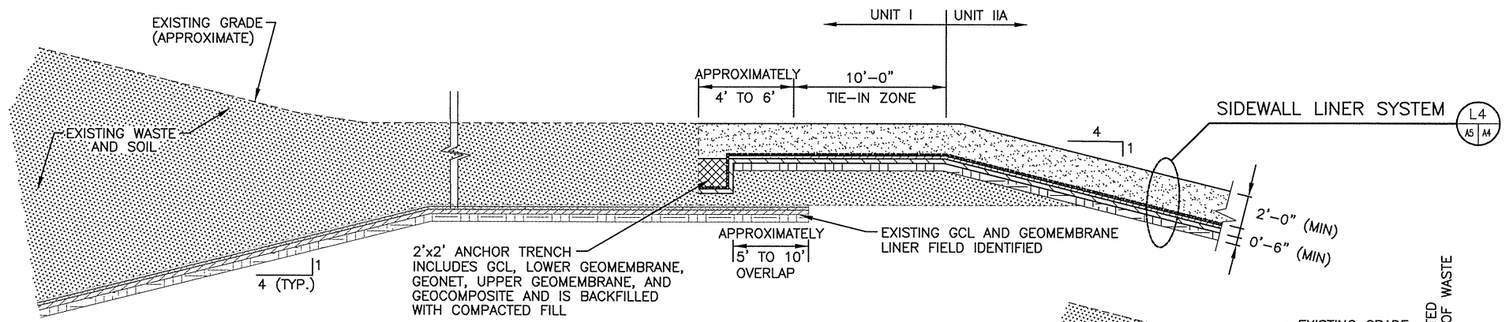
FUTURE LINER TIE–IN (L8 | A3 | A5)

0 3 6

SCALE IN FEET

NOTES:

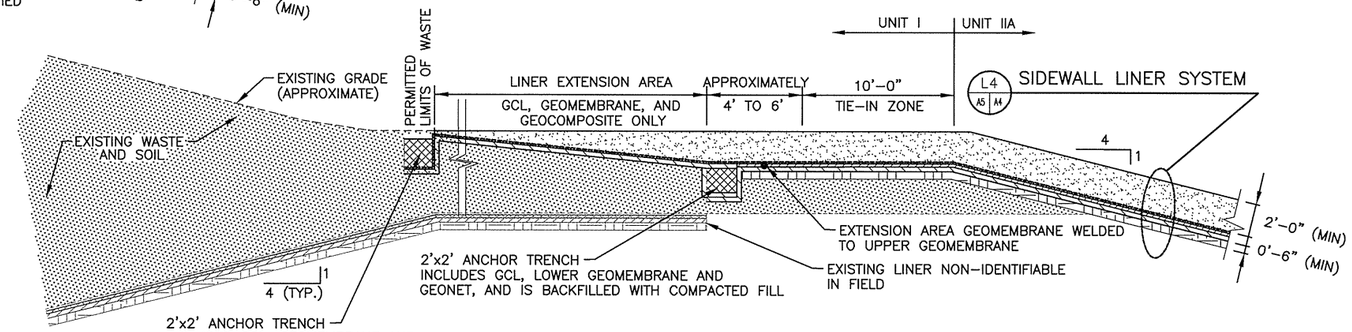
1. REFER TO THE CQA PLAN FOR GEOMEMBRANE, GEOCOMPOSITE, GEOTEXTILE WRAP, AND DRAINAGE MATERIAL REQUIREMENTS.



EXISTING TIE–IN TO UNIT 1 EAST (L9A | A3 | A5)

0 5 10

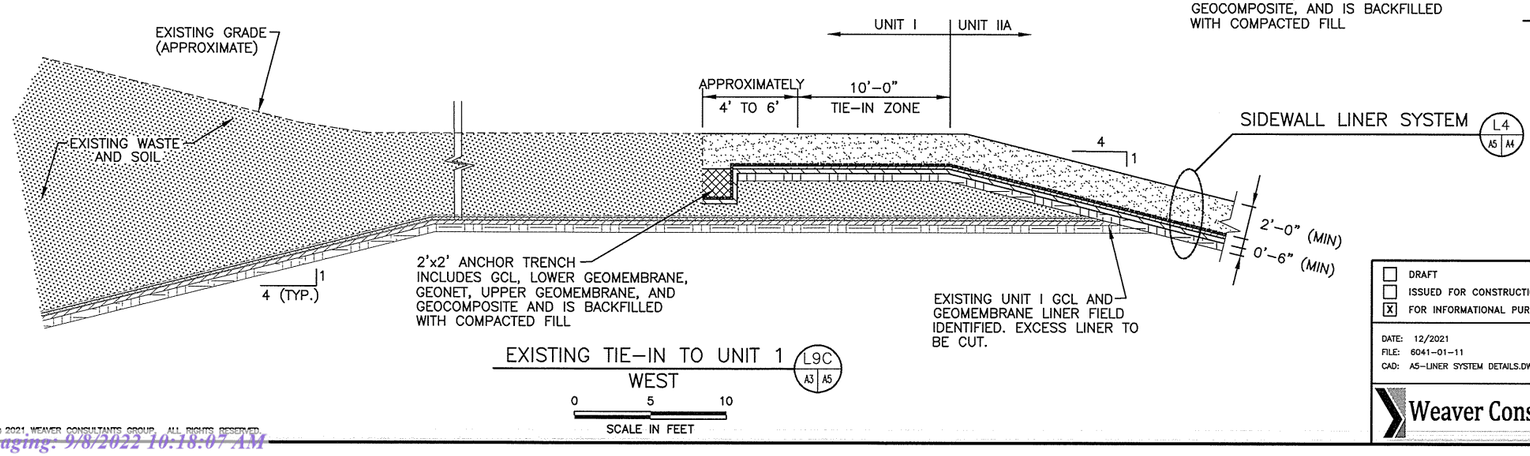
SCALE IN FEET



EXISTING TIE–IN TO UNIT 1 CENTRAL (L9B | A3 | A5)

0 5 10

SCALE IN FEET



EXISTING TIE–IN TO UNIT 1 WEST (L9C | A3 | A5)

0 5 10

SCALE IN FEET

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NEW MEXICO
25844
PROFESSIONAL ENGINEER

12/13/21

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DATE: 12/2021
FILE: 6041–01–11
CAD: A5–LINER SYSTEM DETAILS.DWG

DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

UNIT IIA
ENGINEERING CERTIFICATION REPORT LINER, LEACHATE COLLECTION SYSTEM, AND LEAK DETECTION DETAILS

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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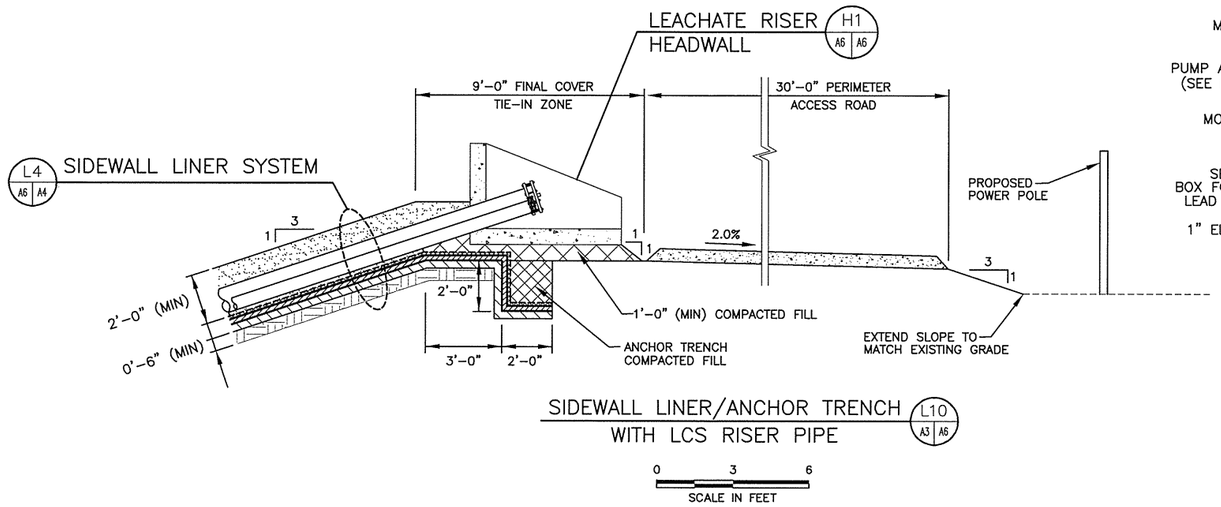
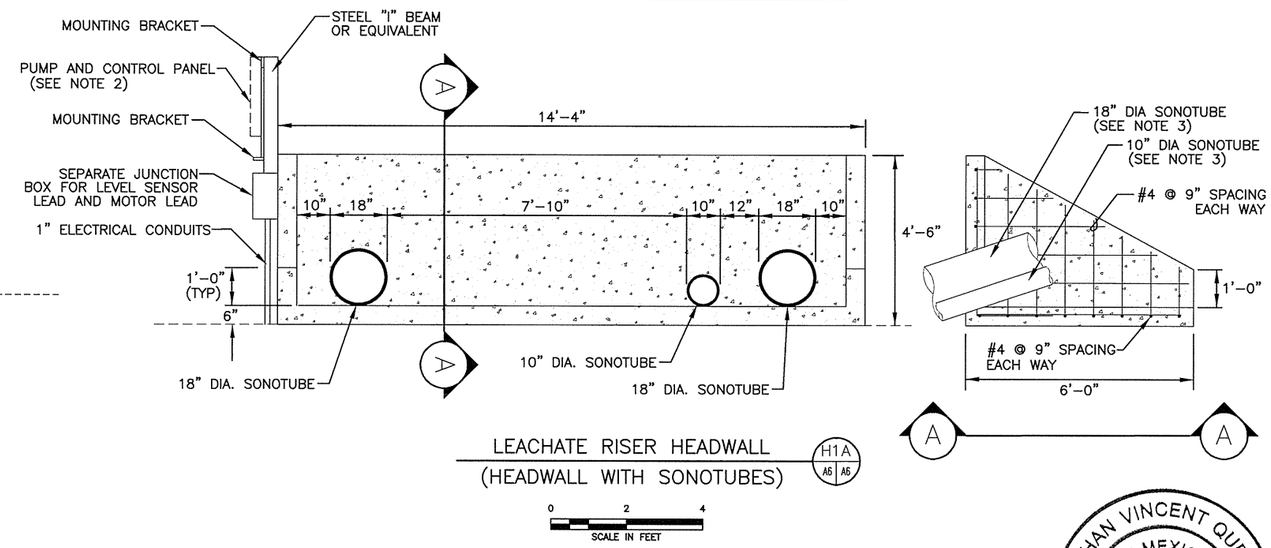


SIDEWALL LINER/ANCHOR TRENCH WITH LCS RISER PIPE (L10 | A3 | A6)

0 3 6
SCALE IN FEET



LEACHATE RISER HEADWALL (HEADWALL WITH SONOTUBES) (H1A | A6 | A6)

0 2 4
SCALE IN FEET

NOTES:

1. REFER TO THE CQA PLAN FOR GEOMEMBRANE, GEOCOMPOSITE, GEOTEXTILE WRAP, AND DRAINAGE MATERIAL REQUIREMENTS.

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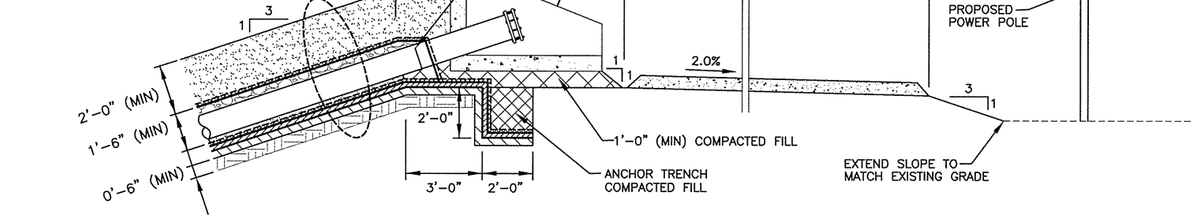
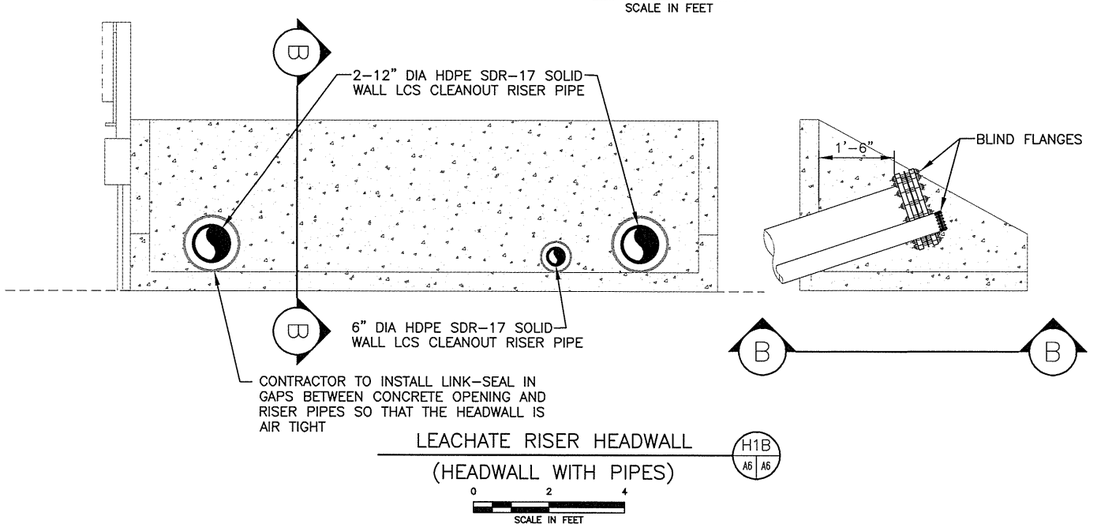
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21



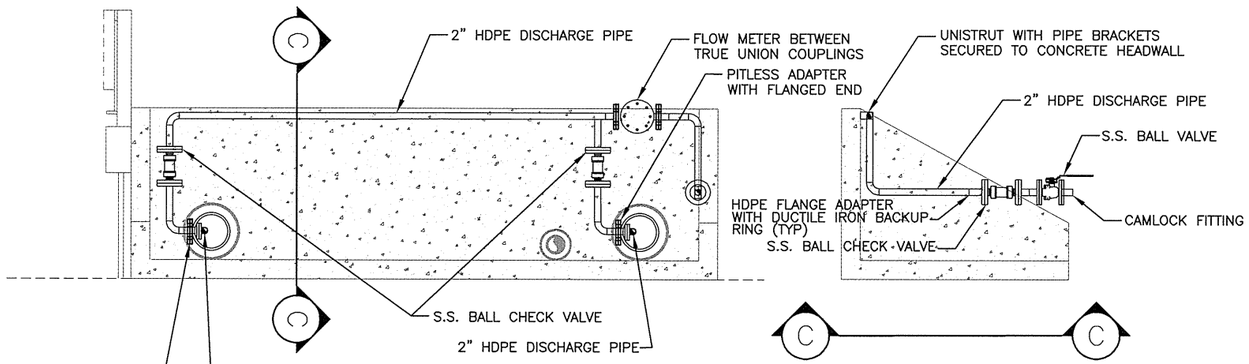
SIDEWALL LINER/ANCHOR TRENCH WITH LEAK DETECTION RISER PIPE (L11 | A3 | A6)

0 3 6
SCALE IN FEET



LEACHATE RISER HEADWALL (HEADWALL WITH PIPES) (H1B | A6 | A6)

0 2 4
SCALE IN FEET



LEACHATE RISER HEADWALL (CONNECTION TO FORCEMAIN) (H1C | A6 | A6)

0 2 4
SCALE IN FEET

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DATE: 12/2021 FILE: 6041–01–11 CAD: A6–LINER SYSTEM DETAILS.DWG DRAWN BY: RAA DESIGN BY: AWB REVIEWED BY: JVQ	REVISIONS NO. | DATE | DESCRIPTION	
Weaver Consultants Group	WWW.WCGRP.COM	DRAWING A6

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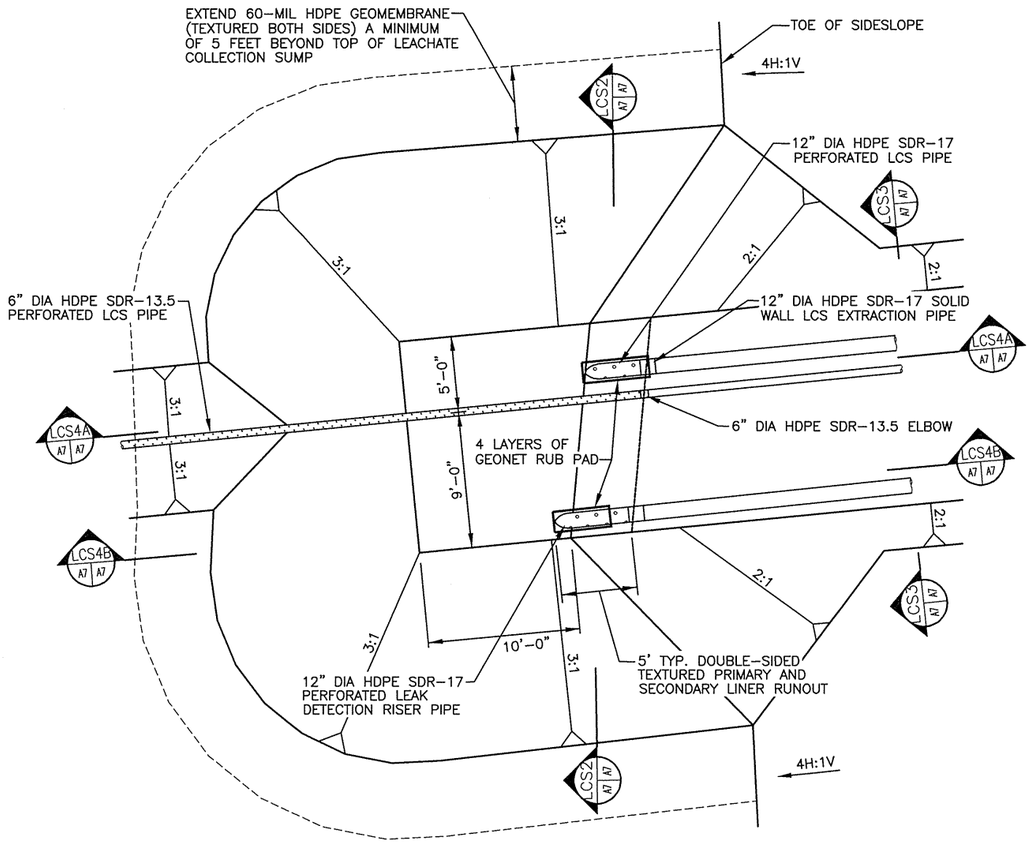
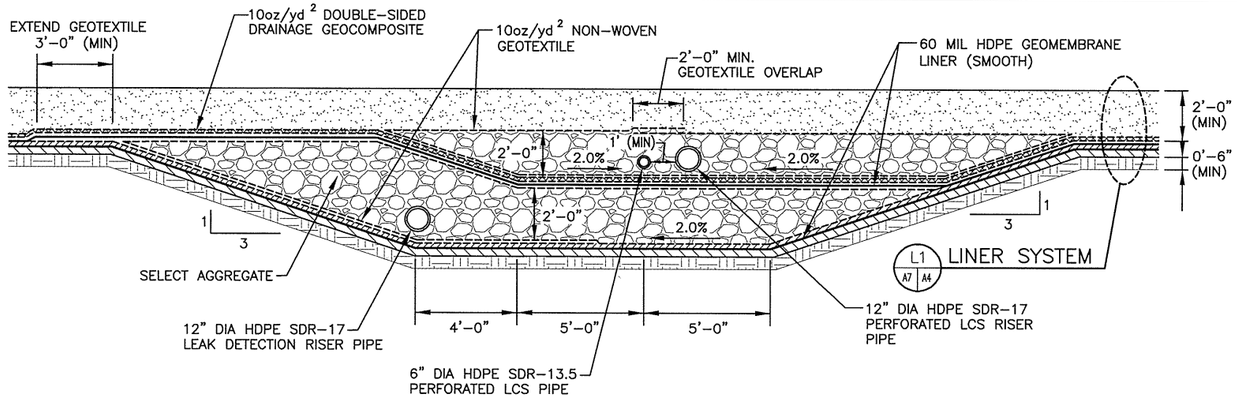


LEACHATE COLLECTION SUMP PLAN LCS1

0 5 10

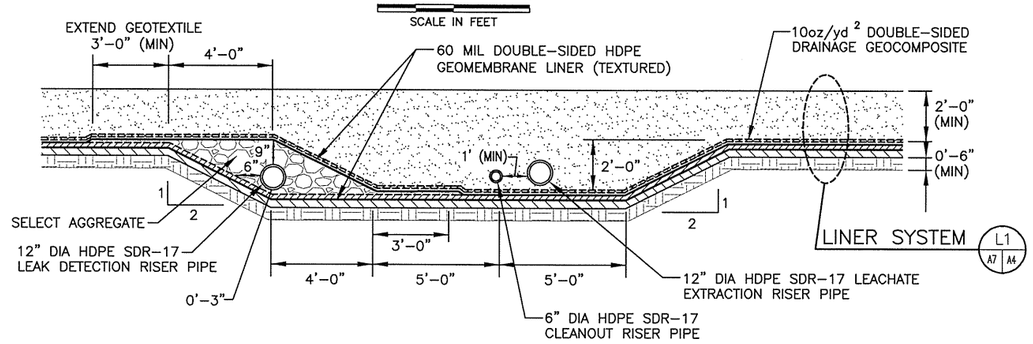
SCALE IN FEET



LEACHATE SUMP SECTION LCS2

0 3 6

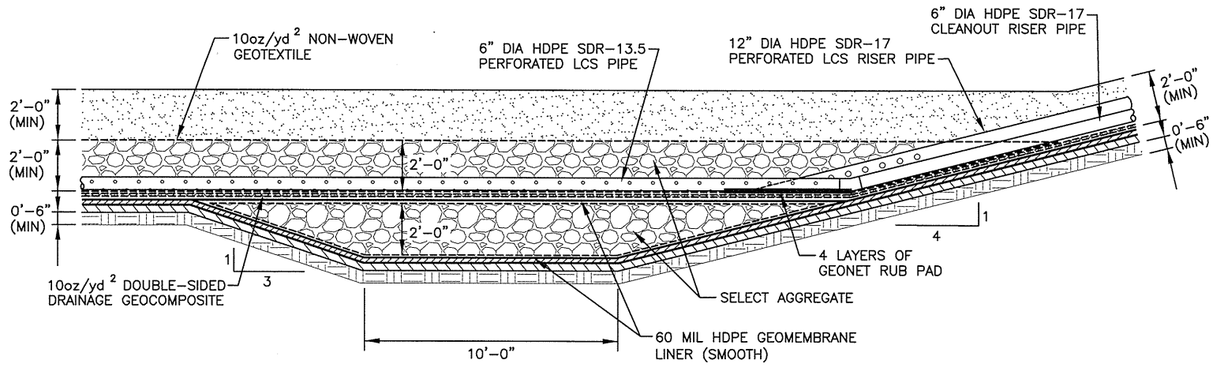
SCALE IN FEET



LEACHATE COLLECTION SUMP RISER TRENCH SECTION LCS3

0 3 6

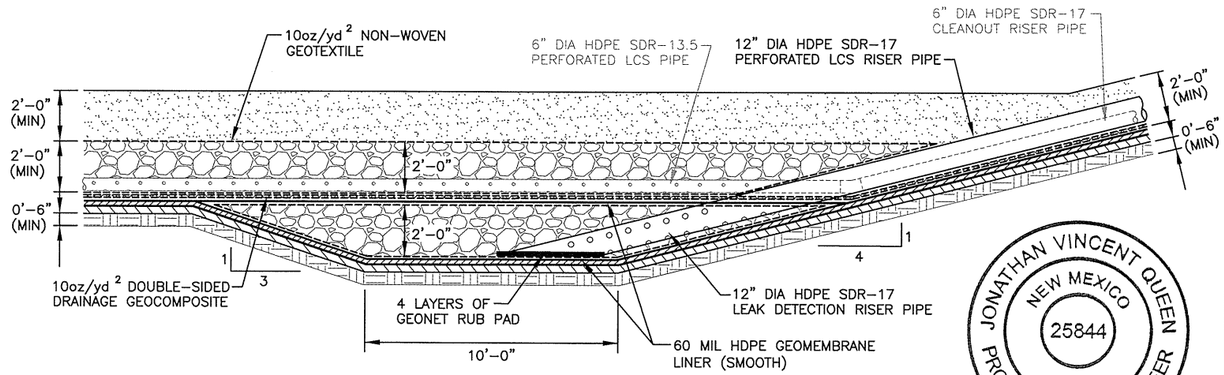
SCALE IN FEET



LEACHATE COLLECTION SUMP SECTION LCS4A

0 3 6

SCALE IN FEET



LEAK DETECTION SUMP SECTION LCS4B

0 3 6

SCALE IN FEET

NOTE:

1. REFER TO THE CQA PLAN FOR GEOMEMBRANE, GEOTEXTILE WRAP, AND DRAINAGE AGGREGATE MATERIAL REQUIREMENTS.

JONATHAN VINCENT QUEEN NEW MEXICO 25844 PROFESSIONAL ENGINEER

12/13/21

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DATE: 12/2021
FILE: 6041-01-11
CAD: A7-LINER SYSTEM DETAILS.DWG

DRAWN BY: RAA
DESIGN BY: AWB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS

NO.	DATE	DESCRIPTION

UNIT IIA
ENGINEERING CERTIFICATION REPORT
LINER, LEACHATE COLLECTION SYSTEM, AND LEAK DETECTION DETAILS
LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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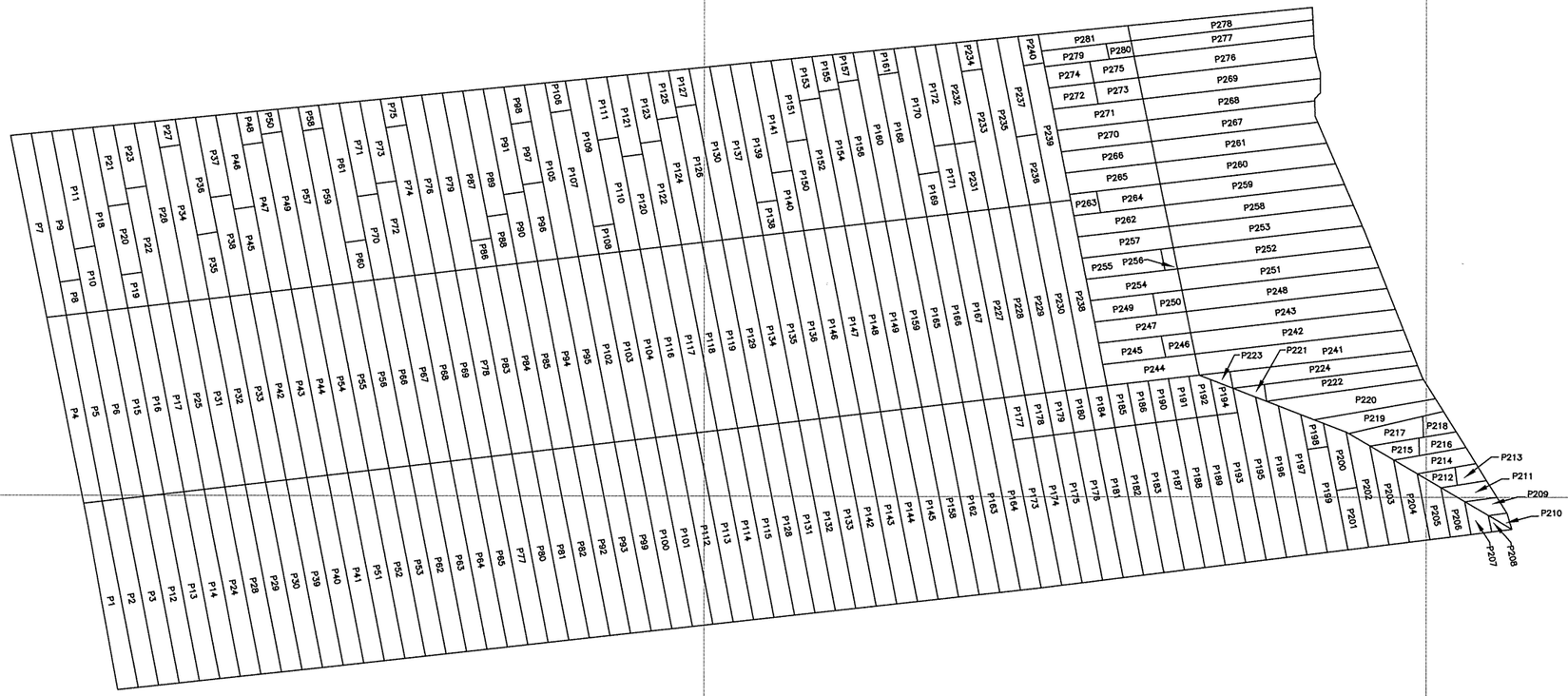
E. 708000

E. 708500

E. 709000

N 556000

N 555500



LEGEND

N 556000 STATE PLANE COORDINATE

N

0 50 100

SCALE IN FEET

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NEW MEXICO
25844
PROFESSIONAL ENGINEER

12/13/21

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- [ ] ISSUED FOR CONSTRUCTION
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DATE: 12/2021
FILE: 6041-001-11
CAD: A8-PRIMARY PANEL LAYOUT.DWG

DRAWN BY: RAA
DESIGN BY: KRB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS

NO.	DATE	DESCRIPTION

UNIT IIA
ENGINEERING CERTIFICATION REPORT
GCL PANEL LAYOUT

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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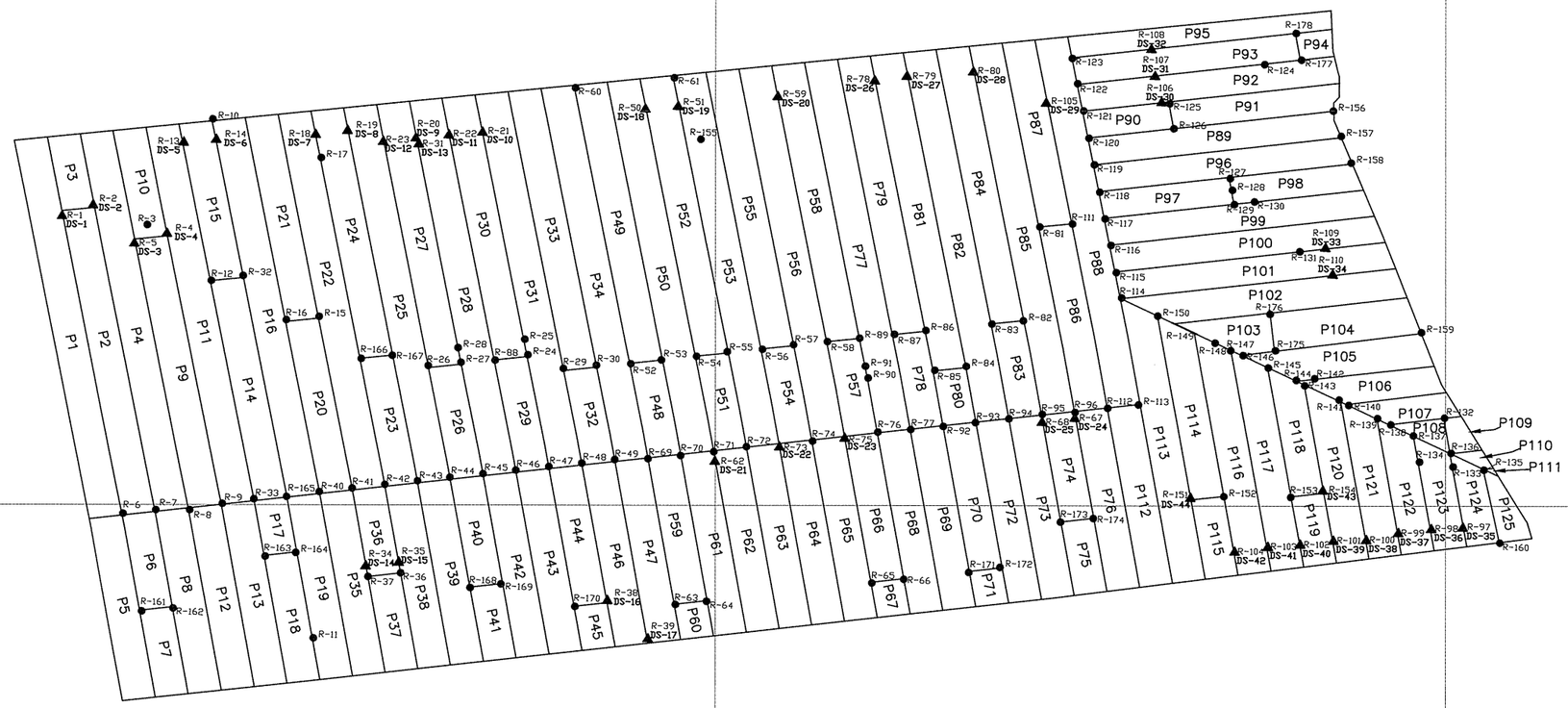

LEGEND

N 556000 STATE PLANE COORDINATE

N

0 50 100

SCALE IN FEET

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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DATE: 12/2021 FILE: 6041-001-11 CAD: A9-PRIMARY PANEL LAYOUT.DWG DRAWN BY: RAA DESIGN BY: KRB REVIEWED BY: JVQ	REVISIONS NO. / DATE / DESCRIPTION	
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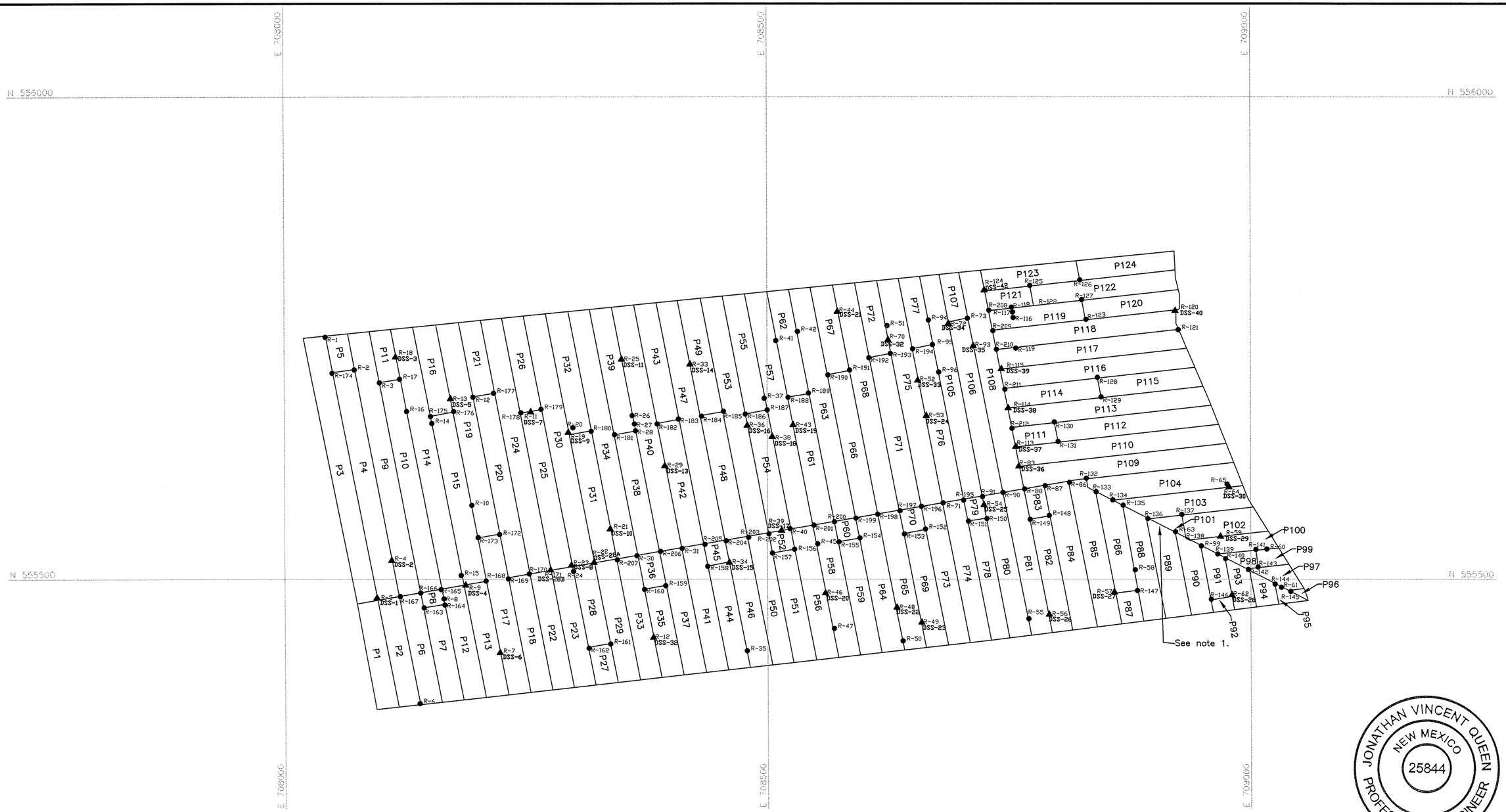

LEGEND

N 556000 ..... STATE PLANE COORDINATE

0 50 100
SCALE IN FEET

NOTES:

1. THE SOUTHEAST CORNER SLOPE WAS CAPPED WITH FOUR 6' X 70' REPAIRS. (SEE REPAIR LOG R-66 THROUGH R-69, R-74 THROUGH R-85 AND R-97 THROUGH R-110). FOR REPAIRS (PANEL INTERSECTIONS) OF THE CAPPED AREA.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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DATE: 11/2021
FILE: 6041-001-11
CAD: A10-SECONDARY PANEL LAYOUT.DWG

DRAWN BY: RAA
DESIGN BY: KRB
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

UNIT IIA
ENGINEERING CERTIFICATION REPORT
SECONDARY PANEL LAYOUT

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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P:\Solid waste\Lea Land LLC\Unit IIA\Construction\Engineering Certification Report\Panel Layouts\A10- SECONDARY PANEL LAYOUT.dwg, abrazell, 1:2.06105

Released to Imaging: 9/8/2022 10:18:07 AM

GRAPHIC SCALE

1 inch = 60 ft.

NORTH

JAMES F. PACK
NEW MEXICO
14242
PROFESSIONAL SURVEYOR

12.15.21

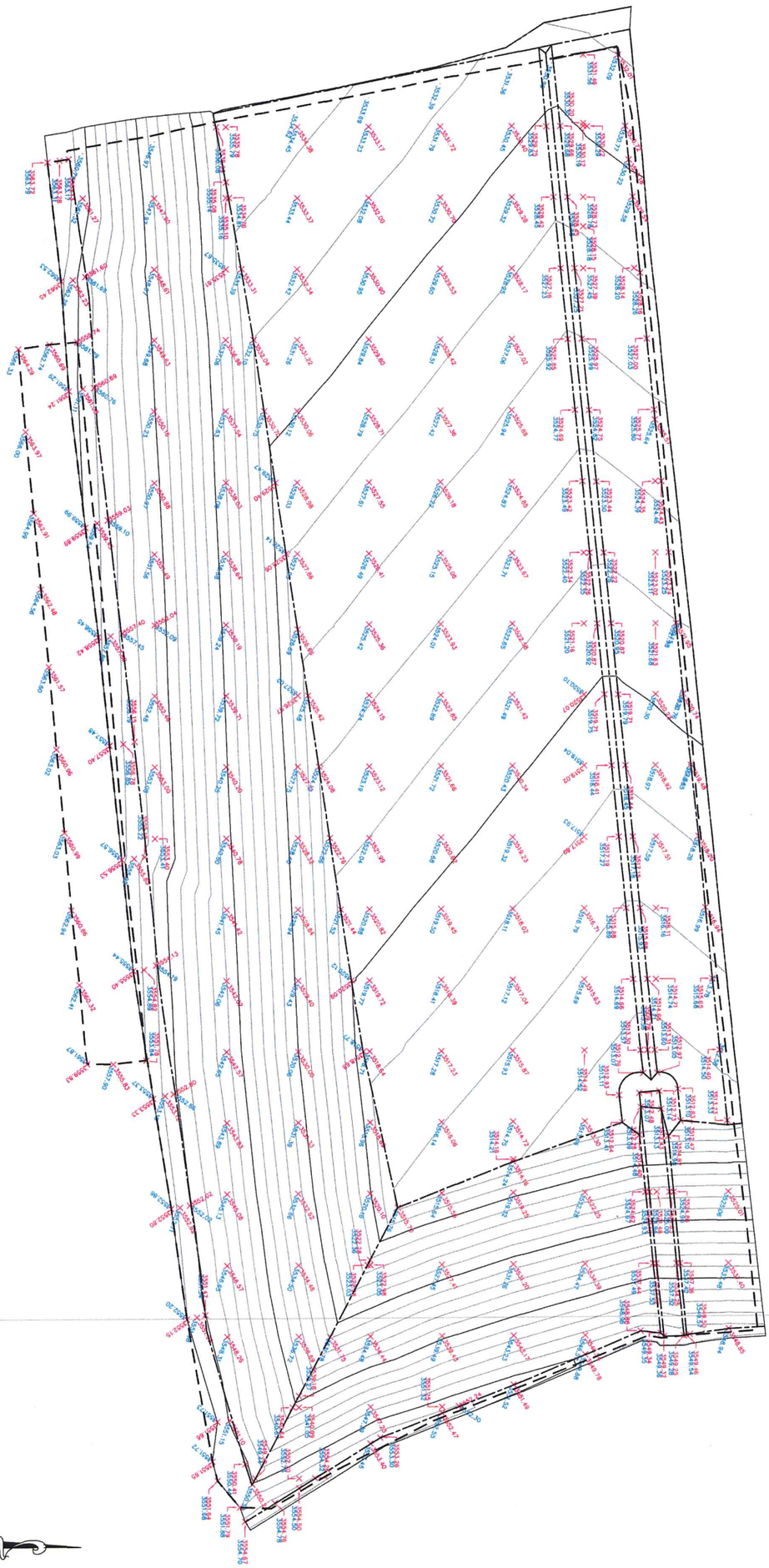
LEGEND

= DESIGN SUB GRADE

= AS-BUILT SUB GRADE

= LINER LIMIT

PROJECT NO. 20_176ENV SHEET NUMBER 1 1 OF 1	LEA LAND LANDFILL HOBBS, NM SUB GRADE ASBUILT EXHIBIT	DRAWN: JB CHECKED: GR DATE: 08/14/2021 DWG: -	S3	18213 E WARNER ROAD BLDG A SUITE 5 GILBERT, AZ 85296 PHONE: (480) 414-4121 FAX: (888) 870-8203 EMAIL: s3survey@s3-az.com	REV.		DATE	BY	-



GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

0 20 40 80 100

LEGEND

3400.00 = DESIGN OPERATIONS LAYER

3400.00 = AS-BUILT OPERATIONS LAYER

= LINER LIMIT

12-16-21

SHEET NUMBER 1 OF 1	PROJECT NO.	LEA LAND LANDFILL	DRAWN: GR	S3	4615 E WARNER ROAD BLDG A SUITE 5 GILBERT, AZ 85296 PHONE: (480) 414-4121 FAX: (888) 870-8203 EMAIL: s3survey@s3-az.com	REV.		DATE	BY
		UNIT 11A	CHECKED:						
		OPERATIONS LAYER ASBUILT EXHIBIT	DATE: 10/21/2021						

APPENDIX B

EAST BERM AND COMPACTED SUBGRADE SOIL TESTING INFORMATION

Includes pages B-1 through B-32

CONTENTS

Nuclear Density Test Summary	B-1
Borrow Sample Information	B-27

Released to Imaging: 9/8/2022 10:18:07 AM

NUCLEAR DENSITY TEST SUMMARY

Released to Imaging: 9/8/2022 10:18:07 AM
Received by OCD: 9/8/2022 10:14:59 AM

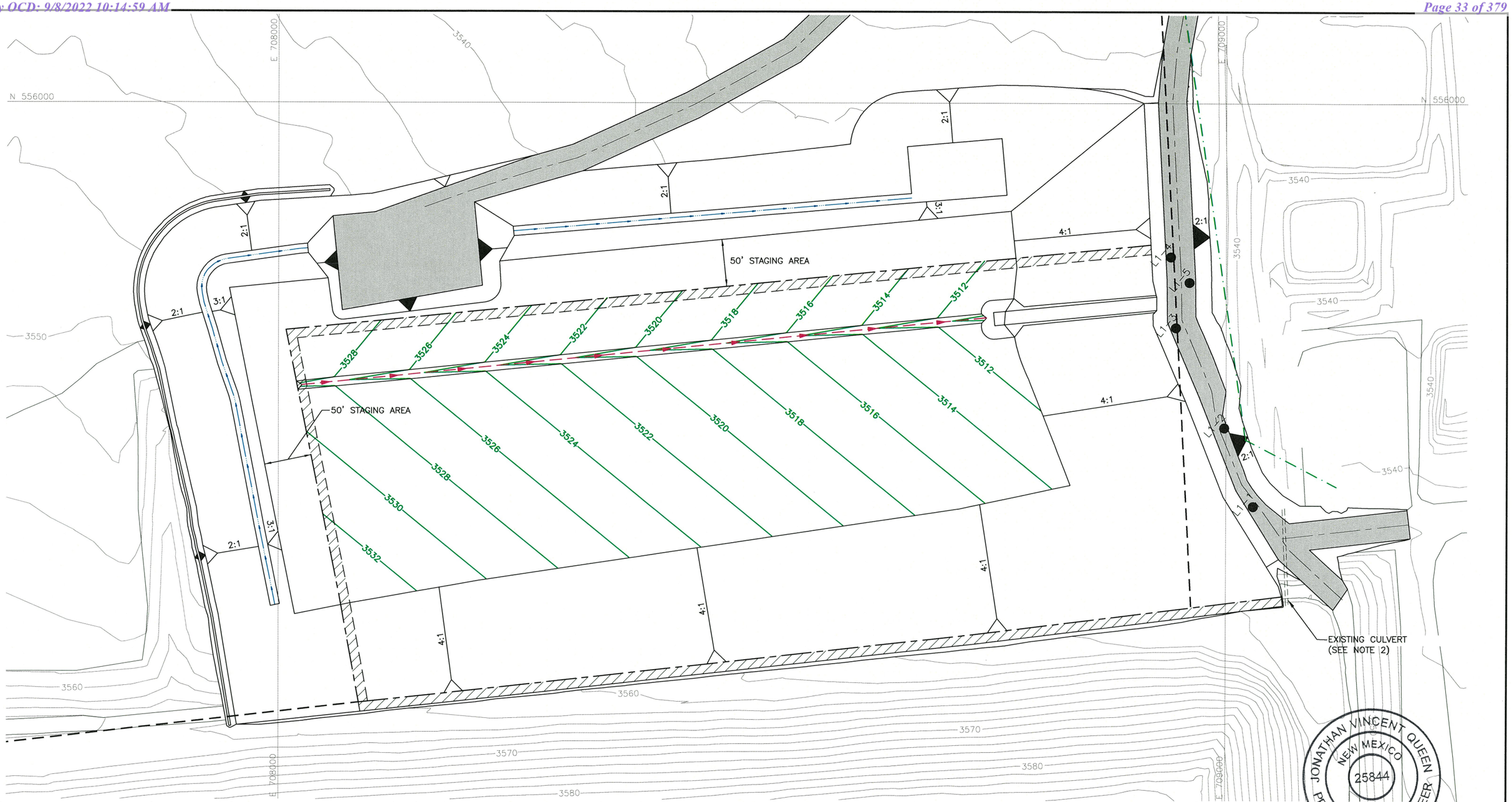
LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
1	1	5/19/2021	②	15.1	112.8	8.0	111.9	103.6	92%	PASS
1	2	5/19/2021	②	15.1	112.8	8.8	111.5	102.5	91%	PASS
1	3	5/19/2021	②	15.1	112.8	8.8	115.6	106.3	94%	PASS
1	4	5/19/2021	②	15.1	112.8	8.2	111.4	103.0	91%	PASS
1	5	5/19/2021	②	15.1	112.8	8.4	110.7	102.2	91%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L1 NDT LOCATION ID

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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DESIGN BY: PAK
REVIEWED BY: JVQ

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ENGINEERING CERTIFICATION REPORT
EAST BERM CONSTRUCTION
NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 1

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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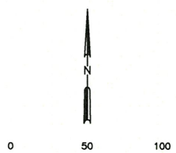
UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
2	1	5/20/2021	②	15.1	112.8	10.9	113.2	102.0	90%	PASS
2	2	5/20/2021	②	15.1	112.8	8.4	110.2	101.7	90%	PASS
2	3	5/20/2021	②	15.1	112.8	11.2	115.3	103.7	92%	PASS
2	4	5/20/2021	②	15.1	112.8	10.7	112.8	101.9	90%	PASS
2	5	5/20/2021	②	15.1	112.8	11.5	115.1	103.2	91%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- 2-2 NDT LOCATION ID

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 2

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
3	1	5/21/2021	②	15.1	112.8	9.8	114.0	103.8	92%	PASS
3	2	5/21/2021	②	15.1	112.8	11.0	115.0	103.6	92%	PASS
3	3	5/21/2021	②	15.1	112.8	11.5	116.2	104.2	92%	PASS
3	4	5/21/2021	②	15.1	112.8	12.6	117.2	104.1	92%	PASS
3	5	5/21/2021	②	15.1	112.8	14.9	117.0	101.8	90%	PASS

LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L3-2 NDT LOCATION ID

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 3

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UNIT IIA CONSTRUCTION

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NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
4	1	5/24/2021	②	15.1	112.8	10.3	112.3	101.8	90%	PASS
4	2	5/24/2021	②	15.1	112.8	11.9	114.4	102.2	91%	PASS
4	3	5/25/2021	②	15.1	112.8	9.8	112.7	102.6	91%	PASS
4	4	5/25/2021	②	15.1	112.8	9.1	112.0	102.6	91%	PASS
4	5	5/25/2021	②	15.1	112.8	9.6	113.3	103.4	92%	PASS
4	6	5/25/2021	②	15.1	112.8	9.5	111.4	101.8	90%	PASS

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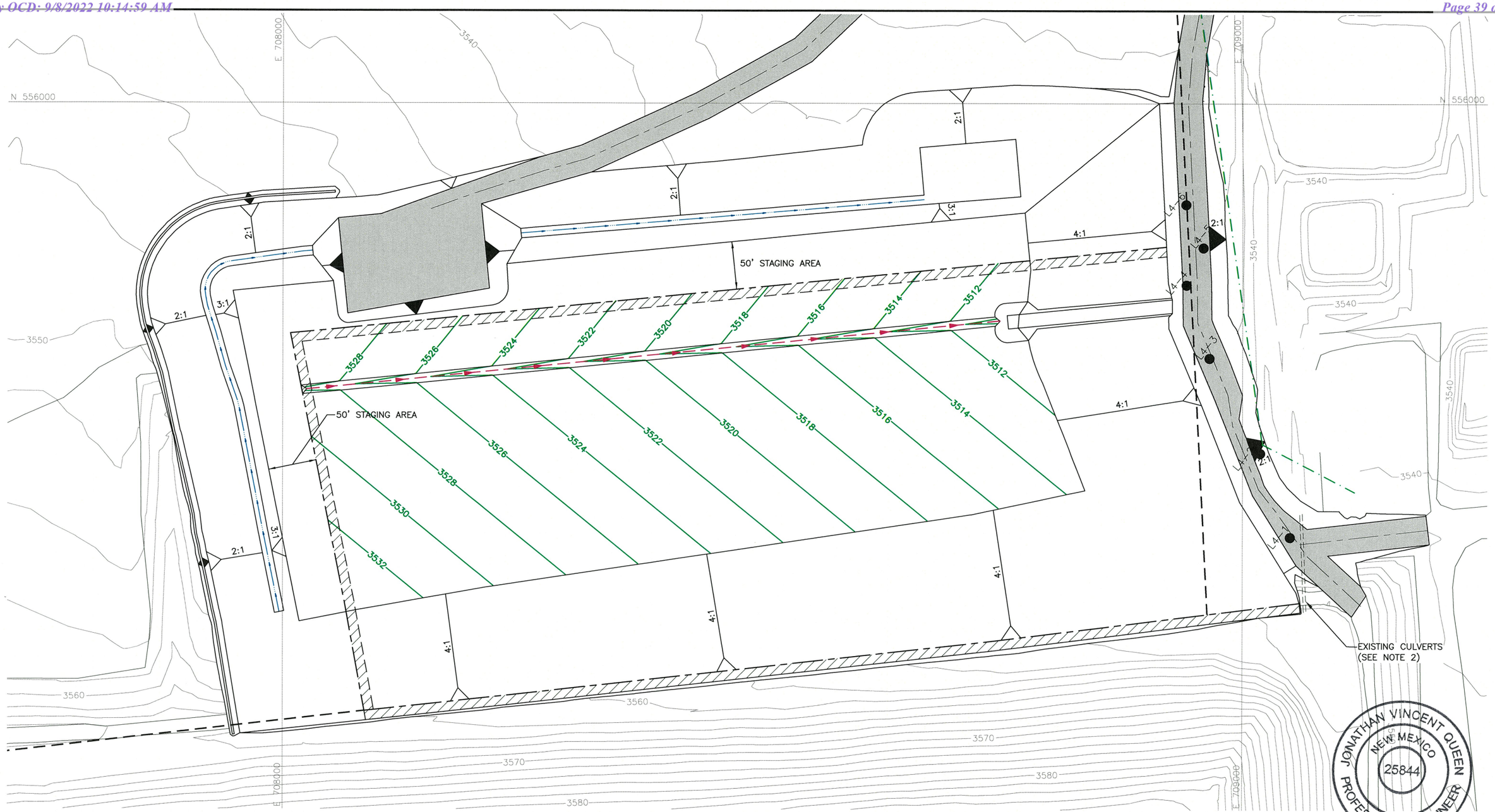

LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L4-2 NDT LOCATION ID

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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UNIT IIA CONSTRUCTION

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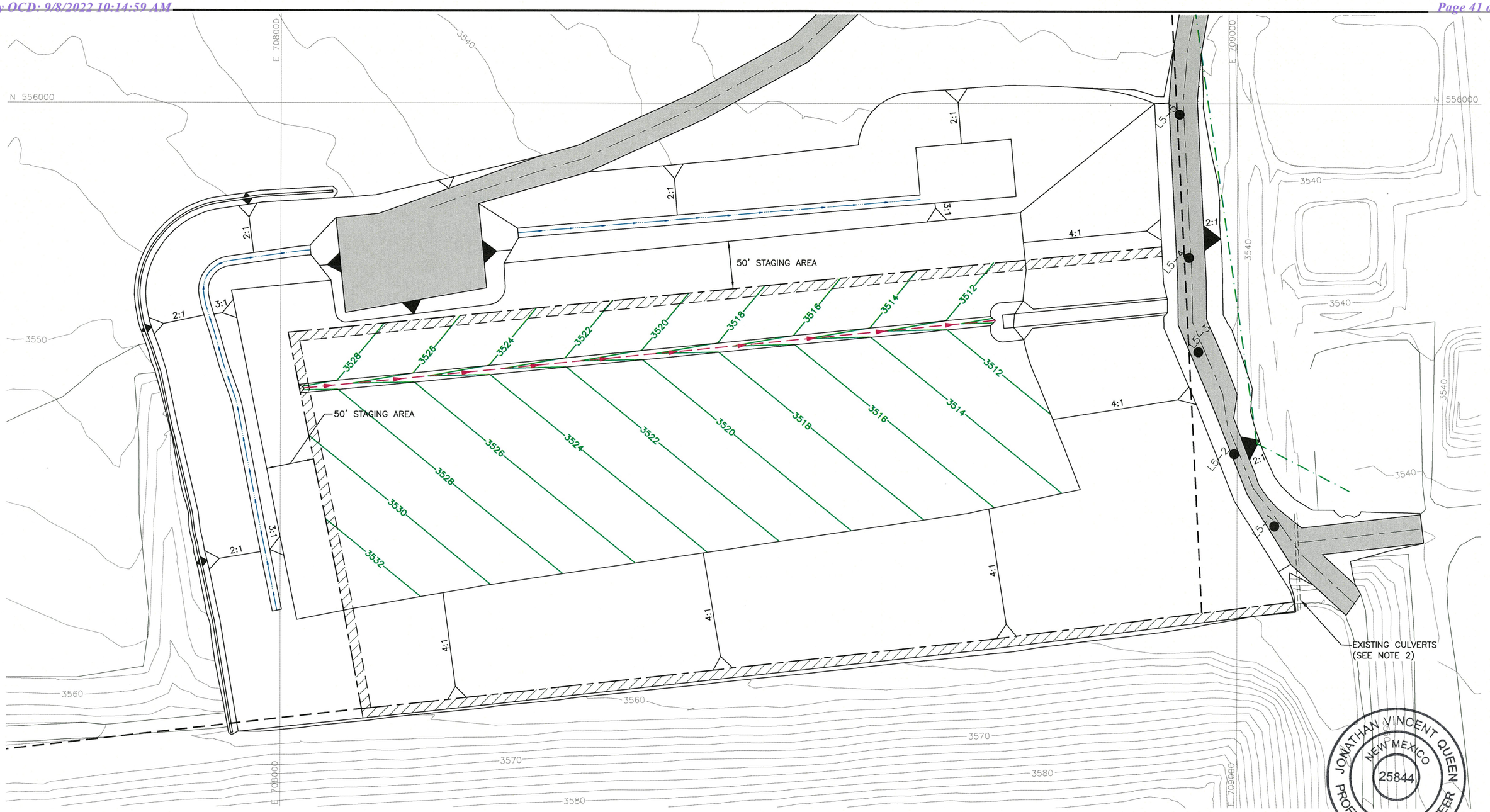
NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
5	1	5/25/2021	②	15.1	112.8	13.0	118.7	105.1	93%	PASS
5	2	5/25/2021	②	15.1	112.8	11.1	113.6	102.3	91%	PASS
5	3	5/25/2021	②	15.1	112.8	8.9	111.4	102.3	91%	PASS
5	4	5/25/2021	②	15.1	112.8	11.4	113.1	101.7	90%	PASS
5	5	5/25/2021	②	15.1	112.8	11.4	117.1	105.1	93%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L5-2 NDT LOCATION ID

N

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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LEA COUNTY, NEW MEXICO

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UNIT IIA CONSTRUCTION
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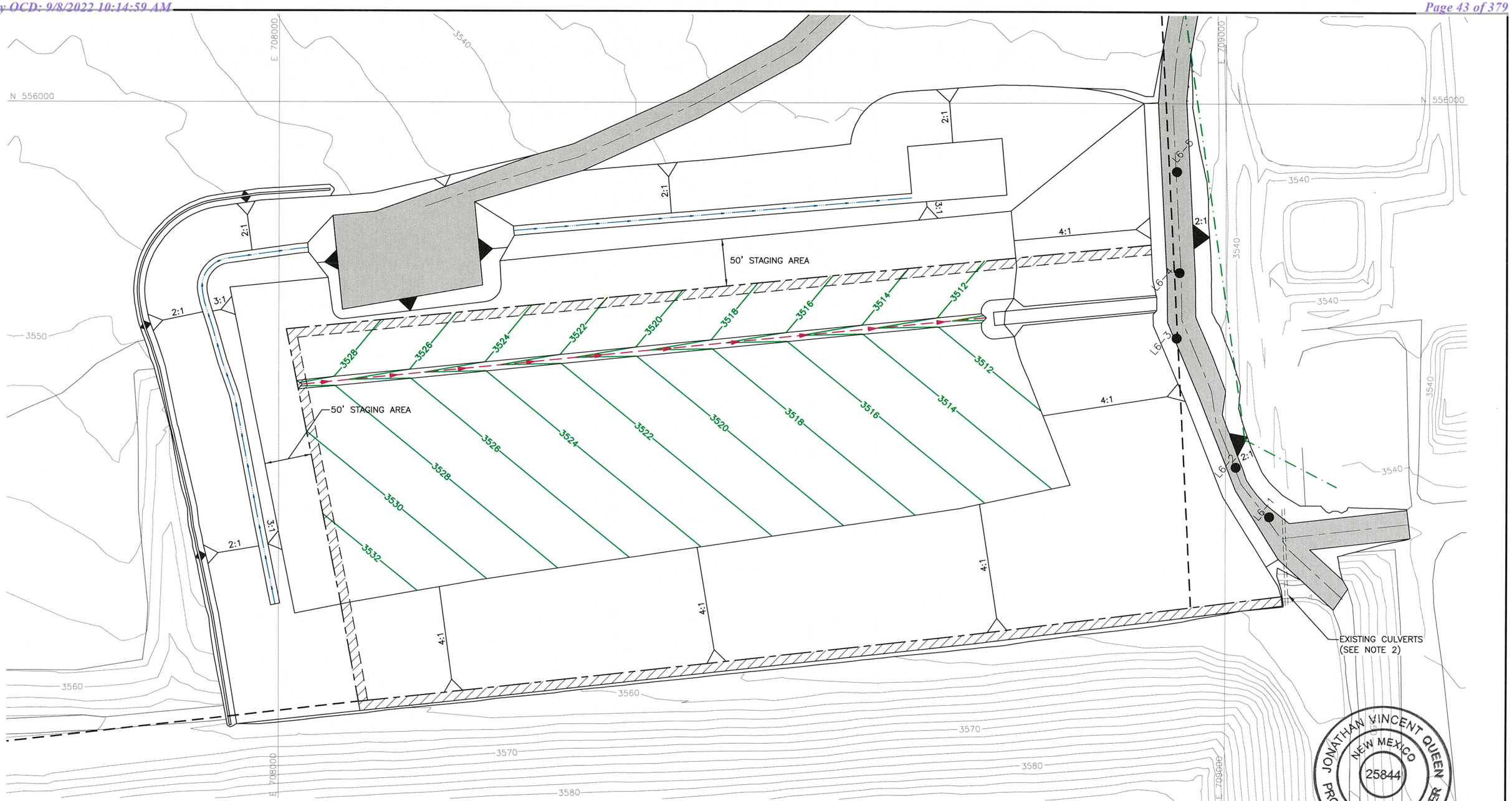
NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
6	1	5/25/2021	②	15.1	112.8	11.3	119.1	107.0	95%	PASS
6	2	5/25/2021	②	15.1	112.8	8.6	113.8	104.8	93%	PASS
6	3	5/25/2021	②	15.1	112.8	8.8	116.7	107.3	95%	PASS
6	4	5/25/2021	②	15.1	112.8	9.5	115.9	105.8	94%	PASS
6	5	5/25/2021	②	15.1	112.8	10.3	112.7	102.2	91%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L6-2 NDT LOCATION ID

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 6

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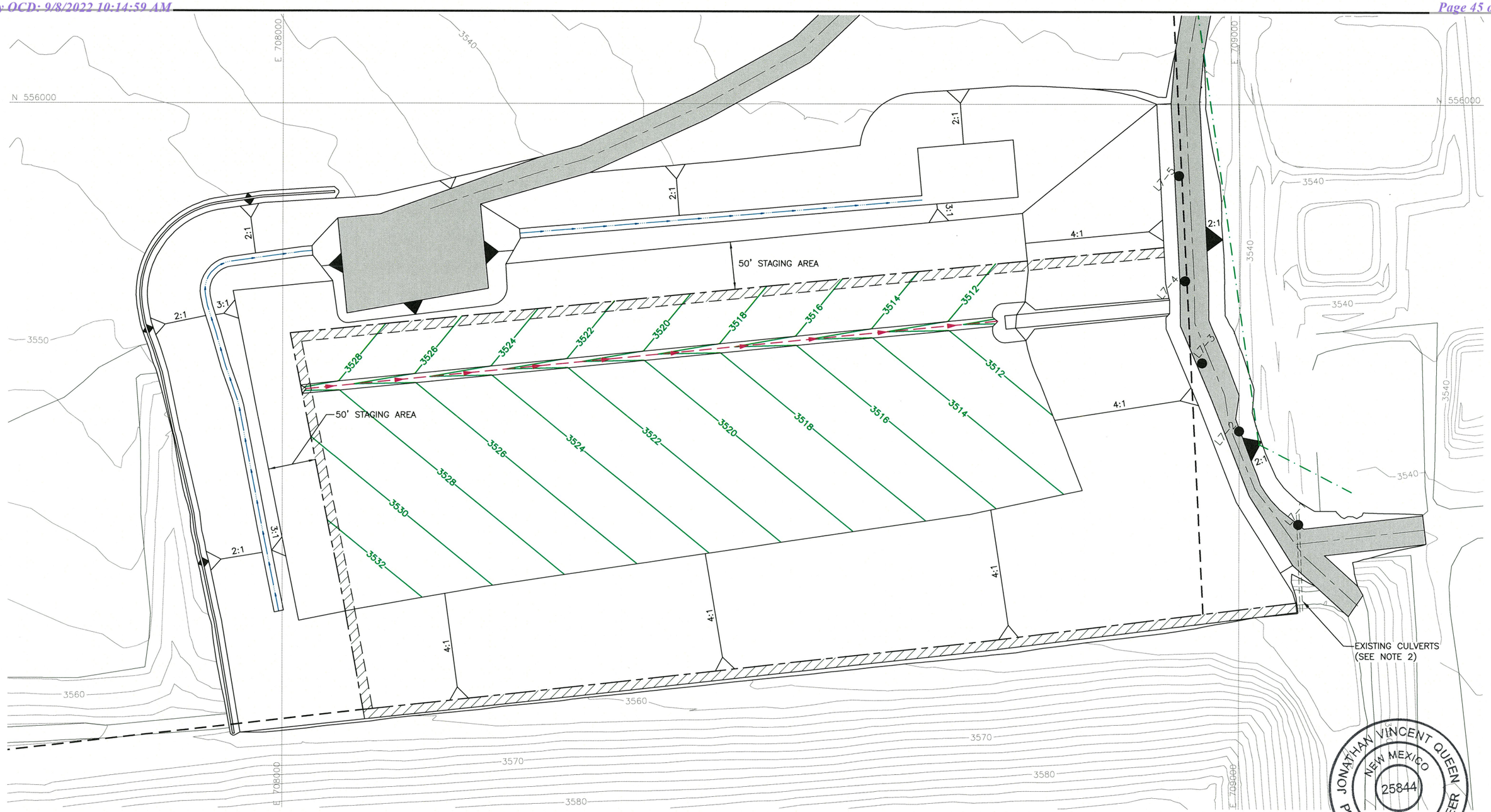
UNIT IIA CONSTRUCTION
6041-001-17-00
NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
7	1	5/26/2021	②	15.1	112.8	8.7	114.0	104.9	93%	PASS
7	2	5/26/2021	②	15.1	112.8	10.4	112.3	101.7	90%	PASS
7	3	5/26/2021	②	15.1	112.8	11.7	122.5	109.6	97%	PASS
7	4	5/26/2021	②	15.1	112.8	12.1	122.1	108.9	97%	PASS
7	5	5/26/2021	②	15.1	112.8	10.6	119.1	107.7	95%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L7-1 NDT LOCATION ID

N

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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UNIT IIA CONSTRUCTION

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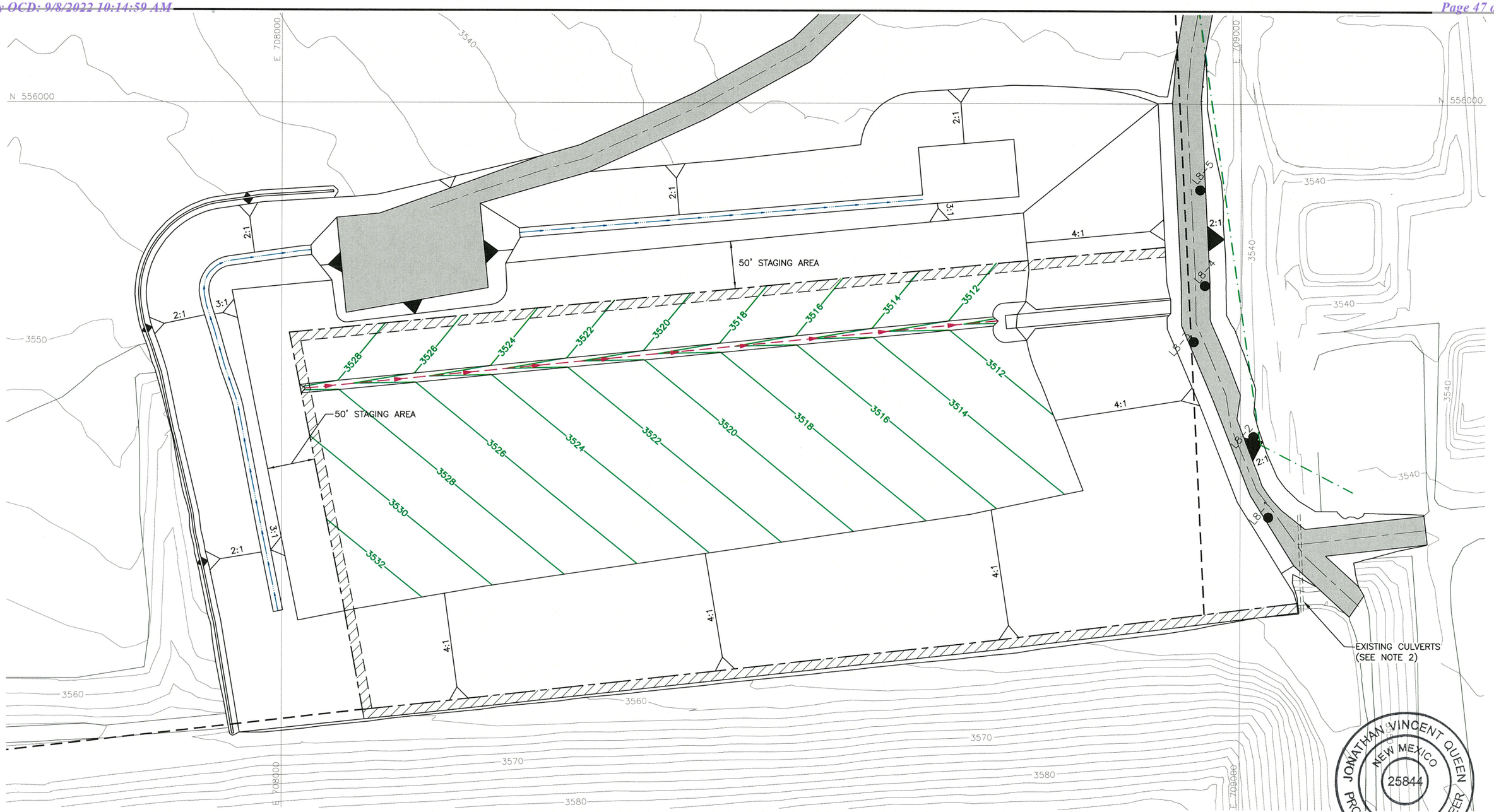
NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
8	1	5/26/2021	②	15.1	112.8	10.5	116.0	105.0	93%	PASS
8	2	5/26/2021	②	15.1	112.8	10.4	114.6	103.8	92%	PASS
8	3	5/26/2021	②	15.1	112.8	9.9	115.1	104.6	93%	PASS
8	4	5/26/2021	②	15.1	112.8	11.0	114.4	103.1	91%	PASS
8	5	5/26/2021	②	15.1	112.8	9.7	115.5	105.3	93%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- LB-2 NDT LOCATION ID

N

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

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LEA LAND, LLC

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ENGINEERING CERTIFICATION REPORT
EAST BERM CONSTRUCTION
NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 8

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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UNIT IIA CONSTRUCTION

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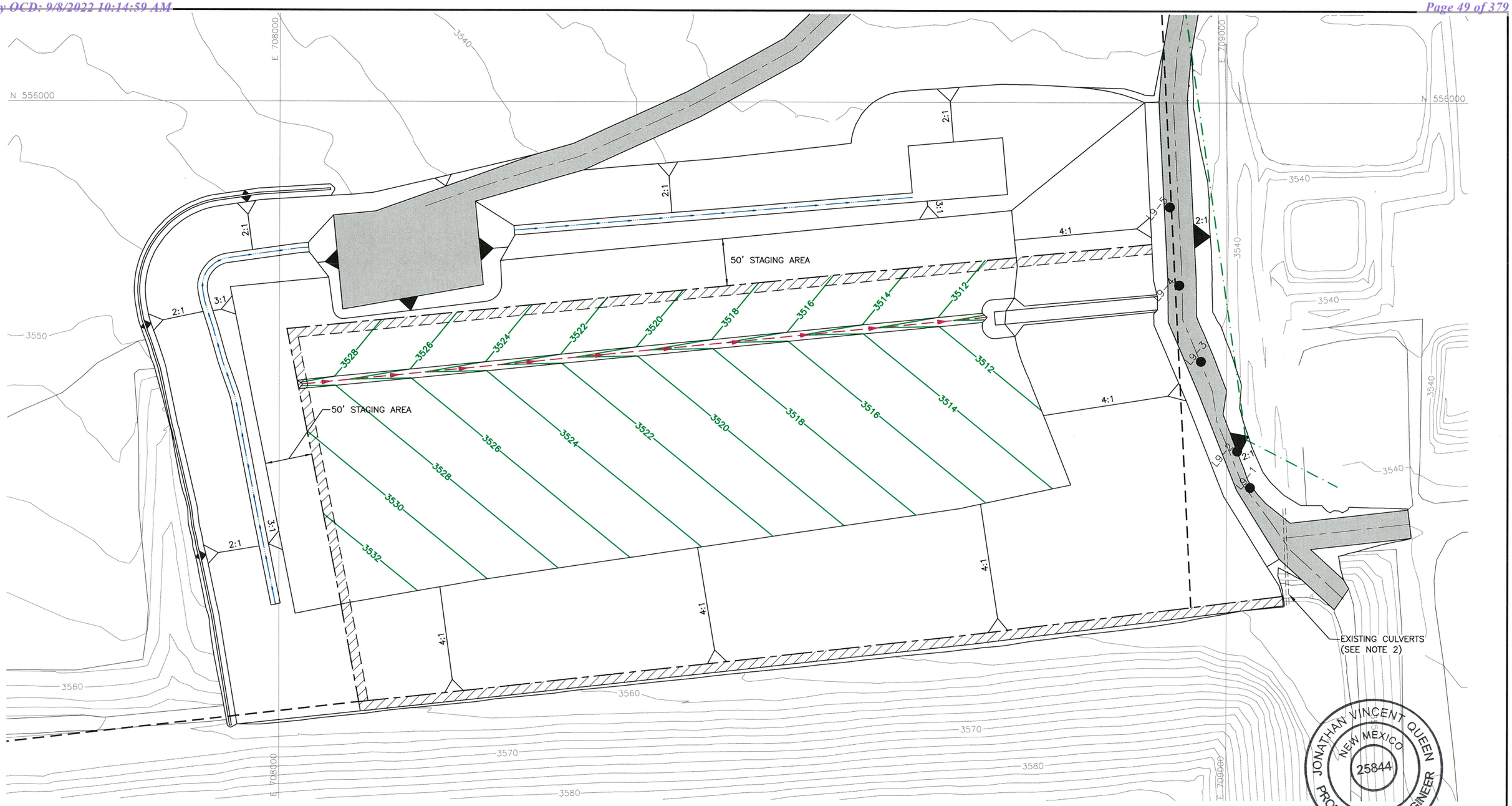
NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
9	1	5/27/2021	②	15.1	112.8	8.4	115.2	102.6	91%	PASS
9	2	5/27/2021	②	15.1	112.8	9.9	112.2	102.9	91%	PASS
9	3	5/27/2021	②	15.1	112.8	10.5	113.3	102.5	91%	PASS
9	4	5/27/2021	②	15.1	112.8	12.3	118.2	105.3	93%	PASS
9	5	5/27/2021	②	15.1	112.8	13.1	115.6	102.3	91%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE–IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L9-N NDT LOCATION ID

N

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

☐ DRAFT
☐ ISSUED FOR CONSTRUCTION
☒ FOR INFORMATIONAL PURPOSES ONLY

DATE: 12/2021
FILE: 6041–001–11
CAD: B19–LIFT 9 NDT LOCATIONS.DWG

DRAWN BY: SRF
DESIGN BY: PAK
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 9

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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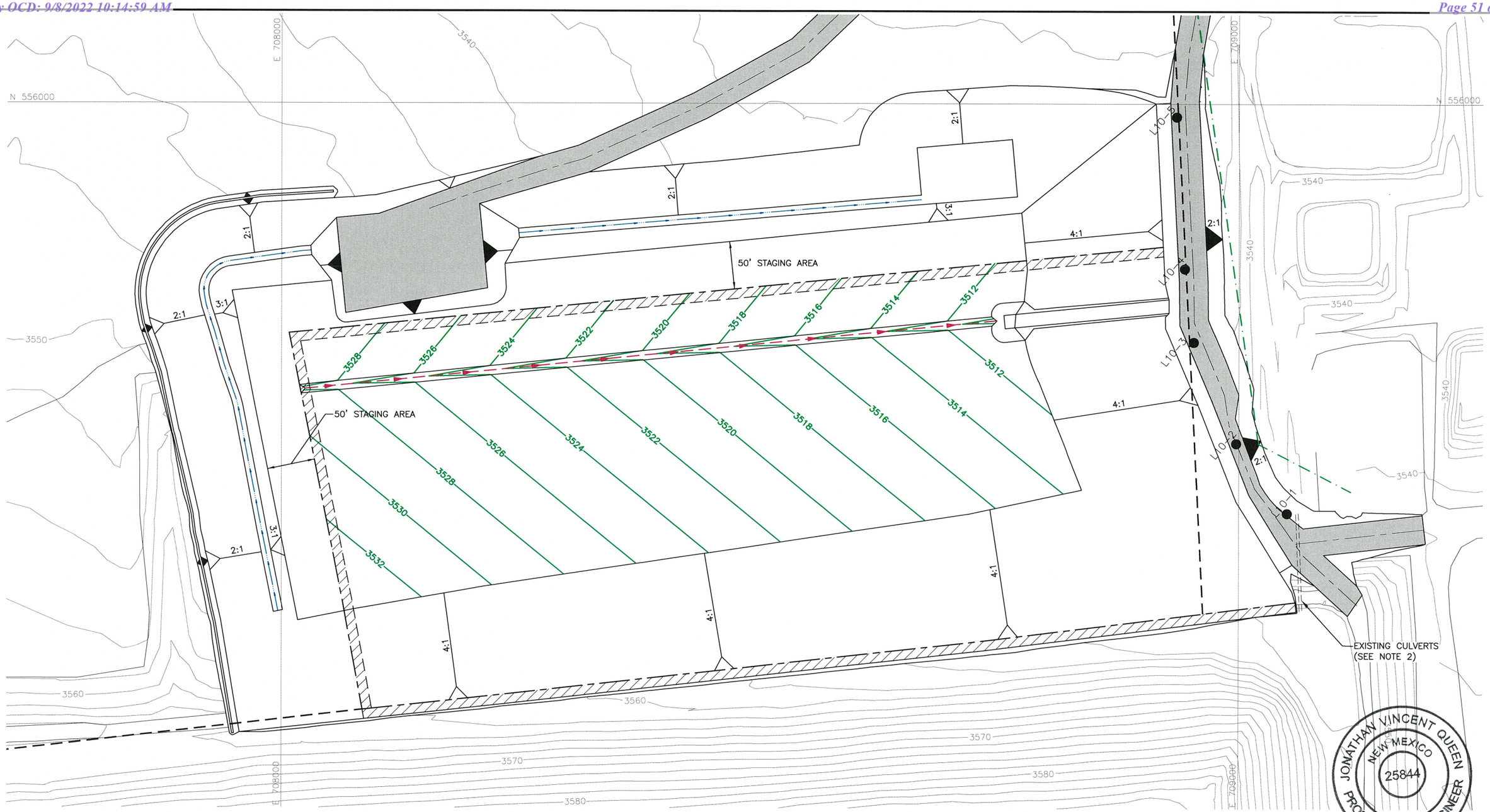
LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
10	1	5/27/2021	②	15.1	112.8	9.7	117.1	106.7	95%	PASS
10	2	5/27/2021	②	15.1	112.8	9.7	111.9	102.0	90%	PASS
10	3	5/27/2021	②	15.1	112.8	9.9	116.3	105.9	94%	PASS
10	4	5/27/2021	②	15.1	112.8	12.9	115.5	102.3	91%	PASS
10	5	5/27/2021	②	15.1	112.8	10.3	114.1	103.5	92%	PASS



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L10-2 NDT LOCATION ID

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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REVIEWED BY: JVQ

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ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 10

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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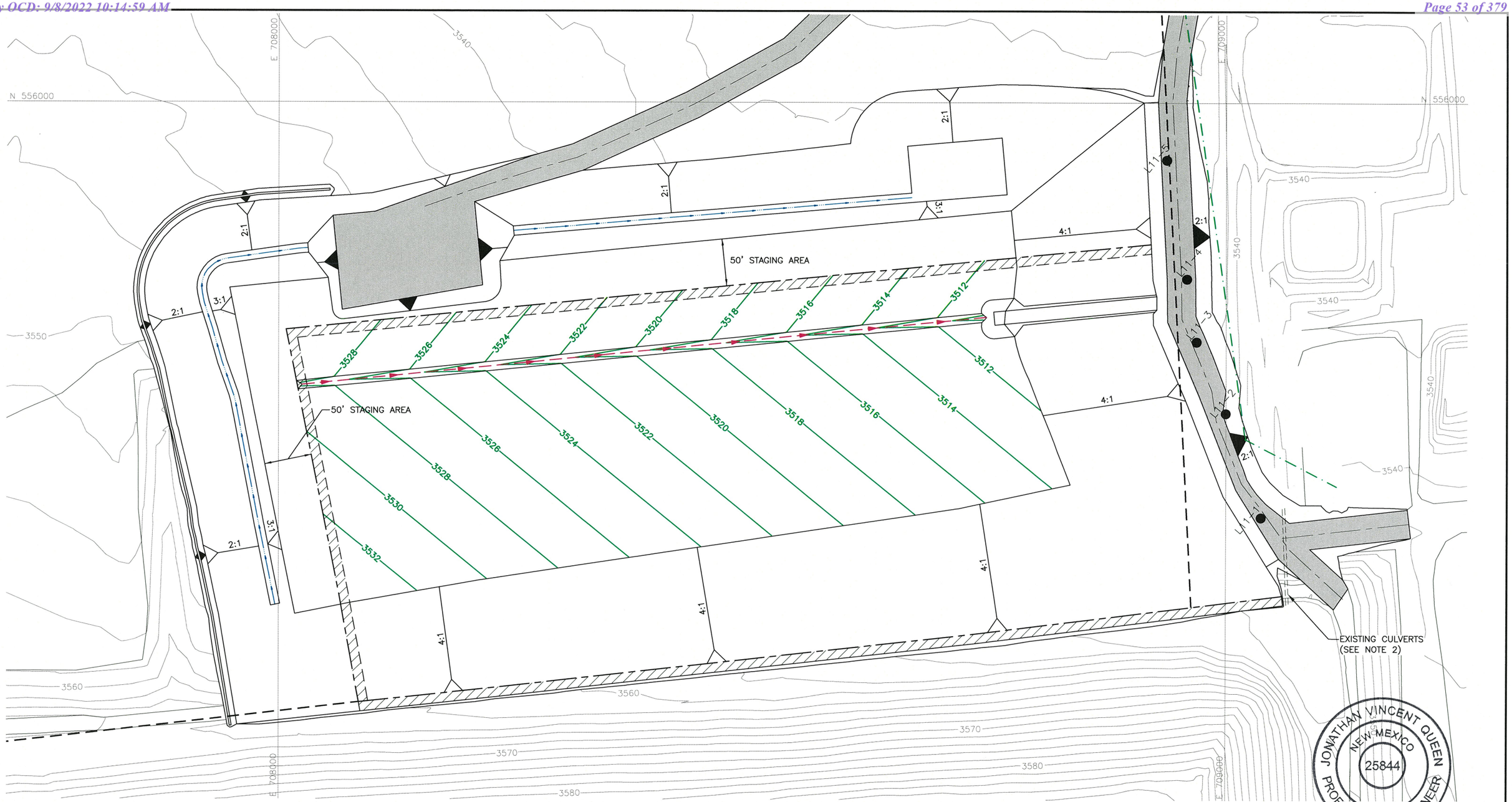
UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (EAST BERM)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
11	1	5/27/2021	②	15.1	112.8	9.1	116.8	107.0	95%	PASS
11	2	5/27/2021	②	15.1	112.8	8.5	114.4	105.5	94%	PASS
11	3	5/27/2021	②	15.1	112.8	8.2	110.4	102.1	91%	PASS
11	4	5/27/2021	②	15.1	112.8	10.0	113.3	103.0	91%	PASS
11	5	5/27/2021	②	15.1	112.8	10.9	115.6	104.3	92%	PASS (FINAL GRADE)



LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L11-2 NDT LOCATION ID

N

0 50 100
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY PARKHILL, SMITH & COOPER (PSC) COMPILED FROM AERIAL PHOTOGRAPHY FLOWN APRIL 2018.
2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

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DESIGN BY: PAK
REVIEWED BY: JVQ

Weaver Consultants Group

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LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEERING CERTIFICATION REPORT EAST BERM CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 11

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (UNIT IIA)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
1	1	5/18/2021	②	15.1	112.8	7.8	110.1	102.4	91%	PASS
1	2	5/18/2021	②	15.1	112.8	7.9	114.0	105.7	94%	PASS
1	3	5/18/2021	②	15.1	112.8	6.8	113.4	106.2	94%	PASS
1	4	5/18/2021	②	15.1	112.8	7.2	109.1	101.8	90%	PASS
1	5	5/18/2021	②	15.1	112.8	7.0	119.9	112.0	99%	PASS
1	6	5/18/2021	②	15.1	112.8	6.9	109.0	102.0	90%	PASS
1	7	5/19/2021	②	15.1	112.8	8.0	110.0	101.8	90%	PASS
1	8	5/19/2021	②	15.1	112.8	6.7	109.1	102.2	91%	PASS
1	9	5/19/2021	②	15.1	112.8	6.4	110.9	104.4	93%	PASS
1	10	5/19/2021	②	15.1	112.8	6.4	110.2	103.8	92%	PASS
1	11	5/19/2021	②	15.1	112.8	7.9	117.8	109.2	97%	PASS
1	12	5/19/2021	②	15.1	112.8	6.7	108.4	101.7	90%	PASS
1	13	5/19/2021	②	15.1	112.8	7.5	110.3	102.7	91%	PASS
1	14	5/19/2021	②	15.1	112.8	9.9	120.5	109.6	97%	PASS
1	15	5/24/2021	②	15.1	112.8	6.9	112.7	105.4	93%	PASS
1	16	5/24/2021	②	15.1	112.8	6.4	109.5	102.9	91%	PASS
1	17	5/24/2021	②	15.1	112.8	6.8	117.3	109.8	97%	PASS
1	18	5/24/2021	②	15.1	112.8	6.6	117.3	110.0	98%	PASS
1	19	5/26/2021	②	15.1	112.8	7.0	115.0	107.5	95%	PASS
1	20	5/26/2021	②	15.1	112.8	4.7	108.5	103.6	92%	PASS
1	21	5/26/2021	②	15.1	112.8	7.0	110.2	103.0	91%	PASS
1	22	5/26/2021	②	15.1	112.8	7.2	113.3	104.1	92%	PASS
1	23	5/26/2021	②	15.1	112.8	6.9	110.0	110.4	98%	PASS
1	24	5/26/2021	②	15.1	112.8	7.1	115.4	107.7	95%	PASS

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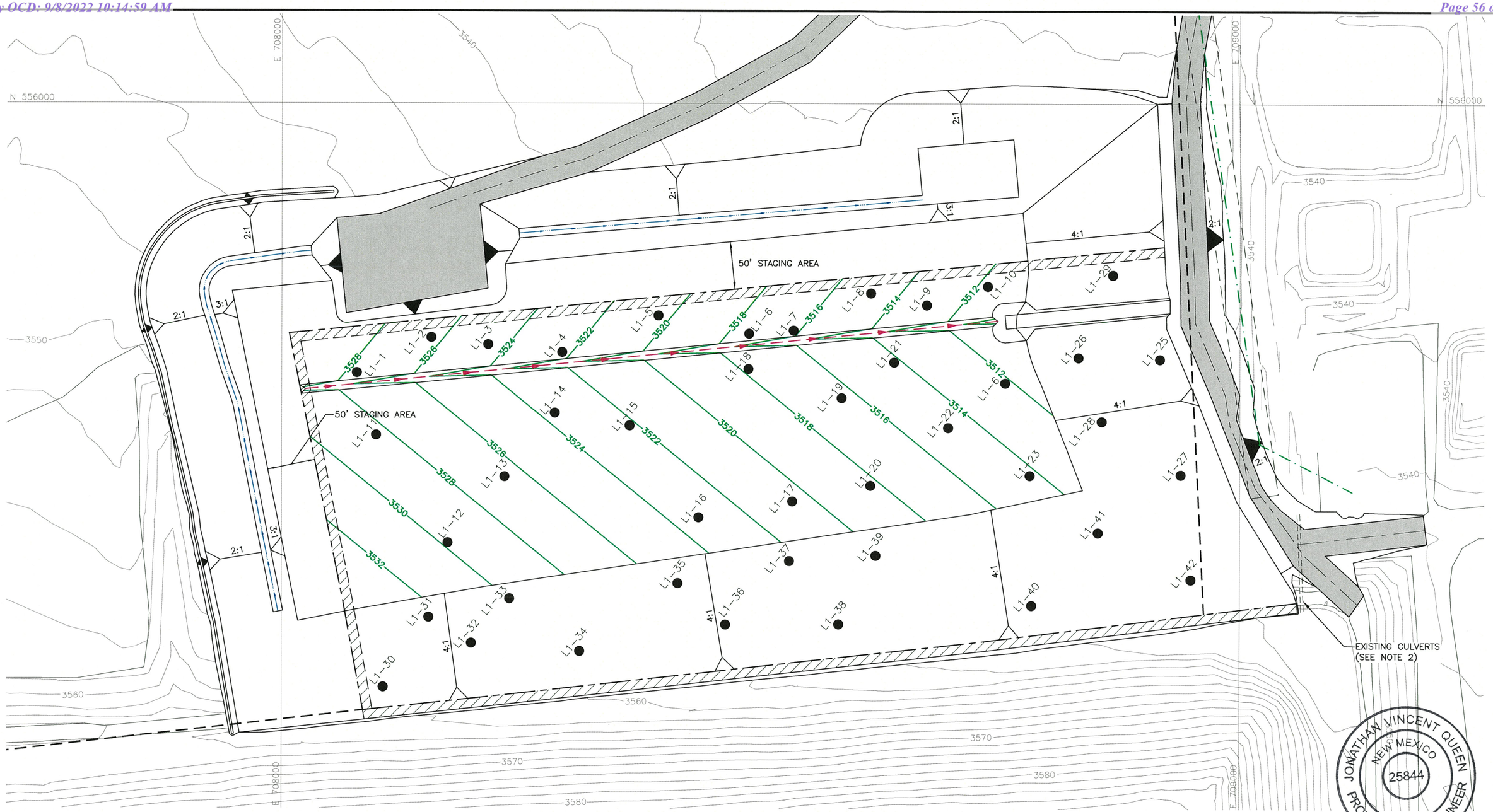
UNIT IIA CONSTRUCTION

6041-001-17-00

NUCLEAR DENSITY TESTING RESULTS (UNIT IIA)

Lift	Test No.	Date	Proctor	Opt. Moisture Content (%)	Lab Max Dry Density (PCF)	In Place Moisture Content (%)	In-Place Wet Density (PCF)	In-Place Dry Density (PCF)	Percent Compaction (%)	Comments
1	25	5/27/2021	②	15.1	112.8	7.3	113.5	105.8	94%	PASS
1	26	5/27/2021	②	15.1	112.8	7.0	111.1	102.0	90%	PASS
1	27	5/27/2021	②	15.1	112.8	6.6	108.9	102.2	91%	PASS
1	28	5/27/2021	②	15.1	112.8	5.9	108.3	102.3	91%	PASS
1	29	5/27/2021	②	15.1	112.8	7.3	110.1	101.9	90%	PASS
1	30	6/2/2021	②	15.1	112.8	7.7	113.9	105.8	94%	PASS
1	31	6/2/2021	②	15.1	112.8	7.3	111.1	103.5	92%	PASS
1	32	6/2/2021	②	15.1	112.8	8.3	115.6	106.8	95%	PASS
1	33	6/2/2021	②	15.1	112.8	9.3	112.7	103.1	91%	PASS
1	34	6/2/2021	②	15.1	112.8	7.5	114.1	106.2	94%	PASS
1	35	6/2/2021	②	15.1	112.8	10.1	112.9	102.6	91%	PASS
1	36	6/2/2021	②	15.1	112.8	7.6	114.0	105.9	94%	PASS
1	37	6/4/2021	②	15.1	112.8	8.2	113.9	104.6	93%	PASS
1	38	6/4/2021	②	15.1	112.8	7.5	111.6	103.8	92%	PASS
1	39	6/4/2021	②	15.1	112.8	8.7	112.4	103.4	92%	PASS
1	40	6/4/2021	②	15.1	112.8	8.1	114.0	105.3	93%	PASS
1	41	6/4/2021	②	15.1	112.8	9.7	115.1	105.0	93%	PASS
1	42	6/4/2021	②	15.1	112.8	8.4	113.7	104.9	93%	PASS



0 50 100
SCALE IN FEET

LEGEND

- LIMITS OF WASTE
- EXISTING POWERLINE
- APPROXIMATE RELOCATED POWERLINE
- 3560 EXISTING CONTOUR
- N 556000 STATE PLANE COORDINATE
- 3514 EXCAVATION CONTOUR
- CHANNEL CENTERLINE
- LEACHATE CENTERLINE
- TIE-IN ZONE
- ACCESS/PERIMETER ROAD SURFACING
- L1-2 NDT LOCATION ID

NOTE:

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2. EXISTING CULVERT AND STORMWATER CHANNEL REMAINED IN PLACE AND FUNCTIONAL DURING CONSTRUCTION.

JONATHAN VINCENT QUEEN
NEW MEXICO
25844
PROFESSIONAL ENGINEER
12/13/21

- [ ] DRAFT
- [ ] ISSUED FOR CONSTRUCTION
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FILE: 6041-001-11
CAD: B26-UNIT IIA NDT LOCATIONS.DWG

DRAWN BY: SRF
DESIGN BY: PAK
REVIEWED BY: JVQ

Weaver Consultants Group

PREPARED FOR
LEA LAND, LLC

REVISIONS		
NO.	DATE	DESCRIPTION

ENGINEERING CERTIFICATION REPORT UNIT IIA CONSTRUCTION NUCLEAR DENSITY TESTING (NDT) LOCATIONS – LIFT 1

LEA LAND LANDFILL
LEA COUNTY, NEW MEXICO

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BORROW SAMPLE INFORMATION

MOISTURE/DENSITY RELATIONSHIP

ASTM D 698 A

Lea Land Unit IIA
Texas

PROJECT NO. 6041-001-17-00

Rammer Type: Manual
Sampled By: Chris Scherer
Sample Location: SF2, North Excavation Area

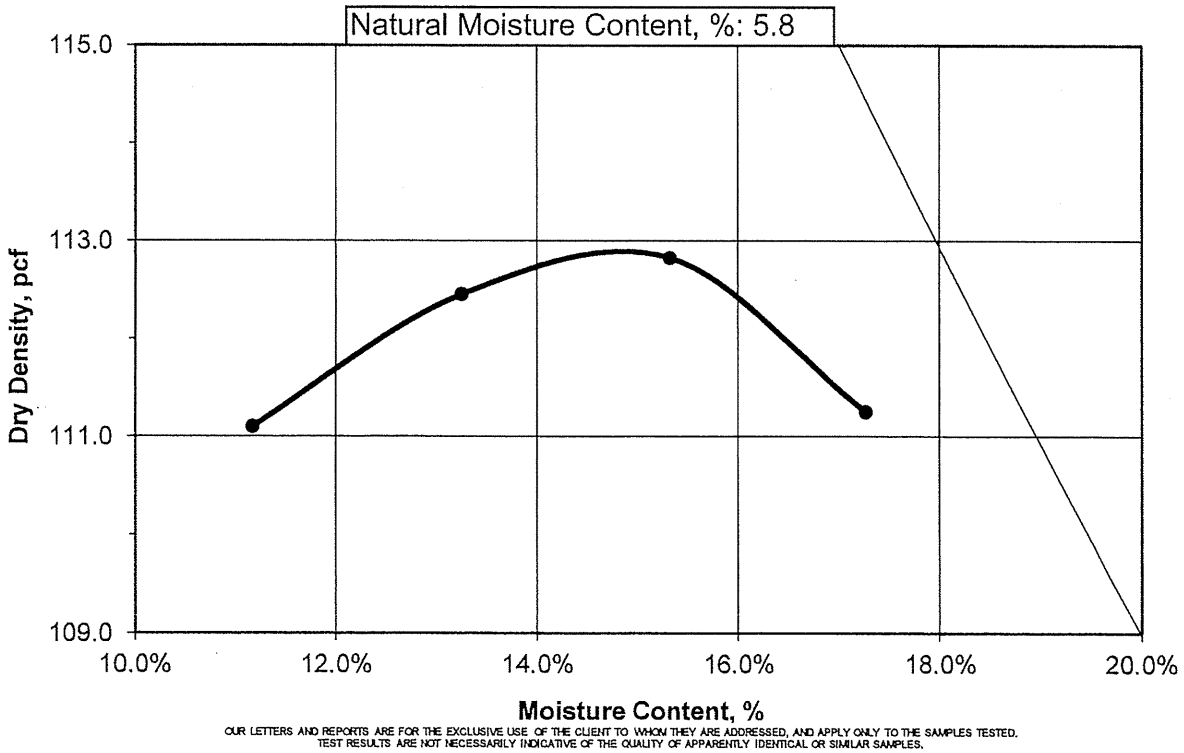
Sample Prep: Dry
Sample Date: 03/24/21

Description: Pink Caliche
Liquid Limit: 32
Plastic Limit: 19
Plastic Index: 13

(-) # 200 Mesh Sieve: 22%
Classification (USCS): SC

PROCTOR NO. SF-2

Maximum Dry Density, pcf: 112.8
Optimum Moisture Content, %: 15.1



OUR LETTERS AND REPORTS ARE FOR THE EXCLUSIVE USE OF THE CLIENT TO WHOM THEY ARE ADDRESSED, AND APPLY ONLY TO THE SAMPLES TESTED. TEST RESULTS ARE NOT NECESSARILY INDICATIVE OF THE QUALITY OF APPARENTLY IDENTICAL OR SIMILAR SAMPLES.

MOISTURE/DENSITY RELATIONSHIP
ASTM D 698 A

Lea Land Unit IIA
Texas

PROJECT NO. 6041-001-17-00

Rammer Type: Manual
Sampled By: Chris Scherer
Sample Location: SF3, North Excavation Area

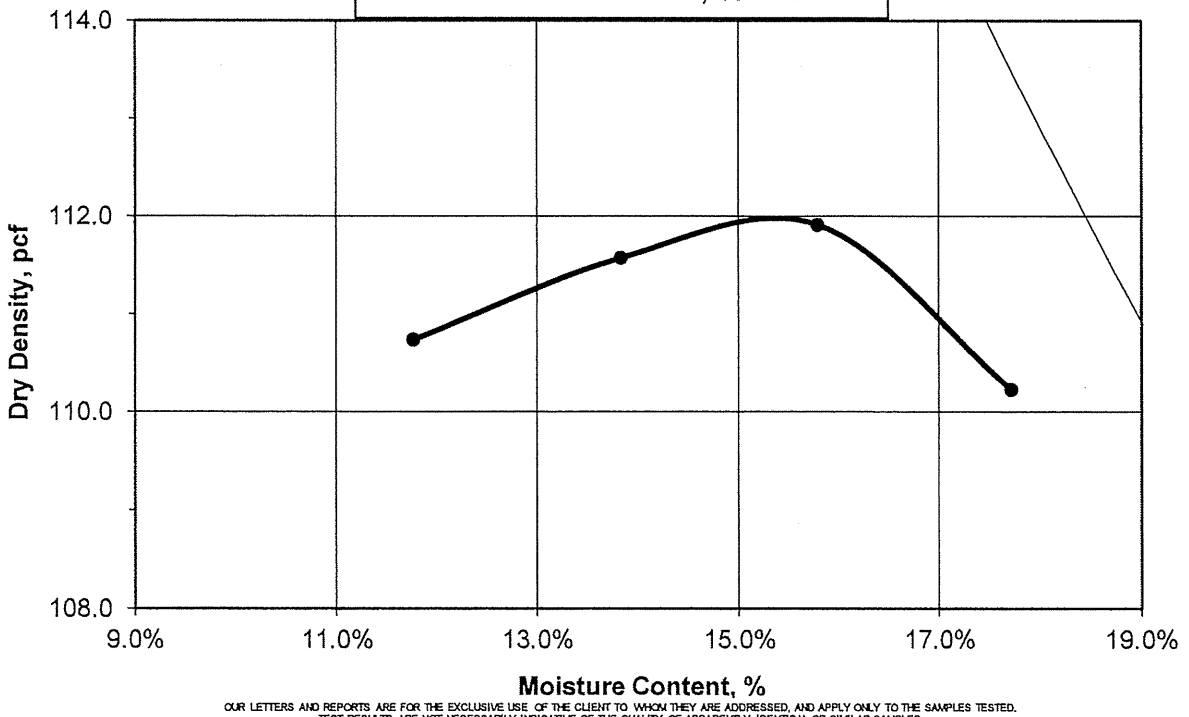
Sample Prep: Dry
Sample Date: 03/24/21

Description: Pink Caliche
Liquid Limit: 32
Plastic Limit: 18
Plastic Index: 14

(-) # 200 Mesh Sieve: 23%
Classification (USCS): SC

PROCTOR NO. SF-3

Maximum Dry Density, pcf: 111.9
Optimum Moisture Content, %: 15.5
Natural Moisture Content, %: 4.8



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MOISTURE/DENSITY RELATIONSHIP

ASTM D 698 A

Lea Land Unit IIA
Texas

PROJECT NO. 6041-001-17-00

Rammer Type: Manual
Sampled By: Chris Scherer
Sample Location: SF4, North Excavation Area

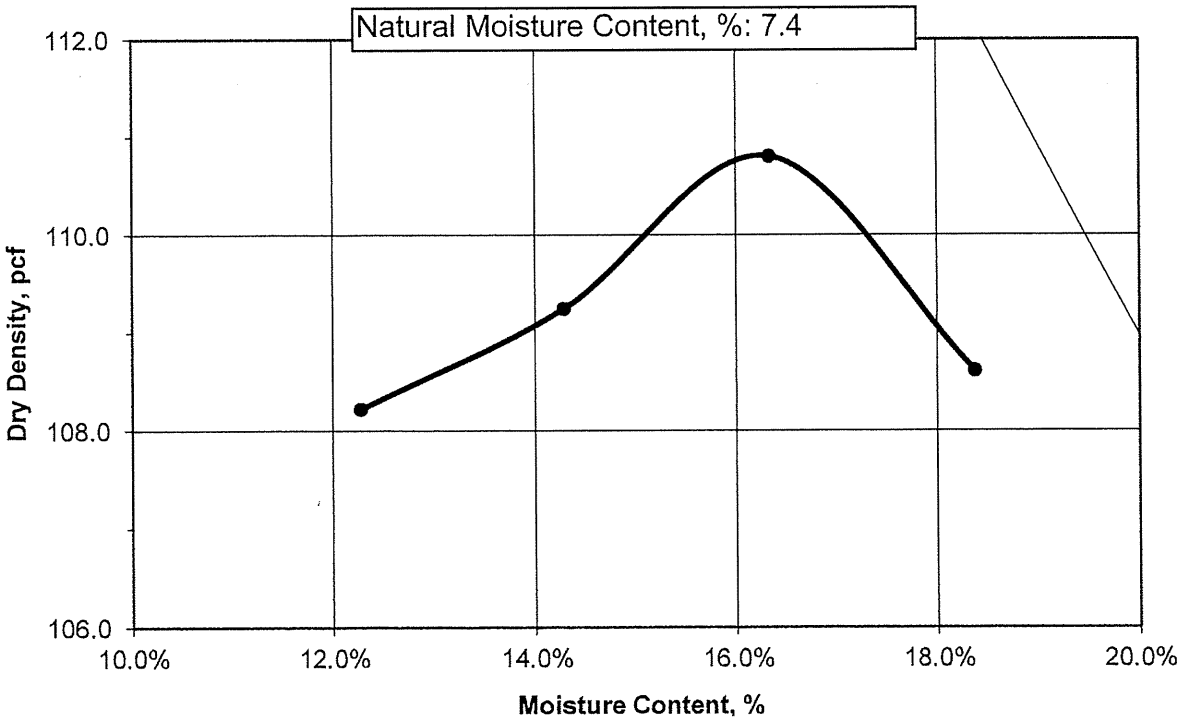
Sample Prep: Dry
Sample Date: 03/24/21

Description: Pink Caliche
Liquid Limit: 34
Plastic Limit: 18
Plastic Index: 16

(-) # 200 Mesh Sieve: 21%
Classification (USCS): SC

PROCTOR NO. SF-4

Maximum Dry Density, pcf: 110.8
Optimum Moisture Content, %: 16.3



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MOISTURE/DENSITY RELATIONSHIP

ASTM D 698 A

Lea Land Unit IIA
Texas

PROJECT NO. 6041-001-17-00

Rammer Type: Manual
Sampled By: Chris Scherer
Sample Location: SF5, North Excavation Area

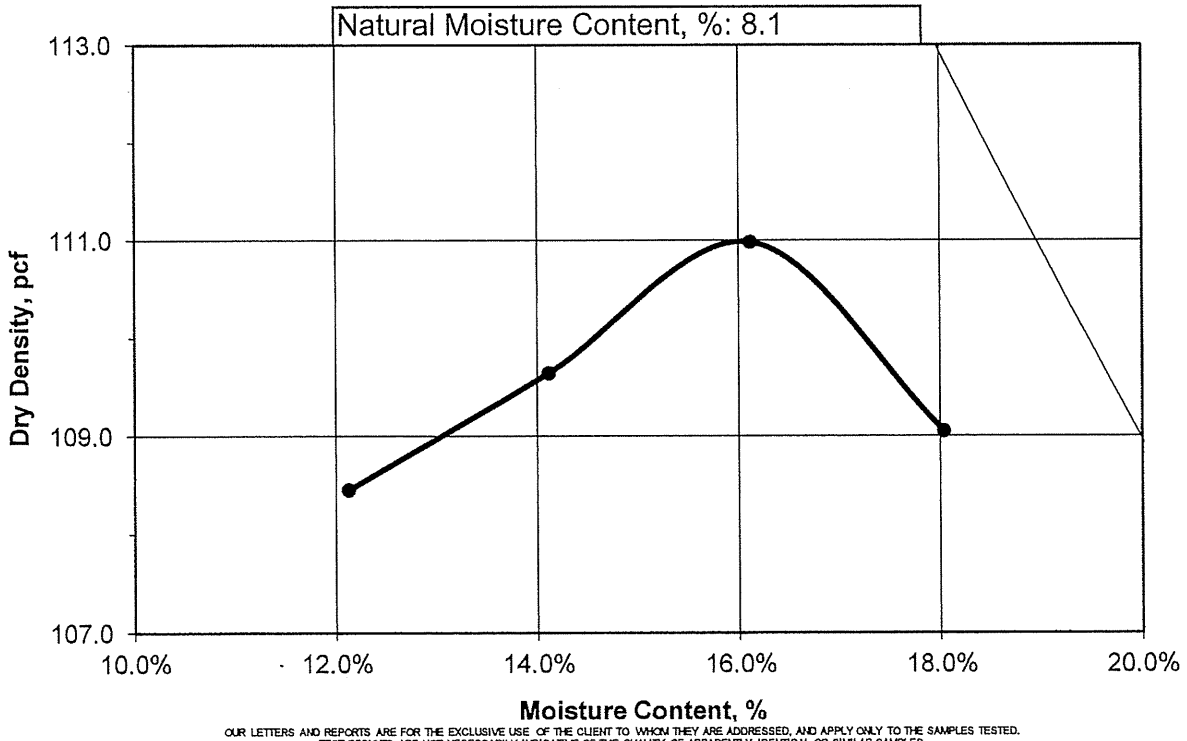
Sample Prep: Dry
Sample Date: 03/24/21

Description: Pink Caliche
Liquid Limit: 34
Plastic Limit: 18
Plastic Index: 16

(-) # 200 Mesh Sieve: 21%
Classification (USCS): SC

PROCTOR NO. SF-5

Maximum Dry Density, pcf: 111.0
Optimum Moisture Content, %: 16.0
Natural Moisture Content, %: 8.1



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TEST RESULTS ARE NOT NECESSARILY INDICATIVE OF THE QUALITY OF APPARENTLY IDENTICAL OR SIMILAR SAMPLES.

MOISTURE/DENSITY RELATIONSHIP
ASTM D 698 A

Lea Land Unit 11A
New Mexico

PROJECT NO. 6041-001-17-00

Rammer Type: Manual
Sampled By: Chris Scherer
Sample Location: ~~Protective Soil Layer #3~~, Pink caliche stock pile north

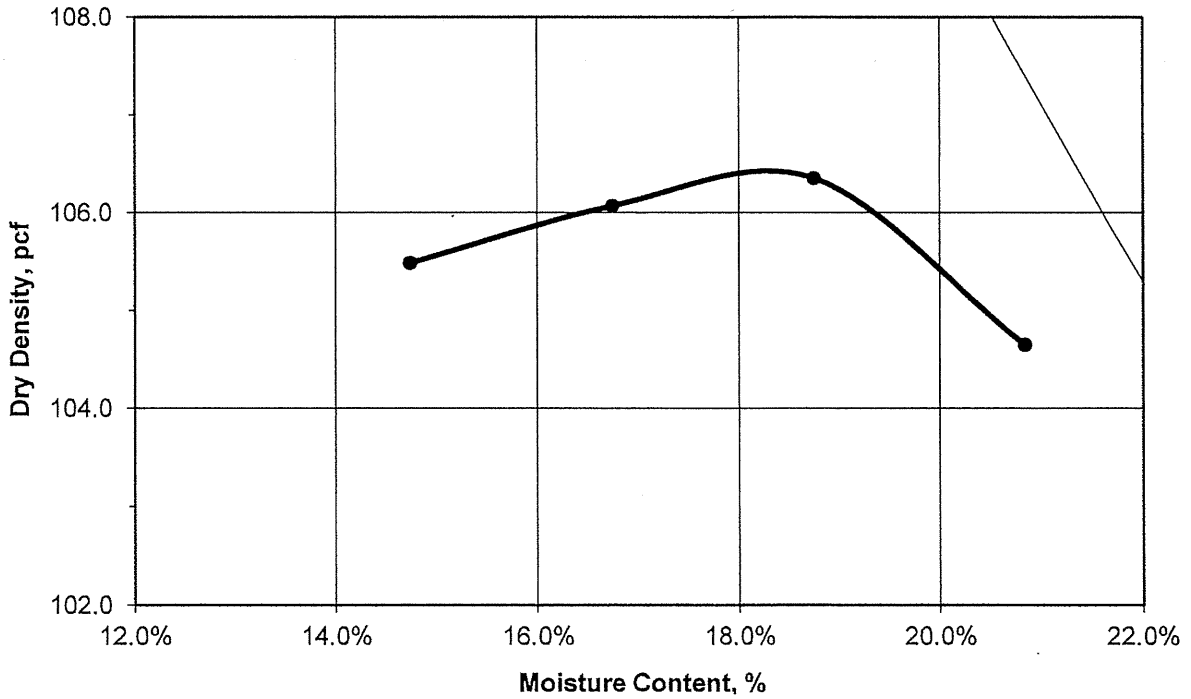
SF1

Description: Caliche, pink
Liquid Limit: 45
Plastic Limit: 21
Plastic Index: 24

Sample Prep: Dry
Sample Date: 2/16/2021
(-) # 200 Mesh Sieve:
Classification (USCS): CL

PROCTOR NO. ~~PSL-3~~ SF1

Maximum Dry Density, pcf: 106.4
Optimum Moisture Content, %: 18.4



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APPENDIX C

SUBGRADE ACCEPTANCE FORMS

Includes pages C-1 through C-13

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 6/13

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative:
Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Ieland LF

SUBGRADE ACCEPTANCE FORM DATE: 6/18

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: X _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Ireland LF

SUBGRADE ACCEPTANCE FORM DATE: 6/19

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade *at no cost to SLS, Inc. This includes* but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: X _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Ireland LF

SUBGRADE ACCEPTANCE FORM DATE: 6/21

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 6/17

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____

Engineer/Owner
Represenative: _____

Contractors
Represenative: X _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 6/22

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at *no cost* to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 6/25

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 6/16

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____

Engineer/Owner
Represenative: _____

Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Leeland LF

SUBGRADE ACCEPTANCE FORM DATE: 6/24

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____

Engineer/Owner
Represenative: _____

Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Ideland LF

SUBGRADE ACCEPTANCE FORM DATE: 7-10

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: X _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: 7/14

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF

SUBGRADE ACCEPTANCE FORM DATE: ~~7/12~~ 7/13

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade *at no cost to SLS, Inc. This includes* but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative:

Contractors
Represenative: _____

SOUTHWEST LINER SYSTEMS, INC.

SLS

Project Name: Lealand LF upper

SUBGRADE ACCEPTANCE FORM DATE: 8/[illegible]/22

This subgrade acceptance form is conditional on the following:

1) The subgrade must be rolled with a smooth drum roller.
2) The surface to be lined shall provide a firm unyielding foundation for the membrane
3) SLS, Inc. will only accept the subgrade area to be covered daily.
4) This acceptance is for the surface appearance of the subgrade only. SLS, Inc. does not and will not certify subgrade compactions or elevations and grades.
5) The subgrade will need to be maintained by the contractor/owner and if SLS, Inc. requires additional work to be done to the subgrade the contractor/owner will maintain subgrade at no cost to SLS, Inc. This includes but is not limited to watering and rolling the subgrade.
6) All required specifications will be adhered to by the contractor preparing the subgrade.
7) All rocks larger than 3/8", roots and foreign materials must be removed from the top 6" of the subgrade.
8) Any liner damaged by material placement on top of the liner will be the sole responsibilities of the contractor doing material placement.
9) If SLS, Inc deems the subgrade unacceptable and the owner wants SLS, Inc. to proceed, The owner will be responsible for damages done to the liner due to unacceptable subgrade.
10) Refusal by the owner or contractors representative to sign this subgrade acceptance form constitutes agreement that the subgrade for the said project is unacceptable.

SLS,Inc.: _____
Engineer/Owner
Represenative: _____
Contractors
Represenative: X _____

APPENDIX D

GCL INFORMATION

Includes pages D-1 through D-22

Released to Imaging: 9/8/2022 10:18:07 AM
Received by OCD: 9/8/2022 10:14:59 AM

LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL INVENTORY

Roll No.	Lot No.	Date Delivered	Roll Dimensions		QC Date	Conformance Sample		Comments
			Length, ft	Width, ft		Date	Pass/Fail	
1	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
2	LL-01-2021	3/30/2021	150	15	1/7/2021	1/26/2021	Pass	-
3	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
5	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
6	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
7	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
8	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
9	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
10	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
11	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
12	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
13	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
14	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
15	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
18	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
19	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
20	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
21	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
22	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
23	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
25	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
26	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
27	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
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31	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
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33	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
34	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
35	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
37	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
38	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
39	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
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44	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
45	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
46	LL-01-2021	3/30/2021	150	15	1/7/2021	1/26/2021	Pass	-
47	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
48	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
49	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
51	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
52	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL INVENTORY

Roll No.	Lot No.	Date Delivered	Roll Dimensions		QC Date	Conformance Sample		Comments
			Length, ft	Width, ft		Date	Pass/Fail	
53	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
54	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
55	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
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58	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
59	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
60	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
61	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
62	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
63	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
64	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
65	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
66	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
67	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
68	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
69	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
70	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
71	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
72	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
73	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
74	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
75	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
76	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
77	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
78	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
79	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
80	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
82	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
83	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
84	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
85	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
86	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
87	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
88	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
89	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
90	LL-01-2021	3/30/2021	150	15	1/7/2021	1/19/2021	Pass	-
91	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
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93	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
94	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
95	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
96	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
97	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-

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Roll No.	Lot No.	Date Delivered	Roll Dimensions		QC Date	Conformance Sample		Comments
			Length, ft	Width, ft		Date	Pass/Fail	
98	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
99	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
100	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
101	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
102	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
103	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
104	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
105	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
106	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
107	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
108	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
109	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
110	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
111	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
112	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
112	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
113	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
114	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
115	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
116	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
117	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
118	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
119	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
120	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
121	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
122	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
123	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
124	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
125	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
126	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
127	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
128	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
129	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
130	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
131	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
132	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
133	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
134	LL-01-2021	3/29/2021	150	15	1/7/2021	1/19/2021	Pass	-
135	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
136	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
137	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
138	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
139	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL INVENTORY

Roll No.	Lot No.	Date Delivered	Roll Dimensions		QC Date	Conformance Sample		Comments
			Length, ft	Width, ft		Date	Pass/Fail	
141	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
142	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
143	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
144	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
145	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
146	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
147	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
148	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
149	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
150	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
151	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
152	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
153	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
154	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
155	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
156	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
157	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
158	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
159	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
160	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
161	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
162	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
163	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
164	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
165	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
166	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
167	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
168	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
169	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
170	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
171	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
172	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
173	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
174	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
175	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
176	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
177	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
178	LL-01-2021	3/27/2021	150	15	1/7/2021	2/8/2021	Pass	-
179	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
180	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
181	LL-01-2021	4/1/2021	150	15	1/7/2021	-	-	-
182	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
183	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-

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Roll No.	Lot No.	Date Delivered	Roll Dimensions		QC Date	Conformance Sample		Comments
			Length, ft	Width, ft		Date	Pass/Fail	
184	LL-01-2021	3/30/2021	150	15	1/7/2021	-	-	-
185	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
186	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
187	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
188	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
189	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
190	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
191	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
192	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
193	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
194	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
195	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
196	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
197	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
198	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
199	LL-01-2021	3/31/2021	150	15	1/7/2021	-	-	-
200	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
201	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
202	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
203	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
204	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
205	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
206	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
207	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
208	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
209	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
210	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
211	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
212	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
213	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
214	LL-01-2021	3/29/2021	150	15	1/7/2021	-	-	-
215	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-
216	LL-01-2021	3/27/2021	150	15	1/7/2021	-	-	-

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CETCO
Colloid Environmental Technologies Company LLC

GCL PACKING LIST AND MQA TRACKING FORM

Listing of finished and raw materials used to produce certification package number 55052982

GCL								GEOTEXTILE			CLAY
BENTOMAT® ST								01-9514	01-9865		CG 50-BLK
Order	GCL Lot#	GCL Roll#	Length	Width	Weight	Sq. ft	Roll # Tested	Cap1 Roll #	Base1 Roll #		Clay Lot #
55052982	LL-01-2021	1	150	15	2775	2250	1	2026504174	3020050460		L-351-20-B
55052982	LL-01-2021	2	150	15	3480	2250	1	2026504174	3020050460		L-351-20-B
55052982	LL-01-2021	3	150	15	3215	2250	1	2026504174	3020050460		L-351-20-B
55052982	LL-01-2021	4	150	15	3240	2250	1	2026504174	3020050460		L-351-20-B
55052982	LL-01-2021	5	150	15	3110	2250	1	2026504174	3020050460		L-351-20-B
55052982	LL-01-2021	6	150	15	3075	2250	1	700285700	3020050460		L-351-20-B
55052982	LL-01-2021	7	150	15	3055	2250	1	700285700	3020050460		L-351-20-B
55052982	LL-01-2021	8	150	15	2925	2250	1	700285700	3020050460		L-351-20-B
55052982	LL-01-2021	9	150	15	2890	2250	1	700285700	3020050460		L-351-20-B
55052982	LL-01-2021	10	150	15	2830	2250	1	700285700	3020051364		L-351-20-B
55052982	LL-01-2021	11	150	15	2810	2250	1	700285700	3020051364		L-351-20-B
55052982	LL-01-2021	12	150	15	2815	2250	1	700285700	3020051364		L-351-20-C
55052982	LL-01-2021	13	150	15	2745	2250	1	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	14	150	15	2750	2250	1	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	15	150	15	2715	2250	1	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	16	150	15	2710	2250	1	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	17	150	15	2730	2250	1	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	18	150	15	2720	2250	18	700283602	3020051364		L-351-20-C
55052982	LL-01-2021	19	150	15	2750	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	20	150	15	2780	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	21	150	15	2795	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	22	150	15	2735	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	23	150	15	2700	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	24	150	15	2715	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	25	150	15	2710	2250	18	700283630	3020051364		L-351-20-C
55052982	LL-01-2021	26	150	15	2690	2250	18	700283639	3020051364		L-351-20-C
55052982	LL-01-2021	27	150	15	2685	2250	18	700283639	3020051364		L-351-20-C
55052982	LL-01-2021	28	150	15	2690	2250	18	700283639	3020051364		L-351-20-C
55052982	LL-01-2021	29	150	15	2675	2250	18	700283639	3020051364		L-351-20-C
55052982	LL-01-2021	30	150	15	2655	2250	18	700283639	3020051364		L-351-20-C

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55052982	LL-01-2021	31	150	15	2665	2250	18	700283639	3020060935		L-351-20-C
55052982	LL-01-2021	32	150	15	2645	2250	18	700283639	3020060935		L-351-20-C
55052982	LL-01-2021	33	150	15	2665	2250	18	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	34	150	15	2680	2250	18	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	35	150	15	2670	2250	35	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	36	150	15	2650	2250	35	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	37	150	15	2665	2250	35	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	38	150	15	2660	2250	35	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	39	150	15	2645	2250	35	700283648	3020060935		L-351-20-C
55052982	LL-01-2021	40	150	15	2670	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	41	150	15	2665	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	42	150	15	2770	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	43	150	15	2770	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	44	150	15	2735	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	45	150	15	2690	2250	35	700283699	3020060935		L-351-20-C
55052982	LL-01-2021	46	150	15	2725	2250	35	700283671	3020060935		L-351-20-C
55052982	LL-01-2021	47	150	15	2740	2250	35	700283671	3020060935		L-351-20-C
55052982	LL-01-2021	48	150	15	2685	2250	35	700283671	3020060935		L-351-20-C
55052982	LL-01-2021	49	150	15	2660	2250	35	700283671	3020071045		L-351-20-C
55052982	LL-01-2021	50	150	15	2660	2250	35	700283671	3020071045		L-351-20-C
55052982	LL-01-2021	51	150	15	2650	2250	35	700283671	3020071045		L-351-20-C
55052982	LL-01-2021	52	150	15	2620	2250	52	700283671	3020071045		L-351-20-C
55052982	LL-01-2021	53	150	15	2630	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	54	150	15	2660	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	55	150	15	2655	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	56	150	15	2665	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	57	150	15	2665	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	58	150	15	2685	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	59	150	15	2690	2250	52	700283710	3020071045		L-351-20-C
55052982	LL-01-2021	60	150	15	2695	2250	52	700283675	3020071045		L-351-20-C
55052982	LL-01-2021	61	150	15	2685	2250	52	700283675	3020071045		L-351-20-C
55052982	LL-01-2021	62	150	15	2665	2250	52	700283675	3020071045		L-351-20-C
55052982	LL-01-2021	63	150	15	2660	2250	52	700283675	3020071045		L-351-20-D
55052982	LL-01-2021	64	150	15	2655	2250	52	700283675	3020071045		L-351-20-D
55052982	LL-01-2021	65	150	15	2645	2250	52	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	66	150	15	2625	2250	52	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	67	150	15	2625	2250	52	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	68	150	15	2615	2250	52	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	69	150	15	2620	2250	69	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	70	150	15	2650	2250	69	700283666	3020071045		L-351-20-D

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55052982	LL-01-2021	71	150	15	2605	2250	69	700283666	3020071045		L-351-20-D
55052982	LL-01-2021	72	150	15	2620	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	73	150	15	2635	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	74	150	15	2780	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	75	150	15	2880	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	76	150	15	2805	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	77	150	15	2790	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	78	150	15	2820	2250	69	700283721	3020071045		L-351-20-D
55052982	LL-01-2021	79	150	15	2790	2250	69	700285638	3020071045		L-351-20-D
55052982	LL-01-2021	80	150	15	2785	2250	69	700285638	3020071045		L-351-20-D
55052982	LL-01-2021	81	150	15	2775	2250	69	700285638	3020070638		L-351-20-D
55052982	LL-01-2021	82	150	15	2740	2250	69	700285638	3020070638		L-351-20-D
55052982	LL-01-2021	83	150	15	2700	2250	69	700285638	3020070638		L-351-20-D
55052982	LL-01-2021	84	150	15	2690	2250	69	700285638	3020070638		L-351-20-D
55052982	LL-01-2021	85	150	15	2690	2250	69	700285638	3020070638		L-351-20-D
55052982	LL-01-2021	86	150	15	2700	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	87	150	15	2660	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	88	150	15	2865	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	89	150	15	2875	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	90	150	15	2875	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	91	150	15	2905	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	92	150	15	2845	2250	86	700285674	3020070638		L-351-20-D
55052982	LL-01-2021	93	150	15	2810	2250	86	2026504183	3020070638		L-351-20-D
55052982	LL-01-2021	94	150	15	2880	2250	86	2026504183	3020070638		L-351-20-D
55052982	LL-01-2021	95	150	15	2910	2250	86	2026504183	3020070638		L-351-20-D
55052982	LL-01-2021	96	150	15	2895	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	97	150	15	2865	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	98	150	15	2935	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	99	150	15	2940	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	100	150	15	2985	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	101	150	15	2935	2250	86	700285672	3020070638		L-351-20-D
55052982	LL-01-2021	102	150	15	2920	2250	86	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	103	150	15	2865	2250	103	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	104	150	15	2885	2250	103	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	105	150	15	2865	2250	103	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	106	150	15	2840	2250	103	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	107	150	15	2875	2250	103	700285666	3020070638		L-351-20-D
55052982	LL-01-2021	108	150	15	2805	2250	103	700285712	3020070638		L-351-20-D
55052982	LL-01-2021	109	150	15	2785	2250	103	700285712	3020070638		L-351-20-D
55052982	LL-01-2021	110	150	15	2770	2250	103	700285712	3020070638		L-351-20-D

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55052982	LL-01-2021	111	150	15	2740	2250	103	700285712	3020051876		L-351-20-D
55052982	LL-01-2021	112	150	15	2715	2250	103	700285712	3020051876		L-351-20-D
55052982	LL-01-2021	113	150	15	2725	2250	103	700285712	3020051876		L-351-20-D
55052982	LL-01-2021	114	150	15	2730	2250	103	700285712	3020051876		L-351-20-E
55052982	LL-01-2021	115	150	15	2710	2250	103	700285712	3020051876		L-351-20-E
55052982	LL-01-2021	116	150	15	2695	2250	103	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	117	150	15	2680	2250	103	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	118	150	15	2890	2250	103	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	119	150	15	2935	2250	103	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	120	150	15	2975	2250	120	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	121	150	15	2910	2250	120	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	122	150	15	2910	2250	120	2026504198	3020051876		L-351-20-E
55052982	LL-01-2021	123	150	15	2900	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	124	150	15	2900	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	125	150	15	2860	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	126	150	15	2855	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	127	150	15	2855	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	128	150	15	2885	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	129	150	15	2835	2250	120	700285692	3020051876		L-351-20-E
55052982	LL-01-2021	130	150	15	2805	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	131	150	15	2795	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	132	150	15	2810	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	133	150	15	2790	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	134	150	15	2785	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	135	150	15	2780	2250	120	700285627	3020051876		L-351-20-E
55052982	LL-01-2021	136	150	15	2775	2250	120	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	137	150	15	2770	2250	137	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	138	150	15	2785	2250	137	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	139	150	15	2765	2250	137	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	140	150	15	2790	2250	137	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	141	150	15	2770	2250	137	700285705	3020051876		L-351-20-E
55052982	LL-01-2021	142	150	15	2765	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	143	150	15	2770	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	144	150	15	2765	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	145	150	15	2745	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	146	150	15	2770	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	147	150	15	2760	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	148	150	15	2745	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	149	150	15	2750	2250	137	700285708	3020070837		L-351-20-E
55052982	LL-01-2021	150	150	15	2715	2250	137	700285695	3020070837		L-351-20-E

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55052982	LL-01-2021	151	150	15	2715	2250	137	700285695	3020070837		L-351-20-E
55052982	LL-01-2021	152	150	15	2735	2250	137	700285695	3020070837		L-351-20-E
55052982	LL-01-2021	153	150	15	2735	2250	137	700285695	3020070837		L-351-20-E
55052982	LL-01-2021	154	150	15	2780	2250	154	2026504538	3020070963		L-363-20-A
55052982	LL-01-2021	155	150	15	2750	2250	154	2026504538	3020070963		L-363-20-A
55052982	LL-01-2021	156	150	15	2755	2250	154	2026504538	3020070963		L-363-20-A
55052982	LL-01-2021	157	150	15	2740	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	158	150	15	2715	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	159	150	15	2775	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	160	150	15	2725	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	161	150	15	2690	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	162	150	15	2690	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	163	150	15	2685	2250	154	2026504451	3020070963		L-363-20-A
55052982	LL-01-2021	164	150	15	2690	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	165	150	15	2690	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	166	150	15	2670	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	167	150	15	2685	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	168	150	15	2675	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	169	150	15	2675	2250	154	2026558479	3020070963		L-363-20-A
55052982	LL-01-2021	170	150	15	2665	2250	154	2026583028	3020070963		L-363-20-A
55052982	LL-01-2021	171	150	15	2665	2250	171	2026583028	3020050746		L-363-20-A
55052982	LL-01-2021	172	150	15	2690	2250	171	2026583028	3020050746		L-363-20-A
55052982	LL-01-2021	173	150	15	2730	2250	171	2026583028	3020050746		L-363-20-A
55052982	LL-01-2021	174	150	15	2700	2250	171	2026583028	3020050746		L-363-20-A
55052982	LL-01-2021	175	150	15	2725	2250	171	2026583028	3020050746		L-363-20-A
55052982	LL-01-2021	176	150	15	2730	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	177	150	15	2735	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	178	150	15	2780	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	179	150	15	2780	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	180	150	15	2845	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	181	150	15	2840	2250	171	2026558515	3020050746		L-363-20-A
55052982	LL-01-2021	182	150	15	2885	2250	171	2026558515	3020050746		L-363-20-B
55052982	LL-01-2021	183	150	15	2870	2250	171	2026558515	3020050746		L-363-20-B
55052982	LL-01-2021	184	150	15	2870	2250	171	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	185	150	15	2890	2250	171	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	186	150	15	2850	2250	171	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	187	150	15	2815	2250	171	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	188	150	15	2815	2250	188	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	189	150	15	2835	2250	188	2026558478	3020050746		L-363-20-B
55052982	LL-01-2021	190	150	15	2835	2250	188	2026558528	3020050746		L-363-20-B

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55052982	LL-01-2021	191	150	15	2790	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	192	150	15	2795	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	193	150	15	2755	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	194	150	15	2800	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	195	150	15	2805	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	196	150	15	2815	2250	188	2026558528	3020050746		L-363-20-B
55052982	LL-01-2021	197	150	15	2795	2250	188	2026558493	3020050746		L-363-20-B
55052982	LL-01-2021	198	150	15	2765	2250	188	2026558493	3020050746		L-363-20-B
55052982	LL-01-2021	199	150	15	2775	2250	188	2026558493	3020050746		L-363-20-B
55052982	LL-01-2021	200	150	15	2755	2250	188	2026558493	3020050746		L-363-20-B
55052982	LL-01-2021	201	150	15	2790	2250	188	2026558493	3020050746		L-363-20-B
55052982	LL-01-2021	202	150	15	2770	2250	188	2026558493	3020071112		L-363-20-B
55052982	LL-01-2021	203	150	15	2765	2250	188	2026558493	3020071112		L-363-20-B
55052982	LL-01-2021	204	150	15	2895	2250	188	2026504452	3020071112		L-363-20-B
55052982	LL-01-2021	205	150	15	2885	2250	205	2026504452	3020071112		L-363-20-B
55052982	LL-01-2021	206	150	15	2925	2250	205	2026504452	3020071112		L-363-20-B
55052982	LL-01-2021	207	150	15	2855	2250	205	2026504452	3020071112		L-363-20-B
55052982	LL-01-2021	208	150	15	2875	2250	205	2026504452	3020071112		L-363-20-B
55052982	LL-01-2021	209	150	15	2865	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	210	150	15	2840	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	211	150	15	2805	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	212	150	15	2750	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	213	150	15	2770	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	214	150	15	2745	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	215	150	15	2755	2250	205	2026558522	3020071112		L-363-20-B
55052982	LL-01-2021	216	150	15	2715	2250	205	2026558522	3020071112		L-363-20-B
					Total Sq Ft:	486000				Total Number of Rolls Certified: 216	

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Colloid Environmental Technologies Company LLC

GCL MANUFACTURING QUALITY CONTROL TEST DATA

The following rolls in GCL certification package number 55052982 have been tested in our production facility lab.

Product	Lot# Tested	Roll# Tested	Mass Area	Grab Strength	Peel Strength			
	ASTM Test Method:		ASTM D5993	ASTM D6768	ASTM D6496			
	Required Value:		.75 - lbs/sq ft	30 - lbs/in	3.5 - lbs/in			
BENTOMAT® ST	LL-01-2021	1	1.04	48.9	8.4			
BENTOMAT® ST	LL-01-2021	18	.85	48.9	6.4			
BENTOMAT® ST	LL-01-2021	35	.86	48.9	5.8			
BENTOMAT® ST	LL-01-2021	52	.92	48.9	5.7			
BENTOMAT® ST	LL-01-2021	69	.84	48.9	5.6			
BENTOMAT® ST	LL-01-2021	86	.91	49.5	6.1			
BENTOMAT® ST	LL-01-2021	103	.9	49.5	5.1			
BENTOMAT® ST	LL-01-2021	120	.93	49.5	7.6			
BENTOMAT® ST	LL-01-2021	137	.96	49.5	8.2			
BENTOMAT® ST	LL-01-2021	154	.88	53.5	9.7			
BENTOMAT® ST	LL-01-2021	171	.89	53.5	8.9			
BENTOMAT® ST	LL-01-2021	188	.89	53.5	6.3			
BENTOMAT® ST	LL-01-2021	205	.98	53.5	6.7			

BENTONITE CLAY CERTIFICATION

The Bentonite Clay used to produce package 55052982 was tested in our production facility lab and yielded the following results.

Clay Lot #	Moist	Swell	Fluid Loss
ASTM Test Method:	ASTM D2216	ASTM D5890	ASTM D5891
Required Value:	12 - %	24 - ml	18 - ml
L-351-20-E	11.9	27	11.8
L-363-20-A	11.98	27	11.8
L-363-20-B	10.31	28	11.7
L-351-20-C	11.83	29	12.8
L-351-20-B	11.78	25	12.2
L-351-20-D	11.91	26	10.4

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GEOTEXTILE TEST RESULTS FROM MATERIAL SUPPLIERS

The GCL in certification package number 55052982 was manufactured with geotextiles which were tested and yielded the following results.

BASE GEOTEXTILE			
Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
01-9865	3020051876	3.28	142.3
01-9865	3020070837	3.31	152.2
01-9865	3020070963	3.28	145.5
01-9865	3020050746	3.42	145.3
01-9865	3020071112	3.3	147.9
01-9865	3020051364	3.3	154.8
01-9865	3020060935	3.27	148.2
01-9865	3020071045	3.33	143
01-9865	3020050460	3.32	150.2
01-9865	3020070638	3.24	146.1

COVER GEOTEXTILE			
Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
01-9514	700285666	6.38	122
01-9514	700285712	6.2	109
01-9514	2026504198	6.39	134.27
01-9514	700285692	6.05	130
01-9514	700285627	6.34	126
01-9514	700285705	6.82	130
01-9514	700285708	6.76	116
01-9514	700285695	6.79	143
01-9514	2026504538	6.79	109.64
01-9514	2026504451	6.39	134.27
01-9514	2026558479	6.49	166.42
01-9514	2026583028	6.84	147.4

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01-9514	700283602	6.46	141
01-9514	2026558515	7.03	170.96
01-9514	2026558478	6.49	166.42
01-9514	2026558528	6.72	152.35
01-9514	2026558493	6.53	148.47
01-9514	2026504452	6.39	134.27
01-9514	2026558522	7.33	161.57
01-9514	700283630	6.81	186
01-9514	700283639	6.64	130
01-9514	700283648	6.47	147
01-9514	700283699	6.72	134
01-9514	2026504174	7.11	153.47
01-9514	700283671	6.46	145
01-9514	700283710	6.47	146
01-9514	700283675	6.47	124
01-9514	700283666	6.64	145
01-9514	700283721	6.49	144
01-9514	700285638	6.35	125
01-9514	700285700	6.62	124
01-9514	700285674	6.73	137
01-9514	2026504183	7.01	145.9
01-9514	700285672	6.27	111

Certifications from our suppliers are on file at our production facility.

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PRODUCT CERTIFICATIONS

PROJECT NAME:
CUSTOMER P.O.: SW2102
ORDER NUMBER: 55052982
PREPARED FOR: SOUTHWEST LINER SYSTEMS, INC

The GCL Manufactured for the above-referenced order number is certified to meet the values listed in the tables below:

GCL PROPERTY SPECIFICATIONS FOR BENTOMAT® ST

Test Method	Test Method Property	Test Frequency	Certified Value
ASTM D5887	GCL-Hydraulic Conductivity	1/250,000 ft2	5x10-9 - cm/s
ASTM D5887	GCL-Index Flux	1/250,000 ft2	1x10-8 - m3/m2/s

Product	Lot# Tested	Roll# Tested	Index Flux	Hydraulic Conductivity				
	ASTM Test Method:		ASTM D5887	ASTM D5887				
	Required Value:		1x10-8 m3/m2/s	5x10-9 cm/s				
BENTOMAT® ST	LL-01-2021	1	4.2x10-9	1.9x10-9				
BENTOMAT® ST	LL-01-2021	112	4.0x10-9	1.6x10-9				

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CETCO
Colloid Environmental Technologies Company LLC

PRODUCT CERTIFICATIONS

PROJECT NAME:
CUSTOMER P.O.: SW2102
ORDER NUMBER: 55052982
PREPARED FOR: SOUTHWEST LINER SYSTEMS, INC

The GCL Manufactured for the above-referenced order number is certified to meet the values listed in the tables below:

GCL PROPERTY SPECIFICATIONS FOR BENTOMAT® ST

Test Method	Test Method Property	Test Frequency	Certified Value
ASTM D6243	GCL Hydrated Internal Shear Strength	1/1,000,000 ft2	500 - psf

Product	Lot# Tested	Roll# Tested	Hydrated Internal Shear Strength					
		ASTM Test Method:	ASTM D6243					
		Required Value:	500 - psf					
BENTOMAT® ST	LL-01-2021	3	923					

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GCL TEST RESULTS
TRI Client: SWL
Project: Lea Land Landfill Unit IIA

Material: Cetco Bentomat ST GCL
Sample Identification: 2 - NWGT 700283671
TRI Log #: 61329

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass Per Unit Area (ASTM D 5261)													
Component 1													
5" diameter circle (grams)	2.64	2.58	2.62	2.76	3.18	3.22	2.80	2.62	2.42	2.74	2.76	0.26	
Mass/Unit Area (oz/sq.yd)	6.14	6.00	6.09	6.42	7.40	7.49	6.51	6.09	5.63	6.37	6.42	0.60	6 min
Mass/Unit Area (lbs/ft2)	0.043	0.042	0.042	0.045	0.051	0.052	0.045	0.042	0.039	0.044	0.045	0.00	
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)													
Mass/unit area (lbs/ft^2)													
GCL (ω = 0%)	1.19	1.11	1.09	1.17	1.00						1.11	0.08	0.81 min
Non-Bentonite Components	0.073	(Assumed Material-Specific Value)											
Bentonite (ω = 0%)	1.12	1.04	1.02	1.10	0.93						1.04	0.08	
Moisture Content (%)	21.3	21.4	21.0	22.0	21.4						21.4	0.4	35 max
Bentonite - Fluid Loss (ASTM D5891)													
Slurry temperature at test intiation:		20.6 ° C			Slurry temperature at test completion:				19.1 ° C				
Fluid Loss (mL)		10.8									10.8		18 max
Note: Bentonite sample tested is taken from finished GCL product.													
Bentonite - Swell Index (ASTM D5890)													
Swell index (mL/2g)		33									33		24/2g min
Note: Bentonite sample tested is taken from finished GCL product.													
Peel Strength (ASTM D6496)													
MD - Peel Strength (lbs/in)	15.6	9.7	5.8	8.4	12.3						10.4	3.8	3.5 min
Index Flux (ASTM D5887)													
Index Flux (m^3/m^2/sec)		4.7E-09									4.7E-09		1E-8 max
Hydraulic Conductivity (cm/sec)		3.5E-09									3.5E-09		5E-8 max

MD Machine Direction

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.

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GCL TEST RESULTS
TRI Client: SWL
Project: Lea Land Landfill Unit IIA

Material: Cetco Bentomat ST GCL
Sample Identification: 46 - NWGT 2026434728
TRI Log #: 61329

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass Per Unit Area (ASTM D 5261)													
Component 1													
5" diameter circle (grams)	2.47	2.58	2.72	2.52	2.87	2.82	2.86	2.85	2.61	2.62	2.69	0.15	
Mass/Unit Area (oz/sq.yd)	5.75	6.00	6.33	5.86	6.68	6.56	6.65	6.63	6.07	6.09	6.26	0.35	6 min
Mass/Unit Area (lbs/ft2)	0.040	0.042	0.044	0.041	0.046	0.046	0.046	0.046	0.042	0.042	0.043	0.00	
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)													
Mass/unit area (lbs/ft^2)													
GCL (ω = 0%)	1.01	1.03	0.96	1.07	1.03						1.02	0.04	0.81 min
Non-Bentonite Components	0.073	(Assumed Material-Specific Value)											
Bentonite (ω = 0%)	0.94	0.96	0.89	0.99	0.96						0.95	0.04	
Moisture Content (%)	24.1	24.8	25.6	25.1	25.4						25.0	0.6	35 max
Bentonite - Fluid Loss (ASTM D5891)													
Slurry temperature at test intiation:		20.6 ° C			Slurry temperature at test completion:				19.1 ° C				
Fluid Loss (mL)		7.8									7.8		18 max
Note: Bentonite sample tested is taken from finished GCL product.													
Bentonite - Swell Index (ASTM D5890)													
Swell index (mL/2g)		34									34		24/2g min
Note: Bentonite sample tested is taken from finished GCL product.													
Peel Strength (ASTM D6496)													
MD - Peel Strength (lbs/in)	11.6	8.5	13.0	7.8	5.0						9.1	3.2	3.5 min
Index Flux (ASTM D5887)													
Index Flux (m^3/m^2/sec)		2.3E-09									2.3E-09		1E-8 max
Hydraulic Conductivity (cm/sec)		1.7E-09									1.7E-09		5E-8 max

MD Machine Direction

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GCL TEST RESULTS
TRI Client: SWL
Project: Lea Land Landfill Unit IIA

Material: Cetco Bentomat ST GCL
Sample Identification: 90 - NWGT 700285674
TRI Log #: 61345

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass Per Unit Area (ASTM D 5261)													
Component 1													
5" diameter circle (grams)	3.60	3.32	2.85	2.90	2.64	2.54	2.65	3.07	3.57	3.40	3.05	0.40	
Mass/Unit Area (oz/sq.yd)	8.37	7.72	6.63	6.75	6.14	5.91	6.16	7.14	8.30	7.91	7.10	0.92	6 min
Mass/Unit Area (lbs/ft2)	0.058	0.054	0.046	0.047	0.043	0.041	0.043	0.050	0.058	0.055	0.049	0.01	
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)													
Mass/unit area (lbs/ft^2)													
GCL (ω = 0%)	1.15	1.06	1.12	1.11	1.09						1.11	0.03	0.81 min
Non-Bentonite Components	0.073	(Assumed Material-Specific Value)											
Bentonite (ω = 0%)	1.07	0.99	1.05	1.04	1.02						1.03	0.03	
Moisture Content (%)	27.1	25.3	25.3	26.3	26.1						26.0	0.8	35 max
Bentonite - Fluid Loss (ASTM D5891)													
Slurry temperature at test intiation:		19.5 ° C			Slurry temperature at test completion:				20.6 ° C				
Fluid Loss (mL)		11.6									11.6		18 max
Note: Bentonite sample tested is taken from finished GCL product.													
Bentonite - Swell Index (ASTM D5890)													
Swell index (mL/2g)		32.0									32		24/2g min
Note: Bentonite sample tested is taken from finished GCL product.													
Peel Strength (ASTM D6496)													
MD - Peel Strength (lbs/in)	10.7	5.1	2.8	4.3	6.9						6.0	3.0	3.5 min
Index Flux (ASTM D5887)													
Index Flux (m^3/m^2/sec)		2.5E-09									2.5E-09		1E-8 max
Hydraulic Conductivity (cm/sec)		1.3E-09									1.3E-09		5E-8 max

MD Machine Direction

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GCL TEST RESULTS
TRI Client: SWL
Project: Lea Land Landfill Unit IIA

Material: Cetco Bentomat ST GCL
Sample Identification: 134 - NWGT 700285627
TRI Log #: 61345

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Mass Per Unit Area (ASTM D 5261)													
Component 1													
5" diameter circle (grams)	3.27	2.64	2.49	2.89	2.72	2.84	2.58	2.90	2.73	3.21	2.83	0.25	
Mass/Unit Area (oz/sq.yd)	7.61	6.14	5.79	6.72	6.33	6.61	6.00	6.75	6.35	7.47	6.58	0.59	6 min
Mass/Unit Area (lbs/ft2)	0.053	0.043	0.040	0.047	0.044	0.046	0.042	0.047	0.044	0.052	0.046	0.00	
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)													
Mass/unit area (lbs/ft^2)													
GCL (ω = 0%)	0.96	1.05	1.14	1.04	0.88						1.01	0.10	0.81 min
Non-Bentonite Components	0.073	(Assumed Material-Specific Value)											
Bentonite (ω = 0%)	0.89	0.97	1.07	0.96	0.81						0.94	0.10	
Moisture Content (%)	26.1	24.2	24.1	25.8	26.2						25.3	1.0	35 max
Bentonite - Fluid Loss (ASTM D5891)													
Slurry temperature at test intiation:		19.5 ° C			Slurry temperature at test completion:				20.6 ° C				
Fluid Loss (mL)		11.2									11.2		18 max
Note: Bentonite sample tested is taken from finished GCL product.													
Bentonite - Swell Index (ASTM D5890)													
Swell index (mL/2g)		34.0									34		24/2g min
Note: Bentonite sample tested is taken from finished GCL product.													
Peel Strength (ASTM D6496)													
MD - Peel Strength (lbs/in)	5.5	8.9	3.7	7.0	6.4						6.3	1.9	3.5 min
Index Flux (ASTM D5887)													
Index Flux (m^3/m^2/sec)		3.5E-09									3.5E-09		1E-8 max
Hydraulic Conductivity (cm/sec)		1.7E-09									1.7E-09		5E-8 max

MD Machine Direction

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GCL TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: GCL
Sample Identification: 178 w/NWGT 2026558515
TRI Log #: 61365

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass Per Unit Area (ASTM D 5261)													
Component 1													
5" diameter circle (grams)	3.65	2.66	2.78	2.51	2.55	2.54	2.33	2.39	2.82	2.86	2.71	0.38	
Mass/Unit Area (oz/sq.yd)	8.49	6.19	6.47	5.84	5.93	5.91	5.42	5.56	6.56	6.65	6.30	0.87	
Mass/Unit Area (lbs/ft2)	0.059	0.043	0.045	0.041	0.041	0.041	0.038	0.039	0.046	0.046	0.044	0.01	
Bentonite - Mass/Unit Area (ASTM D5993, result @ 0% M.C.)													
Mass/unit area (lbs/ft^2)													
GCL (ω = 0%)	0.89	1.07	0.79	1.05	0.90						0.94	0.12	
Non-Bentonite Components	0.073	(Assumed Material-Specific Value)											
Bentonite (ω = 0%)	0.82	1.00	0.71	0.98	0.82						0.87	0.12	0.81 min
Moisture Content (%)	25.1	23.7	25.9	23.2	25.0						24.6	1.1	35 max
Bentonite - Fluid Loss (ASTM D5891)													
Slurry temperature at test intiation:		20.5 ° C			Slurry temperature at test completion:				20.6 ° C				
Fluid Loss (mL)		11.0									11.0		18 max
Note: Bentonite sample tested is taken from finished GCL product.													
Bentonite - Swell Index (ASTM D5890)													
Swell index (mL/2g)		32									32		24 min
Note: Bentonite sample tested is taken from finished GCL product.													
Peel Strength (ASTM D6496)													
MD - Peel Strength (lbs/in)	13.0	10.5	7.3	7.8	12.4						10.2	2.6	3.5 min
Index Flux (ASTM D5887)													
Index Flux (m^3/m^2/sec)		6.5E-09									6.5E-09		1.0E-08
Hydraulic Conductivity (cm/sec)		2.9E-09									2.9E-09		5.0E-09

MD Machine Direction

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APPENDIX E

GCL PLACEMENT

Includes pages E-1 through E-12

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P1	139	Reinforced	17-Jun-21	BJ	150	15	2,250	
P2	195	Reinforced	17-Jun-21	BJ	150	15	2,250	
P3	90	Reinforced	17-Jun-21	BJ	150	15	2,250	
P4	181	Reinforced	17-Jun-21	BJ	150	15	2,250	
P5	78	Reinforced	17-Jun-21	BJ	150	15	2,250	
P6	67	Reinforced	17-Jun-21	BJ	150	15	2,250	
P7	40	Reinforced	17-Jun-21	BJ	125	15	1,875	
P8	40	Reinforced	17-Jun-21	BJ	25	15	375	
P9	89	Reinforced	17-Jun-21	BJ	101	15	1,515	
P10	89	Reinforced	17-Jun-21	BJ	48	15	720	
P11	121	Reinforced	17-Jun-21	BJ	82	15	1,230	
P12	59	Reinforced	17-Jun-21	BJ	150	15	2,250	
P13	74	Reinforced	17-Jun-21	BJ	150	15	2,250	
P14	124	Reinforced	17-Jun-21	BJ	150	15	2,250	
P15	34	Reinforced	17-Jun-21	BJ	150	15	2,250	
P16	52	Reinforced	17-Jun-21	BJ	150	15	2,250	
P17	51	Reinforced	17-Jun-21	BJ	150	15	2,250	
P18	53	Reinforced	17-Jun-21	BJ	129	15	1,935	
P19	53	Reinforced	17-Jun-21	BJ	21	15	315	
P20	121	Reinforced	17-Jun-21	BJ	82	15	1,230	
P21	65	Reinforced	17-Jun-21	BJ	38	15	570	
P22	65	Reinforced	17-Jun-21	BJ	112	15	1,680	
P23	66	Reinforced	17-Jun-21	BJ	13	15	195	
P24	3	Reinforced	17-Jun-21	BJ	150	15	2,250	
P25	83	Reinforced	17-Jun-21	BJ	150	15	2,250	
P26	71	Reinforced	17-Jun-21	BJ	124	15	1,860	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P27	71	Reinforced	18-Jun-21	BJ	26	15	390	
P28	39	Reinforced	18-Jun-21	BJ	150	15	2,250	
P29	23	Reinforced	18-Jun-21	BJ	150	15	2,250	
P30	165	Reinforced	18-Jun-21	BJ	150	15	2,250	
P31	158	Reinforced	18-Jun-21	BJ	150	15	2,250	
P32	15	Reinforced	18-Jun-21	BJ	150	15	2,250	
P33	11	Reinforced	18-Jun-21	BJ	150	15	2,250	
P34	55	Reinforced	18-Jun-21	BJ	98	15	1,470	
P35	55	Reinforced	18-Jun-21	BJ	52	15	780	
P36	66	Reinforced	18-Jun-21	BJ	76	15	1,140	
P37	66	Reinforced	18-Jun-21	BJ	63	15	945	
P38	73	Reinforced	18-Jun-21	BJ	64	15	960	
P39	64	Reinforced	18-Jun-21	BJ	150	15	2,250	
P40	109	Reinforced	18-Jun-21	BJ	150	15	2,250	
P41	12	Reinforced	18-Jun-21	BJ	150	15	2,250	
P42	102	Reinforced	18-Jun-21	BJ	150	15	2,250	
P43	166	Reinforced	18-Jun-21	BJ	150	15	2,250	
P44	104	Reinforced	18-Jun-21	BJ	150	15	2,250	
P45	73	Reinforced	18-Jun-21	BJ	85	15	1,275	
P46	35	Reinforced	18-Jun-21	BJ	45	15	675	
P47	35	Reinforced	18-Jun-21	BJ	105	15	1,575	
P48	33	Reinforced	18-Jun-21	BJ	25	15	375	
P49	33	Reinforced	18-Jun-21	BJ	125	15	1,875	
P50	49	Reinforced	18-Jun-21	BJ	9	15	135	
P51	76	Reinforced	18-Jun-21	BJ	150	15	2,250	
P52	123	Reinforced	18-Jun-21	BJ	150	15	2,250	

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UNIT IIA CONSTRUCTION
6041-001-17-00
GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P53	114	Reinforced	18-Jun-21	BJ	150	15	2,250	
P54	96	Reinforced	18-Jun-21	BJ	150	15	2,250	
P55	26	Reinforced	18-Jun-21	BJ	150	15	2,250	
P56	70	Reinforced	18-Jun-21	BJ	150	15	2,250	
P57	49	Reinforced	18-Jun-21	BJ	139	15	2,085	
P58	49	Reinforced	18-Jun-21	BJ	11	15	165	
P59	113	Reinforced	18-Jun-21	BJ	114	15	1,710	
P60	113	Reinforced	18-Jun-21	BJ	34	15	510	
P61	44	Reinforced	18-Jun-21	BJ	93	15	1,395	
P62	82	Reinforced	19-Jun-21	BJ	150	15	2,250	
P63	84	Reinforced	19-Jun-21	BJ	150	15	2,250	
P64	85	Reinforced	19-Jun-21	BJ	150	15	2,250	
P65	120	Reinforced	19-Jun-21	BJ	150	15	2,250	
P66	99	Reinforced	19-Jun-21	BJ	150	15	2,250	
P67	88	Reinforced	19-Jun-21	BJ	150	15	2,250	
P68	77	Reinforced	19-Jun-21	BJ	150	15	2,250	
P69	80	Reinforced	19-Jun-21	BJ	150	15	2,250	
P70	70	Reinforced	19-Jun-21	BJ	60	15	900	
P71	60	Reinforced	19-Jun-21	BJ	70	15	1,050	
P72	60	Reinforced	19-Jun-21	BJ	80	15	1,200	
P73	94	Reinforced	19-Jun-21	BJ	47	15	705	
P74	94	Reinforced	19-Jun-21	BJ	103	15	1,545	
P75	93	Reinforced	19-Jun-21	BJ	25	15	375	
P76	93	Reinforced	19-Jun-21	BJ	124	15	1,860	
P77	5	Reinforced	19-Jun-21	BJ	150	15	2,250	
P78	47	Reinforced	19-Jun-21	BJ	150	15	2,250	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P79	68	Reinforced	19-Jun-21	BJ	129	15	1,935	
P80	9	Reinforced	21-Jun-21	BJ	150	15	2,250	
P81	186	Reinforced	21-Jun-21	BJ	150	15	2,250	
P82	6	Reinforced	21-Jun-21	BJ	150	15	2,250	
P83	199	Reinforced	21-Jun-21	BJ	150	15	2,250	
P84	14	Reinforced	21-Jun-21	BJ	150	15	2,250	
P85	56	Reinforced	21-Jun-21	BJ	150	15	2,250	
P86	68	Reinforced	21-Jun-21	BJ	23	15	345	
P87	21	Reinforced	21-Jun-21	BJ	99	15	1,485	
P88	21	Reinforced	21-Jun-21	BJ	51	15	765	
P89	152	Reinforced	21-Jun-21	BJ	79	15	1,185	
P90	152	Reinforced	21-Jun-21	BJ	71	15	1,065	
P91	147	Reinforced	21-Jun-21	BJ	62	15	930	
P92	41	Reinforced	21-Jun-21	BJ	150	15	2,250	
P93	63	Reinforced	21-Jun-21	BJ	150	15	2,250	
P94	5	Reinforced	21-Jun-21	BJ	150	15	2,250	
P95	79	Reinforced	21-Jun-21	BJ	150	15	2,250	
P96	147	Reinforced	21-Jun-21	BJ	89	15	1,335	
P97	75	Reinforced	21-Jun-21	BJ	111	15	1,665	
P98	101	Reinforced	21-Jun-21	BJ	15	15	225	
P99	18	Reinforced	22-Jun-21	BJ	150	15	2,250	
P100	62	Reinforced	22-Jun-21	BJ	150	15	2,250	
P101	58	Reinforced	22-Jun-21	BJ	150	15	2,250	
P102	25	Reinforced	22-Jun-21	BJ	150	15	2,250	
P103	111	Reinforced	22-Jun-21	BJ	150	15	2,250	
P104	122	Reinforced	22-Jun-21	BJ	150	15	2,250	

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GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P105	101	Reinforced	22-Jun-21	BJ	126	15	1,890	
P106	101	Reinforced	22-Jun-21	BJ	11	15	165	
P107	54	Reinforced	22-Jun-21	BJ	116	15	1,740	
P108	54	Reinforced	22-Jun-21	BJ	33	15	495	
P109	13	Reinforced	22-Jun-21	BJ	93	15	1,395	
P110	54	Reinforced	22-Jun-21	BJ	33	15	495	
P111	69	Reinforced	22-Jun-21	BJ	150	15	2,250	
P112	43	Reinforced	22-Jun-21	BJ	150	15	2,250	
P113	69	Reinforced	22-Jun-21	BJ	150	15	2,250	
P114	22	Reinforced	22-Jun-21	BJ	150	15	2,250	
P115	8	Reinforced	22-Jun-21	BJ	150	15	2,250	
P116	30	Reinforced	22-Jun-21	BJ	150	15	2,250	
P117	48	Reinforced	22-Jun-21	BJ	150	15	2,250	
P118	148	Reinforced	22-Jun-21	BJ	150	15	2,250	
P119	117	Reinforced	22-Jun-21	BJ	150	15	2,250	
P120	13	Reinforced	22-Jun-21	BJ	56	15	840	
P121	149	Reinforced	22-Jun-21	BJ	70	15	1,050	
P122	149	Reinforced	22-Jun-21	BJ	67	15	1,005	
P123	108	Reinforced	22-Jun-21	BJ	63	15	945	
P124	108	Reinforced	22-Jun-21	BJ	86	15	1,290	
P125	91	Reinforced	22-Jun-21	BJ	42	15	630	
P126	91	Reinforced	22-Jun-21	BJ	107	15	1,605	
P127	87	Reinforced	22-Jun-21	BJ	22	15	330	
P128	137	Reinforced	22-Jun-21	BJ	150	15	2,250	
P129	128	Reinforced	22-Jun-21	BJ	150	15	2,250	
P130	87	Reinforced	22-Jun-21	BJ	128	15	1,920	

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GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P131	127	Reinforced	23-Jun-21	BJ	150	15	2,250	
P132	107	Reinforced	23-Jun-21	BJ	150	15	2,250	
P133	133	Reinforced	23-Jun-21	BJ	150	15	2,250	
P134	2	Reinforced	23-Jun-21	BJ	150	15	2,250	
P135	130	Reinforced	23-Jun-21	BJ	150	15	2,250	
P136	135	Reinforced	23-Jun-21	BJ	150	15	2,250	
P137	203	Reinforced	23-Jun-21	BJ	128	15	1,920	
P138	203	Reinforced	23-Jun-21	BJ	22	15	330	
P139	215	Reinforced	23-Jun-21	BJ	107	15	1,605	
P140	215	Reinforced	23-Jun-21	BJ	40	15	600	
P141	164	Reinforced	23-Jun-21	BJ	88	15	1,320	
P142	188	Reinforced	23-Jun-21	BJ	150	15	2,250	
P143	169	Reinforced	23-Jun-21	BJ	150	15	2,250	
P144	92	Reinforced	23-Jun-21	BJ	150	15	2,250	
P145	11	Reinforced	23-Jun-21	BJ	150	15	2,250	
P146	142	Reinforced	23-Jun-21	BJ	150	15	2,250	
P147	157	Reinforced	23-Jun-21	BJ	150	15	2,250	
P148	132	Reinforced	23-Jun-21	BJ	150	15	2,250	
P149	183	Reinforced	23-Jun-21	BJ	150	15	2,250	
P150	164	Reinforced	23-Jun-21	BJ	63	15	945	
P151	129	Reinforced	23-Jun-21	BJ	69	15	1,035	
P152	129	Reinforced	23-Jun-21	BJ	80	15	1,200	
P153	97	Reinforced	23-Jun-21	BJ	48	15	720	
P154	97	Reinforced	23-Jun-21	BJ	101	15	1,515	
P155	46	Reinforced	23-Jun-21	BJ	28	15	420	
P156	46	Reinforced	23-Jun-21	BJ	122	15	1,830	

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GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P157	31	Reinforced	23-Jun-21	BJ	9	15	135	
P158	134	Reinforced	23-Jun-21	BJ	150	15	2,250	
P159	136	Reinforced	23-Jun-21	BJ	150	15	2,250	
P160	31	Reinforced	23-Jun-21	BJ	126	15	1,890	
P161	31	Reinforced	23-Jun-21	BJ	24	15	360	
P162	159	Reinforced	24-Jun-21	BJ	150	15	2,250	
P163	29	Reinforced	24-Jun-21	BJ	150	15	2,250	
P164	27	Reinforced	24-Jun-21	BJ	150	15	2,250	
P165	7	Reinforced	24-Jun-21	BJ	150	15	2,250	
P166	158	Reinforced	24-Jun-21	BJ	150	15	2,250	
P167	105	Reinforced	24-Jun-21	BJ	150	15	2,250	
P168	126	Reinforced	24-Jun-21	BJ	112	15	1,680	
P169	126	Reinforced	24-Jun-21	BJ	38	15	570	
P170	168	Reinforced	24-Jun-21	BJ	91	15	1,365	
P171	168	Reinforced	24-Jun-21	BJ	59	15	885	
P172	184	Reinforced	24-Jun-21	BJ	69	15	1,035	
P173	143	Reinforced	24-Jun-21	BJ	150	15	2,250	
P174	144	Reinforced	24-Jun-21	BJ	150	15	2,250	
P175	131	Reinforced	24-Jun-21	BJ	150	15	2,250	
P176	138	Reinforced	24-Jun-21	BJ	150	15	2,250	
P177	184	Reinforced	24-Jun-21	BJ	19	15	285	
P178	184	Reinforced	24-Jun-21	BJ	20	15	300	
P179	184	Reinforced	24-Jun-21	BJ	20	15	300	
P180	184	Reinforced	24-Jun-21	BJ	20	15	300	
P181	150	Reinforced	24-Jun-21	BJ	150	15	2,250	
P182	38	Reinforced	24-Jun-21	BJ	150	15	2,250	

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Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P183	61	Reinforced	24-Jun-21	BJ	150	15	2,250	
P184	211	Reinforced	24-Jun-21	BJ	21	15	315	
P185	211	Reinforced	24-Jun-21	BJ	21	15	315	
P186	211	Reinforced	24-Jun-21	BJ	21	15	315	
P187	125	Reinforced	24-Jun-21	BJ	150	15	2,250	
P188	197	Reinforced	24-Jun-21	BJ	150	15	2,250	
P189	20	Reinforced	24-Jun-21	BJ	150	15	2,250	
P190	211	Reinforced	24-Jun-21	BJ	21	15	315	
P191	211	Reinforced	24-Jun-21	BJ	21	15	315	
P192	211	Reinforced	24-Jun-21	BJ	21	15	315	
P193	151	Reinforced	24-Jun-21	BJ	150	15	2,250	
P194	179	Reinforced	24-Jun-21	BJ	12	15	180	
P195	156	Reinforced	24-Jun-21	BJ	150	15	2,250	
P196	179	Reinforced	24-Jun-21	BJ	150	15	2,250	
P197	214	Reinforced	25-Jun-21	BJ	126	15	1,890	
P198	214	Reinforced	25-Jun-21	BJ	20	15	300	
P199	196	Reinforced	25-Jun-21	BJ	91	15	1,365	
P200	196	Reinforced	25-Jun-21	BJ	59	15	885	
P201	141	Reinforced	25-Jun-21	BJ	60	15	900	
P202	141	Reinforced	25-Jun-21	BJ	90	15	1,350	
P203	171	Reinforced	25-Jun-21	BJ	83	15	1,245	
P204	171	Reinforced	25-Jun-21	BJ	67	15	1,005	
P205	209	Reinforced	25-Jun-21	BJ	61	15	915	
P206	209	Reinforced	25-Jun-21	BJ	50	15	750	
P207	209	Reinforced	25-Jun-21	BJ	38	15	570	
P208	200	Reinforced	25-Jun-21	BJ	24	15	360	

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Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P209	84	Reinforced	25-Jun-21	BJ	40	15	600	
P210	84	Reinforced	25-Jun-21	BJ	20	15	300	
P211	84	Reinforced	25-Jun-21	BJ	55	15	825	
P212	84	Reinforced	25-Jun-21	BJ	39	15	585	
P213	200	Reinforced	25-Jun-21	BJ	33	15	495	
P214	200	Reinforced	25-Jun-21	BJ	79	15	1,185	
P215	200	Reinforced	25-Jun-21	BJ	25	15	375	
P216	173	Reinforced	25-Jun-21	BJ	72	15	1,080	
P217	173	Reinforced	25-Jun-21	BJ	78	15	1,170	
P218	185	Reinforced	25-Jun-21	BJ	40	15	600	
P219	185	Reinforced	25-Jun-21	BJ	103	15	1,545	
P220	193	Reinforced	26-Jun-21	BJ	138	15	2,070	
P221	193	Reinforced	26-Jun-21	BJ	12	15	180	
P222	201	Reinforced	26-Jun-21	BJ	138	15	2,070	
P223	201	Reinforced	26-Jun-21	BJ	12	15	180	
P224	174	Reinforced	26-Jun-21	BJ	150	15	2,250	
P225	194	Reinforced	12-Jul-21	MM	150	15	2,250	Repair Panel on S.E. Slope
P226	146	Reinforced	12-Jul-21	MM	110	15	1,650	Repair Panel on S.E. Slope
P227	172	Reinforced	13-Jul-21	MM	150	15	2,250	
P228	182	Reinforced	13-Jul-21	MM	150	15	2,250	
P229	37	Reinforced	13-Jul-21	MM	150	15	2,250	
P230	161	Reinforced	13-Jul-21	MM	150	15	2,250	
P231	146	Reinforced	13-Jul-21	MM	40	15	600	
P232	163	Reinforced	13-Jul-21	MM	60	15	900	
P233	163	Reinforced	13-Jul-21	MM	90	15	1,350	
P234	212	Reinforced	13-Jul-21	MM	10	15	150	

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Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P235	212	Reinforced	13-Jul-21	MM	100	15	1,500	
P236	212	Reinforced	13-Jul-21	MM	40	15	600	
P237	45	Reinforced	13-Jul-21	MM	60	15	900	
P238	10	Reinforced	13-Jul-21	MM	150	15	2,250	
P239	180	Reinforced	13-Jul-21	MM	80	15	1,200	
P240	162	Reinforced	13-Jul-21	MM	20	15	300	
P241	198	Reinforced	13-Jul-21	MM	150	15	2,250	
P242	19	Reinforced	13-Jul-21	MM	150	15	2,250	
P243	119	Reinforced	13-Jul-21	MM	150	15	2,250	
P244	162	Reinforced	13-Jul-21	MM	76	15	1,140	
P245	162	Reinforced	13-Jul-21	MM	50	15	750	
P246	207	Reinforced	13-Jul-21	MM	25	15	375	
P247	207	Reinforced	13-Jul-21	MM	70	15	1,050	
P248	202	Reinforced	13-Jul-21	MM	150	15	2,250	
P249	207	Reinforced	13-Jul-21	MM	50	15	750	
P250	216	Reinforced	13-Jul-21	MM	20	15	300	
P251	213	Reinforced	14-Jul-21	MM	150	15	2,250	
P252	189	Reinforced	14-Jul-21	MM	150	15	2,250	
P253	206	Reinforced	14-Jul-21	MM	150	15	2,250	
P254	216	Reinforced	14-Jul-21	MM	70	15	1,050	
P255	216	Reinforced	14-Jul-21	MM	60	15	900	
P256	192	Reinforced	14-Jul-21	MM	9	15	135	
P257	192	Reinforced	14-Jul-21	MM	62	15	930	
P258	86	Reinforced	14-Jul-21	MM	150	15	2,250	
P259	177	Reinforced	14-Jul-21	MM	150	15	2,250	
P260	190	Reinforced	14-Jul-21	MM	150	15	2,250	

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UNIT IIA CONSTRUCTION
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GCL DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
P261	153	Reinforced	14-Jul-21	MM	150	15	2,250	
P262	192	Reinforced	14-Jul-21	MM	57	15	855	
P263	192	Reinforced	14-Jul-21	MM	22	15	330	
P264	187	Reinforced	14-Jul-21	MM	41	15	615	
P265	187	Reinforced	14-Jul-21	MM	52	15	780	
P266	187	Reinforced	14-Jul-21	MM	53	15	795	
P267	204	Reinforced	14-Jul-21	MM	150	15	2,250	
P268	191	Reinforced	14-Jul-21	MM	150	15	2,250	
P269	205	Reinforced	14-Jul-21	MM	150	15	2,250	
P270	175	Reinforced	14-Jul-21	MM	52	15	780	
P271	175	Reinforced	14-Jul-21	MM	50	15	750	
P272	175	Reinforced	14-Jul-21	MM	48	15	720	
P273	160	Reinforced	14-Jul-21	MM	28	15	420	
P274	160	Reinforced	14-Jul-21	MM	60	15	900	
P275	160	Reinforced	14-Jul-21	MM	62	15	930	
P276	178	Reinforced	14-Jul-21	MM	85	15	1,275	
P277	176	Reinforced	16-Jul-21	MM	150	15	2,250	
P278	155	Reinforced	16-Jul-21	MM	150	15	2,250	
P279	170	Reinforced	16-Jul-21	MM	55	15	825	
P280	208	Reinforced	16-Jul-21	MM	10	15	150	
P281	208	Reinforced	16-Jul-21	MM	52	15	780	

APPENDIX F

GEOMEMBRANE INFORMATION

Includes pages F-1 through F-27

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UNIT IIA CONSTRUCTION
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GEOMEMBRANE INVENTORY

Resin Lot	Roll No.	Textured / Smooth	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
				Length, ft	Width, ft				
PMJ821250	3111006276	Smooth	3/29/2021	550	23.5	60 mil	Yes	Yes	-
PMJ821250	3111006277	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006278	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006279	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006280	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006281	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006282	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006283	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006284	Smooth	3/29/2021	550	23.5	60 mil	Yes	Yes	-
PMJ821250	3111006285	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006286	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821250	3111006287	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006288	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006289	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006290	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006291	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006292	Smooth	6/11/2021	550	23.5	60 mil	Yes	Yes	-
PMJ821150	3111006293	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006294	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006295	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006296	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006297	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006298	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006299	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006300	Smooth	6/11/2021	550	23.5	60 mil	Yes	Yes	-
PMJ821150	3111006301	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006302	Smooth	3/30/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006303	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006304	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006305	Smooth	3/29/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006306	Smooth	6/11/2021	550	23.5	60 mil		Yes	-
PMJ821150	3111006307	Smooth	3/30/2021	550	23.5	60 mil	Yes	Yes	-
20I1053	3112007690	Textured	3/31/2021	510	23.5	60 mil	Yes	Yes	-
20I1053	3112007691	Textured	3/31/2021	510	23.5	60 mil		Yes	-
20I1053	3112007692	Textured	3/31/2021	510	23.5	60 mil		Yes	-
20I1053	3112007693	Textured	3/31/2021	510	23.5	60 mil		Yes	-
20I1053	3112007694	Textured	6/11/2021	510	23.5	60 mil		Yes	-
20I1053	3112007695	Textured	3/31/2021	510	23.5	60 mil		Yes	-
20I1053	3112007696	Textured	3/31/2021	510	23.5	60 mil		Yes	-
20I1053	3112007708	Textured	4/4/2021	510	23.5	60 mil		Yes	-

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GEOMEMBRANE INVENTORY

Resin Lot	Roll No.	Textured / Smooth	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
				Length, ft	Width, ft				
PMJ821140	3112007723	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007724	Textured	4/2/2021	510	23.5	60 mil	Yes	Yes	-
PMJ821140	3112007725	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007726	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007727	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007728	Textured	3/31/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007729	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007730	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007731	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007732	Textured	3/31/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007733	Textured	3/31/2021	510	23.5	60 mil	Yes	Yes	-
PMJ821140	3112007734	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007735	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007736	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007737	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007738	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007739	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007740	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821140	3112007741	Textured	3/31/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007742	Textured	4/2/2021	510	23.5	60 mil	Yes	Yes	-
PMJ821160	3112007743	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007744	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007745	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007746	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007747	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007748	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007749	Textured	4/2/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007750	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007751	Textured	3/31/2021	510	23.5	60 mil	Yes	Yes	-
PMJ821160	3112007752	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007753	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007754	Textured	4/4/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007755	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007756	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007757	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007758	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007759	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007760	Textured	3/31/2021	510	23.5	60 mil	Yes	Yes	-
PMJ821160	3112007761	Textured	6/11/2021	515	23.5	60 mil		Yes	-
PMJ821160	3112007762	Textured	6/11/2021	510	23.5	60 mil		Yes	-
PMJ821160	3112007763	Textured	6/11/2021	510	23.5	60 mil		Yes	-

Released to Imaging: 9/8/2022 10:18:07 AM

Received by OCD: 9/8/2022 10:14:59 AM

Product: 60-HD-00-BLK-BLK-AVG-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net Weight (lb)	Thickness MAV (mil)	Thickness MIN (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)	Stress Crack Res. (hour)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5199	ASTM D 5199	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 5397	ASTM D 3895	
						MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
1	3111006276	12,925.00	3,858	61	58	142	157	19	17	286	284	836	887	50	52	143	0.946	2.5	10	500+	231	PMJ821250
2	3111006277	12,925.00	3,844	61	59	153	148	17	19	295	292	908	835	52	49	149	0.945	2.5	10	500+	231	PMJ821250
3	3111006278	12,925.00	3,840	61	58	153	148	17	19	295	292	908	835	52	49	149	0.945	2.5	10	500+	231	PMJ821250
4	3111006279	12,925.00	3,838	60	55	153	148	17	19	295	292	908	835	52	49	149	0.945	2.5	10	500+	231	PMJ821250
5	3111006280	12,925.00	3,874	61	60	153	148	17	19	295	292	908	835	52	49	149	0.945	2.5	10	500+	231	PMJ821250
6	3111006281	12,925.00	3,872	61	59	154	160	18	17	275	289	790	890	52	49	149	0.945	2.4	10	500+	231	PMJ821250
7	3111006282	12,925.00	3,866	62	59	154	160	18	17	275	289	790	890	52	49	149	0.945	2.4	10	500+	254	PMJ821150
8	3111006283	12,925.00	3,864	61	58	154	160	18	17	275	289	790	890	52	49	149	0.945	2.4	10	500+	254	PMJ821150
9	3111006284	12,925.00	3,866	61	59	154	160	18	17	275	289	790	890	52	49	149	0.945	2.4	10	500+	254	PMJ821150
10	3111006285	12,925.00	3,916	61	58	154	160	18	17	275	289	790	890	52	49	149	0.945	2.4	10	500+	254	PMJ821150
11	3111006286	12,925.00	3,874	61	58	145	149	19	17	273	297	804	931	48	51	147	0.947	2.5	10	500+	254	PMJ821150
12	3111006287	12,925.00	3,836	60	58	145	149	19	17	273	297	804	931	48	51	147	0.947	2.5	10	500+	254	PMJ821150

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

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Received by OCD: 9/8/2022 10:14:59 AM

Product: 60-HD-00-BLK-BLK-AVG-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net Weight (lb)	Thickness MAV (mil)	Thickness MIN (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)	Stress Crack Res. (hour)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5199	ASTM D 5199	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 5397	ASTM D 3895	
						MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
13	3111006288	12,925.00	3,836	60	57	145	149	19	17	273	297	804	931	48	51	147	0.947	2.5	10	500+	254	PMJ821150
14	3111006289	12,925.00	3,852	61	56	145	149	19	17	273	297	804	931	48	51	147	0.947	2.5	10	500+	254	PMJ821150
15	3111006290	12,925.00	3,844	61	59	145	151	19	17	262	276	767	870	48	51	147	0.947	2.8	10	500+	254	PMJ821150
16	3111006291	12,925.00	3,844	61	58	145	151	19	17	262	276	767	870	48	51	147	0.947	2.8	10	500+	254	PMJ821150
17	3111006292	12,925.00	3,840	61	58	145	151	19	17	262	276	767	870	48	51	147	0.947	2.8	10	500+	254	PMJ821150
18	3111006293	12,925.00	3,844	61	59	145	151	19	17	262	276	767	870	48	51	147	0.947	2.8	10	500+	254	PMJ821150
19	3111006294	12,925.00	3,846	61	58	145	151	19	17	262	276	767	870	48	51	147	0.947	2.8	10	500+	254	PMJ821150
20	3111006295	12,925.00	3,830	61	59	156	148	17	19	299	292	906	837	49	53	149	0.946	2.6	10	500+	254	PMJ821150
21	3111006296	12,925.00	3,844	60	58	156	148	17	19	299	292	906	837	49	53	149	0.946	2.6	10	500+	254	PMJ821150
22	3111006297	12,925.00	3,842	61	59	156	148	17	19	299	292	906	837	49	53	149	0.946	2.6	10	500+	254	PMJ821150
23	3111006298	12,925.00	3,842	61	59	156	148	17	19	299	292	906	837	49	53	149	0.946	2.6	10	500+	254	PMJ821150
24	3111006299	12,925.00	3,870	62	60	150	149	19	19	266	296	765	905	49	53	149	0.946	2.7	10	500+	254	PMJ821150

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Product: 60-HD-00-BLK-BLK-AVG-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net Weight (lb)	Thickness MAV (mil)	Thickness MIN (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)	Stress Crack Res. (hour)	Resin OIT (Minute)	Resin Lot #
				ASTM D 5199	ASTM D 5199	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 5397	ASTM D 3895	
						MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
25	3111006300	12,925.00	3,830	61	60	150	149	19	19	266	296	765	905	49	53	149	0.946	2.7	10	500+	254	PMJ821150
26	3111006301	12,925.00	3,834	61	59	150	149	19	19	266	296	765	905	49	53	149	0.946	2.7	10	500+	254	PMJ821150
27	3111006302	12,925.00	3,830	60	59	150	149	19	19	266	296	765	905	49	53	149	0.946	2.7	10	500+	254	PMJ821150
28	3111006303	12,925.00	3,840	61	59	150	149	19	19	266	296	765	905	49	53	149	0.946	2.7	10	500+	254	PMJ821150
29	3111006304	12,925.00	3,838	61	59	154	155	18	17	283	309	800	937	49	52	149	0.947	2.6	10	500+	254	PMJ821150
30	3111006305	12,925.00	3,834	61	59	154	155	18	17	283	309	800	937	49	52	149	0.947	2.6	10	500+	254	PMJ821150
31	3111006306	12,925.00	3,840	60	58	154	155	18	17	283	309	800	937	49	52	149	0.947	2.6	10	500+	254	PMJ821150
32	3111006307	12,925.00	3,846	60	58	154	155	18	17	283	309	800	937	49	52	149	0.947	2.6	10	500+	254	PMJ821150

DCN: SKAPS LOG 014
Effective Date: February 26,2020
Rev 0

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

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Formosa Plastics

FORMOSA PLASTICS CORPORATION, TEXAS
201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT TX 77978
PHONE:(888)FPCUSA3

Certificate of Analysis
(CONFIDENTIAL)

CUSTOMER:SKAPS INC.
571 INDUSTRIAL PARKWAY
R/C: NS
COMMERCE GA 30529
PRODUCT :HL3812
RAILCAR FPAX200366
CLEANING/INSPECTION NO: 200366090520

S/O NO : EV9A263
CUSTOMER PO : 30131200784
DATE SHIPPED: 10/09/20
LOT NO : 20I1053
WEIGHT (LB) : 193,750.00
CUSTID:FT04342 SPIDM1

TEST ITEM	REFERENCE METHOD	TEST VALUE
Melt Index,g/10min	ASTM D1238	.066
Density, g/cm3	ASTM D1505	.9377

Linda Kao

QC SUPERVISOR: LINDA KAO

CPChem

CoA Date: 10/21/2020

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: Patel
Fax:

Delivery #: 80301912
PO #: 30131200847
Weight: 188000.000 LB
Ship Date: 10/21/2020
Package: BULK
Mode: Hopper Car
Car #: SHQX042157
Seal No: 153329

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PMJ821140

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.090	g/10min
HLMI Flow Rate	ASTM D1238	13.20	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.**

Erin Xiao
Quality Systems Coordinator

For CoA questions contact James Garcia at +1832813

CoA Date: 10/21/2020

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: Patel
Fax:

Delivery #: 80301914
PO #: 30131200847
Weight: 186300.000 LB
Ship Date: 10/21/2020
Package: BULK
Mode: Hopper Car
Car #: CPCX816228
Seal No: 153774

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PMJ821160

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.060	g/10min
HLMI Flow Rate	ASTM D1238	13.10	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.**

Erin Xiao
Quality Systems Coordinator

For CoA questions contact James Garcia at +1832813

Released to Imaging: 9/8/2022 10:18:07 AM
Received by OCD: 9/8/2022 10:14:59 AM

SKAPS

Product: 60-HD-11-BLK-BLK-GRI-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net 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)	Stress Crack Res. (hour)	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 5397	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
1	3112007690	11,985.00	3,854	58	52	24	24	160	162	17	15	211	191	587	570	56	55	149	0.947	2.7	10	500+	283	20I1053
2	3112007691	11,985.00	3,841	58	56	24	23	160	162	17	15	211	191	587	570	56	55	149	0.947	2.7	10	500+	283	20I1053
3	3112007692	11,985.00	3,836	58	52	24	26	160	162	17	15	211	191	587	570	56	55	149	0.947	2.7	10	500+	283	20I1053
4	3112007693	11,985.00	3,866	58	56	23	24	160	162	17	15	211	191	587	570	56	55	149	0.947	2.7	10	500+	283	20I1053
5	3112007694	11,985.00	3,836	57	55	23	23	160	162	17	15	211	191	587	570	56	55	149	0.947	2.7	10	500+	283	20I1053
6	3112007695	11,985.00	3,839	58	55	23	23	154	153	17	15	193	151	551	465	52	56	147	0.948	2.6	10	500+	283	20I1053
7	3112007696	11,985.00	3,841	58	57	25	25	154	153	17	15	193	151	551	465	52	56	147	0.948	2.6	10	500+	283	20I1053
8	3112007708	11,985.00	3,874	59	56	24	23	158	148	16	17	172	183	475	516	52	54	144	0.946	2.6	9	500+	283	20I1053
9	3112007723	11,985.00	3,904	58	56	26	26	150	153	16	15	185	155	521	420	50	55	145	0.946	2.6	10	500+	254	PMJ821140
10	3112007724	11,985.00	3,858	59	58	28	25	150	153	16	15	185	155	521	420	50	55	145	0.946	2.6	10	500+	254	PMJ821140
11	3112007725	11,985.00	3,860	59	55	27	25	150	153	16	15	185	155	521	420	50	55	145	0.946	2.6	10	500+	254	PMJ821140
12	3112007726	11,985.00	3,866	58	52	29	28	150	153	16	15	185	155	521	420	50	55	145	0.946	2.6	10	500+	254	PMJ821140

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SKAPS

Product: 60-HD-11-BLK-BLK-GRI-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net 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)	Stress Crack Res. (hour)	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 5397	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
13	3112007727	11,985.00	3,880	59	57	30	27	156	153	17	14	185	155	516	438	50	55	145	0.946	2.5	10	500+	254	PMJ821140
14	3112007728	11,985.00	3,894	58	54	30	29	156	153	17	14	185	155	516	438	50	55	145	0.946	2.5	10	500+	254	PMJ821140
15	3112007729	11,985.00	3,886	58	54	30	29	156	153	17	14	185	155	516	438	50	55	145	0.946	2.5	10	500+	254	PMJ821140
16	3112007730	11,985.00	3,894	58	54	29	30	156	153	17	14	185	155	516	438	50	55	145	0.946	2.5	10	500+	254	PMJ821140
17	3112007731	11,985.00	3,842	57	54	29	28	156	153	17	14	185	155	516	438	50	55	145	0.946	2.5	10	500+	254	PMJ821140
18	3112007732	11,985.00	3,884	58	55	29	30	152	153	16	16	195	169	559	513	52	55	145	0.946	2.5	10	500+	254	PMJ821140
19	3112007733	11,985.00	3,876	57	55	31	29	152	153	16	16	195	169	559	513	52	55	145	0.946	2.5	10	500+	254	PMJ821140
20	3112007734	11,985.00	3,898	57	55	31	28	152	153	16	16	195	169	559	513	52	55	145	0.946	2.5	10	500+	254	PMJ821140
21	3112007735	11,985.00	3,908	57	55	29	30	152	153	16	16	195	169	559	513	52	55	145	0.946	2.5	10	500+	254	PMJ821140
22	3112007736	11,985.00	3,894	57	56	31	30	156	159	17	16	167	150	436	369	52	55	145	0.946	2.7	10	500+	254	PMJ821140
23	3112007737	11,985.00	3,858	57	55	27	29	156	159	17	16	167	150	436	369	52	55	145	0.946	2.7	10	500+	254	PMJ821140
24	3112007738	11,985.00	3,856	57	55	31	29	156	159	17	16	167	150	436	369	52	55	145	0.946	2.7	10	500+	254	PMJ821140

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571 Industrial Parkway
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Received by OCD: 9/8/2022 10:14:59 AM

Product: 60-HD-11-BLK-BLK-GRI-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net 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)	Stress Crack Res. (hour)	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 5397	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
25	3112007739	11,985.00	3,882	57	55	33	31	156	159	17	16	167	150	436	369	52	55	145	0.946	2.7	10	500+	254	PMJ821140
26	3112007740	11,985.00	3,892	59	55	28	29	156	159	17	16	167	150	436	369	52	55	145	0.946	2.7	10	500+	254	PMJ821140
27	3112007741	11,985.00	3,864	58	55	31	30	160	165	16	15	189	155	509	426	53	57	149	0.945	2.7	10	500+	254	PMJ821140
28	3112007742	11,985.00	3,882	57	53	30	27	160	165	16	15	189	155	509	426	53	57	149	0.945	2.7	10	500+	250	PMJ821160
29	3112007743	11,985.00	3,830	58	54	31	28	160	165	16	15	189	155	509	426	53	57	149	0.945	2.7	10	500+	250	PMJ821160
30	3112007744	11,985.00	3,882	57	51	29	28	160	165	16	15	189	155	509	426	53	57	149	0.945	2.7	10	500+	250	PMJ821160
31	3112007745	11,985.00	3,846	57	51	29	29	152	156	17	16	184	158	476	455	53	57	149	0.945	2.6	10	500+	250	PMJ821160
32	3112007746	11,985.00	3,842	57	55	29	29	152	156	17	16	184	158	476	455	53	57	149	0.945	2.6	10	500+	250	PMJ821160
33	3112007747	11,985.00	3,876	57	54	30	30	152	156	17	16	184	158	476	455	53	57	149	0.945	2.6	10	500+	250	PMJ821160
34	3112007748	11,985.00	3,866	58	56	30	31	152	156	17	16	184	158	476	455	53	57	149	0.945	2.6	10	500+	250	PMJ821160
35	3112007749	11,985.00	3,902	58	56	31	28	152	156	17	16	184	158	476	455	53	57	149	0.945	2.6	10	500+	250	PMJ821160
36	3112007750	11,985.00	3,881	59	55	28	30	159	163	16	15	193	154	541	439	52	56	148	0.948	2.8	10	500+	250	PMJ821160

DCN: SKAPS LOG 014
Effective Date: February 26,2020
Rev 0

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Product: 60-HD-11-BLK-BLK-GRI-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net 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)	Stress Crack Res. (hour)	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 5397	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
37	3112007751	11,985.00	3,876	58	57	32	29	159	163	16	15	193	154	541	439	52	56	148	0.948	2.8	10	500+	250	PMJ821160
38	3112007752	11,985.00	3,905	57	54	30	30	159	163	16	15	193	154	541	439	52	56	148	0.948	2.8	10	500+	250	PMJ821160
39	3112007753	11,985.00	3,911	58	55	30	29	159	163	16	15	193	154	541	439	52	56	148	0.948	2.8	10	500+	250	PMJ821160
40	3112007754	11,985.00	3,919	57	54	29	27	162	159	17	15	190	159	525	445	52	56	148	0.948	2.6	10	500+	250	PMJ821160
41	3112007755	11,985.00	3,896	57	54	30	29	162	159	17	15	190	159	525	445	52	56	148	0.948	2.6	10	500+	250	PMJ821160
42	3112007756	11,985.00	3,877	58	54	32	31	162	159	17	15	190	159	525	445	52	56	148	0.948	2.6	10	500+	250	PMJ821160
43	3112007757	11,985.00	3,850	57	55	28	29	162	159	17	15	190	159	525	445	52	56	148	0.948	2.6	10	500+	250	PMJ821160
44	3112007758	11,985.00	3,880	58	55	28	28	162	159	17	15	190	159	525	445	52	56	148	0.948	2.6	10	500+	250	PMJ821160
45	3112007759	11,985.00	3,878	59	55	29	31	151	161	16	15	173	157	486	468	54	52	143	0.946	2.7	10	500+	250	PMJ821160
46	3112007760	11,985.00	3,906	60	56	31	27	151	161	16	15	173	157	486	468	54	52	143	0.946	2.7	10	500+	250	PMJ821160
47	3112007761	12,102.50	3,926	57	54	29	27	151	161	16	15	173	157	486	468	54	52	143	0.946	2.7	10	500+	250	PMJ821160
48	3112007762	11,985.00	3,915	58	55	26	27	151	161	16	15	173	157	486	468	54	52	143	0.946	2.7	10	500+	250	PMJ821160

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SKAPS

Product: 60-HD-11-BLK-BLK-GRI-STD-23.5
Project : Lea Land LF Unit IIA, NM
Customer: Southwest Liner Systems Inc.
Cust PO: SW2101

Quality Manager: Rajesh Patel
Date: February 2, 2021

We hereby certify the following test results for the above referenced product/project :

Count	Roll Number	Area (sq ft)	Net 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)	Stress Crack Res. (hour)	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 5397	ASTM D 3895	
						Side A	Side B	MD	TD	MD	TD	MD	TD	MD	TD	MD	TD							
49	3112007763	11,985.00	3,873	59	57	26	26	155	156	16	16	186	141	517	324	54	52	143	0.946	2.5	10	500+	250	PMJ821160

F-13

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529

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Formosa Plastics

FORMOSA PLASTICS CORPORATION, TEXAS
201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT TX 77978
PHONE:(888)FPCUSA3

Certificate of Analysis
(CONFIDENTIAL)

CUSTOMER:SKAPS INC.
571 INDUSTRIAL PARKWAY
R/C: NS
COMMERCE GA 30529
PRODUCT :HL3812
RAILCAR FPAX200366
CLEANING/INSPECTION NO: 200366090520

S/O NO : EV9A263
CUSTOMER PO : 30131200784
DATE SHIPPED: 10/09/20
LOT NO : 20I1053
WEIGHT (LB) : 193,750.00
CUSTID:FT04342 SPIDM1

TEST ITEM	REFERENCE METHOD	TEST VALUE
Melt Index,g/10min	ASTM D1238	.066
Density, g/cm3	ASTM D1505	.9377

Linda Kao

QC SUPERVISOR: LINDA KAO

CoA Date: 10/21/2020

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: Patel
Fax:

Delivery #: 80301912
PO #: 30131200847
Weight: 188000.000 LB
Ship Date: 10/21/2020
Package: BULK
Mode: Hopper Car
Car #: SHQX042157
Seal No: 153329

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PMJ821140

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.090	g/10min
HLMI Flow Rate	ASTM D1238	13.20	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.**

Erin Xiao
Quality Systems Coordinator

For CoA questions contact James Garcia at +1832813

CoA Date: 10/21/2020

Certificate of Analysis

Shipped To: SKAPS
571 Industrial Park Way
COMMERCE GA 30529-1326
USA

Recipient: Patel
Fax:

Delivery #: 80301914
PO #: 30131200847
Weight: 186300.000 LB
Ship Date: 10/21/2020
Package: BULK
Mode: Hopper Car
Car #: CPCX816228
Seal No: 153774

Product:
MARLEX K306 POLYETHYLENE in Bulk

Lot Number: PMJ821160

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.060	g/10min
HLMI Flow Rate	ASTM D1238	13.10	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.**

Erin Xiao
Quality Systems Coordinator

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TRI ENVIRONMENTAL

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
Austin, TX - USA | Anaheim, CA - USA | Anderson, SC - USA | Gold Coast - Australia | Suzhou - China

GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Smooth HDPE Geomembrane
Sample Identification: 3111006276
TRI Log #: 60974

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	60	62	61	61	60	60	61	61	65	63	61	2
											60	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.946	0.946	0.946								0.946	0.000
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.47	2.48									2.48	0.01
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	160	154	152	154	160						156	4
TD Yield Strength (ppi)	160	166	169	169	155						164	6
MD Break Strength (ppi)	254	256	285	297	302						279	23
TD Break Strength (ppi)	268	303	306	293	294						293	15
MD Yield Elongation (%)	20	20	20	20	21						20	0
TD Yield Elongation (%)	18	18	18	17	19						18	1
MD Break Elongation (%)	680	703	781	811	789						753	58
TD Break Elongation (%)	779	860	863	822	872						839	39
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	135	136	133	133	131						134	2
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	52	50	51	49	50	53	56	54	54	53	52	2
TD Tear Strength (lbs)	55	55	54	53	53	54	57	56	55	55	55	1

MD Machine Direction TD Transverse Direction

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI ENVIRONMENTAL

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Smooth HDPE Geomembrane
Sample Identification: 3111006284
TRI Log #: 60974

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	62	59	60	62	61	61	59	62	61	61	61	1
											59	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.945	0.946	0.946								0.946	0.001
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.48	2.49									2.49	0.01
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	166	155	156	155	155						157	5
TD Yield Strength (ppi)	167	170	170	164	164						167	3
MD Break Strength (ppi)	183	296	293	287	305						273	51
TD Break Strength (ppi)	310	303	206	298	284						280	43
MD Yield Elongation (%)	18	21	22	20	21						20	2
TD Yield Elongation (%)	17	18	19	19	19						18	1
MD Break Elongation (%)	477	807	794	783	821						736	146
TD Break Elongation (%)	863	854	607	869	820						803	111
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	135	134	134	133	132						133	1
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	56	53	54	52	50	52	53	52	55	54	53	2
TD Tear Strength (lbs)	55	55	55	53	55	54	54	55	56	55	55	1

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Smooth HDPE Geomembrane
Sample Identification: 3111006292
TRI Log #: 60974

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	66	60	65	59	61	62	61	60	61	65	**62**	2
											59	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.947	0.947	0.948								**0.947**	0.001
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.64	2.67									**2.66**	0.02
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	156	153	151	150	150						**152**	3
TD Yield Strength (ppi)	172	173	170	176	171						**172**	2
MD Break Strength (ppi)	262	278	286	300	298						**285**	16
TD Break Strength (ppi)	312	308	300	288	252						**292**	24
MD Yield Elongation (%)	19	21	21	19	22						**20**	1
TD Yield Elongation (%)	17	18	19	19	18						**18**	1
MD Break Elongation (%)	720	785	803	845	825						**798**	48
TD Break Elongation (%)	922	911	891	840	750						**863**	70
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	131	129	127	126	127						**128**	2
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	53	56	55	52	53	54	53	52	54	51	**53**	1
TD Tear Strength (lbs)	55	56	56	55	54	54	56	56	55	54	**55**	1

MD Machine Direction TD Transverse Direction

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.

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Smooth HDPE Geomembrane
Sample Identification: 3111006300
TRI Log #: 60974

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	59	61	62	62	60	59	62	62	61	62	61	1
											59	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.947	0.947	0.948								0.947	0.001
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.55	2.58									2.57	0.02
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	163	164	164	156	150						159	6
TD Yield Strength (ppi)	175	175	170	172	167						172	3
MD Break Strength (ppi)	296	217	297	294	252						271	36
TD Break Strength (ppi)	303	310	256	241	283						279	30
MD Yield Elongation (%)	20	20	20	20	24						21	2
TD Yield Elongation (%)	18	18	19	18	18						18	0
MD Break Elongation (%)	787	590	774	803	706						732	88
TD Break Elongation (%)	872	877	738	712	840						808	77
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	130	130	129	128	130						129	1
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	51	53	53	51	52	54	55	53	53	52	53	1
TD Tear Strength (lbs)	55	55	54	55	53	55	56	54	56	54	55	1

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Smooth HDPE Geomembrane
Sample Identification: 3111006307
TRI Log #: 60974

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	59	63	61	59	61	59	63	62	62	62	61	1
											59	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.945	0.945	0.946								0.945	0.001
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.37	2.33									2.35	0.03
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	161	160	164	167	155						161	5
TD Yield Strength (ppi)	179	175	173	171	166						173	5
MD Break Strength (ppi)	297	255	294	282	260						278	19
TD Break Strength (ppi)	292	297	290	250	267						279	20
MD Yield Elongation (%)	19	19	19	19	20						19	0
TD Yield Elongation (%)	17	17	19	18	17						18	1
MD Break Elongation (%)	837	721	808	768	743						775	47
TD Break Elongation (%)	845	871	858	758	809						828	46
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	129	129	127	127	127						128	1
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	53	49	52	51	47	51	53	50	53	51	51	2
TD Tear Strength (lbs)	54	55	55	53	53	54	55	55	55	54	54	1

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007690
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	64	65	62	61	63	63	64	62	62	61	63	1
											61	<< min
Asperity Height (ASTM D 7466)												
Asperity Height (mils) - Side A	24	22	23	23	28	22	26	29	26	27	25	3
Asperity Height (mils) - Side B	27	25	30	27	37	34	29	35	26	25	30	4
Density (ASTM D 1505)												
Density (g/cm3)	0.950	0.950	0.950								0.950	0.000
Carbon Black Content (ASTM D 4218)												
% Carbon Black	2.72	2.78									2.75	0.04
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	167	169	172	168	167						169	2
TD Yield Strength (ppi)	176	171	175	173	169						173	3
MD Break Strength (ppi)	201	181	143	226	201						190	31
TD Break Strength (ppi)	124	180	180	178	141						161	26
MD Yield Elongation (%)	16	19	20	18	18						18	1
TD Yield Elongation (%)	17	17	16	17	16						17	1
MD Break Elongation (%)	541	453	304	609	542						490	118
TD Break Elongation (%)	45	526	514	507	411						401	204
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	142	140	141	144	140						141	2
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	53	56	55	56	54	55	56	53	56	51	55	2
TD Tear Strength (lbs)	55	62	57	56	60	57	57	58	59	57	58	2

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007724
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Thickness (ASTM D 5994)													
Thickness (mils)	68	60	62	65	64	63	60	64	62	62	63 60	2 << min	
Asperity Height (ASTM D 7466)													
Asperity Height (mils) - Side A	36	37	35	37	35	35	36	32	38	37	36	2	
Asperity Height (mils) - Side B	42	38	37	40	32	35	39	34	39	37	37	3	
Density (ASTM D 1505)													
Density (g/cm3)	0.945	0.945	0.946								0.945	0.001	
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.51	2.48									2.50	0.02	
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								
Rating - 2nd field view	1	1	1	1	1								
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	180	168	172	171	177						174	5	
TD Yield Strength (ppi)	179	172	173	171	178						175	4	
MD Break Strength (ppi)	175	177	209	192	189						188	14	
TD Break Strength (ppi)	177	116	165	178	187						165	28	
MD Yield Elongation (%)	16	15	18	17	16						16	1	
TD Yield Elongation (%)	17	15	16	16	14						16	1	
MD Break Elongation (%)	419	459	570	532	486						493	59	
TD Break Elongation (%)	497	180	475	548	516						443	150	
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	138	144	141	142	135						140	4	
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	54	57	56	54	56	55	54	55	52	56	55	1	
TD Tear Strength (lbs)	56	62	57	60	63	57	57	55	57	56	58	3	

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007733
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	61	57	63	62	62	58	60	61	58	63	60	2	
											57	<< min	
Asperity Height (ASTM D 7466)													
Asperity Height (mils) - Side A	35	32	37	39	35	35	33	30	32	36	34	3	
Asperity Height (mils) - Side B	33	34	33	38	36	31	36	33	36	34	34	2	
Density (ASTM D 1505)													
Density (g/cm3)	0.946	0.946	0.947								0.946	0.001	
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.59	2.60									2.60	0.01	
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								
Rating - 2nd field view	1	1	1	1	1								
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	166	167	166	160	171						166	4	
TD Yield Strength (ppi)	171	160	172	164	169						167	5	
MD Break Strength (ppi)	191	185	169	140	205						178	25	
TD Break Strength (ppi)	156	118	120	172	136						140	23	
MD Yield Elongation (%)	17	17	20	16	20						18	2	
TD Yield Elongation (%)	16	13	16	15	16						15	1	
MD Break Elongation (%)	519	471	456	421	563						486	56	
TD Break Elongation (%)	474	111	151	514	174						285	193	
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	140	139	145	140	143						141	3	
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	53	58	55	54	56	56	53	52	55	55	55	2	
TD Tear Strength (lbs)	60	60	55	59	55	57	56	55	59	59	58	2	

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007742
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Thickness (ASTM D 5994)													
Thickness (mils)	58	62	60	61	62	63	62	62	58	61	61	2	
											58	<< min	
Asperity Height (ASTM D 7466)													
Asperity Height (mils) - Side A	34	35	31	36	31	34	32	32	33	34	33	2	
Asperity Height (mils) - Side B	38	35	38	41	37	37	34	33	33	39	37	3	
Density (ASTM D 1505)													
Density (g/cm3)	0.946	0.946	0.946								0.946	0.000	
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.44	2.46									2.45	0.01	
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								
Rating - 2nd field view	1	1	1	1	1								
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	142	148	150	147	147						147	3	
TD Yield Strength (ppi)	171	155	167	168	171						166	7	
MD Break Strength (ppi)	199	128	176	194	195						178	30	
TD Break Strength (ppi)	144	139	115	157	171						145	21	
MD Yield Elongation (%)	17	19	18	18	18						18	1	
TD Yield Elongation (%)	16	14	16	15	17						16	1	
MD.Break Elongation (%)	580	355	465	542	527						494	88	
TD Break Elongation (%)	454	448	350	470	489						442	54	
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	145	151	144	143	140						144	4	
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	54	57	54	54	53	52	54	57	52	54	54	2	
TD Tear Strength (lbs)	58	55	57	57	56	57	56	54	55	56	56	1	

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007751
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Thickness (ASTM D 5994)													
Thickness (mils)	65	59	61	62	57	62	61	61	63	61	61	2	
											57	<< min	
Asperity Height (ASTM D 7466)													
Asperity Height (mils) - Side A	34	31	33	30	35	36	31	31	31	36	33	2	
Asperity Height (mils) - Side B	34	35	30	29	37	36	36	38	33	37	35	3	
Density (ASTM D 1505)													
Density (g/cm3)	0.946	0.946	0.946								0.946	0.000	
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.54	2.55									2.55	0.01	
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								
Rating - 2nd field view	1	1	1	1	1								
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	171	158	157	154	156						159	7	
TD Yield Strength (ppi)	168	169	170	171	165						169	2	
MD Break Strength (ppi)	133	175	206	181	175						174	26	
TD Break Strength (ppi)	122	132	118	166	174						142	26	
MD Yield Elongation (%)	16	19	21	16	20						18	2	
TD Yield Elongation (%)	15	14	16	16	16						15	1	
MD Break Elongation (%)	61	462	561	466	449						400	195	
TD Break Elongation (%)	351	218	99	484	519						334	177	
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	133	137	143	134	139						137	4	
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	54	53	53	53	57	58	54	56	57	58	55	2	
TD Tear Strength (lbs)	59	60	58	57	55	59	60	57	58	57	58	2	

MD Machine Direction TD Transverse Direction

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GEOMEMBRANE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps 60 mil Textured HDPE Geomembrane
Sample Identification: 3112007760
TRI Log #: 61041

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.	PROJ. SPEC.
Thickness (ASTM D 5994)													
Thickness (mils)	62	57	65	59	65	62	65	65	60	61	62	3	
											57	<< min	
Asperity Height (ASTM D 7466)													
Asperity Height (mils) - Side A	37	37	38	36	35	32	31	29	32	28	34	4	
Asperity Height (mils) - Side B	38	38	38	41	35	33	39	32	32	32	36	3	
Density (ASTM D 1505)													
Density (g/cm3)	0.946	0.947	0.947								0.947	0.001	
Carbon Black Content (ASTM D 4218)													
% Carbon Black	2.41	2.38									2.40	0.02	
Carbon Black Dispersion (ASTM D 5596)													
Rating - 1st field view	1	1	1	1	1								
Rating - 2nd field view	1	1	1	1	1								
Tensile Properties (ASTM D 6693, 2 ipm strain rate)													
MD Yield Strength (ppi)	161	147	156	158	151						155	6	
TD Yield Strength (ppi)	170	170	169	171	166						169	2	
MD Break Strength (ppi)	185	173	174	191	68						158	51	
TD Break Strength (ppi)	141	160	142	179	173						159	17	
MD Yield Elongation (%)	16	18	18	18	20						18	1	
TD Yield Elongation (%)	14	15	16	16	17						16	1	
MD Break Elongation (%)	481	493	469	506	516						493	19	
TD Break Elongation (%)	429	490	440	522	517						480	43	
Puncture Resistance (ASTM D 4833)													
Puncture Strength (lbs)	141	142	140	142	141						141	1	
Tear Resistance (ASTM D 1004)													
MD Tear Strength (lbs)	55	52	54	53	53	55	62	54	52	53	54	3	
TD Tear Strength (lbs)	57	56	55	55	58	59	57	53	57	57	56	2	

MD Machine Direction TD Transverse Direction

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APPENDIX G

TRIAL SEAM LOG
AND
SLS RÉSUMÉS

Includes pages G-1 through G-19

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TRIAL SEAM LOG FOR PRIMARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
7/16/21	11:00 AM	LM	7	85	HDPE	Wedge	750	8.0	133	133	118	Pass	MM
									124	128	132	Pass	
									160	148	152	Pass	
7/16/21	11:10 AM	MJ	69	85	HDPE	Wedge	750	8.0	113	114	114	Pass	MM
									105	120	118	Pass	
									157	147	148	Pass	
7/16/21	11:15 AM	CZ	4	85	HDPE	Extrusion	500	400.0	98	-	153	Pass	MM
									123	-	153	Pass	
									99	-	150	Pass	
7/17/21	5:40 AM	MJ	69	65	HDPE	Wedge	750	8	120	127	122	Pass	MM
									134	131	126	Pass	
									157	155	152	Pass	
7/17/21	5:45 AM	LM	7	65	HDPE	Wedge	750	8.0	116	114	121	Pass	MM
									115	125	113	Pass	
									146	144	143	Pass	
7/17/21	5:50 AM	CZ	4	65	HDPE	Extrusion	500	400.0	120	-	147	Pass	MM
									115	-	143	Pass	
									110	-	143	Pass	
7/19/21	5:50 AM	LM	7	65	HDPE	Wedge	750	8.0	121	127	123	Pass	MM
									123	119	129	Pass	
									143	147	144	Pass	
7/19/21	6:00 AM	MJ	69	67	HDPE	Wedge	750	8.0	129	147	127	Pass	MM
									138	151	132	Pass	
									159	155	157	Pass	
7/19/21	6:10 AM	CZ	4	67	HDPE	Extrusion	500	400.0	131	-	146	Pass	MM
									121	-	142	Pass	
									127	-	146	Pass	
7/19/21	10:50 AM	CZ	4	72	HDPE	Extrusion	500	400.0	120	-	142	Pass	MM
									132	-	146	Pass	
									126	-	149	Pass	
7/19/21	11:00 AM	MJ	69	75	HDPE	Wedge	750	9.5	117	127	127	Pass	MM
									118	118	119	Pass	
									145	142	149	Pass	
7/19/21	11:10 AM	LM	7	75	HDPE	Wedge	750	9.0	104	114	118	Pass	MM
									118	114	100	Pass	
									138	144	138	Pass	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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PRIMARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)				
									in	out	Shear (ppi)	Pass/Fail	
7/20/21	6:40 AM	MJ	69	70	HDPE	Wedge	750	8.0	137	133	136	Pass	MM
									133	134	133	Pass	
									174	168	172	Pass	
7/20/21	6:50 AM	LM	7	70	HDPE	Wedge	750	8.0	116	120	118	Pass	MM
									133	129	120	Pass	
									159	160	159	Pass	
7/20/21	7:00 AM	CZ	4	70	HDPE	Extrusion	500	400	124	-	152	Pass	MM
									98	-	124	Pass	
									120	-	156	Pass	
7/21/21	6:35 AM	CZ	4	70	HDPE	Extrusion	500	400	141	-	142	Pass	MM
									144	-	145	Pass	
									117	-	146	Pass	
7/21/21	6:00 AM	MJ	69	70	HDPE	Wedge	750	8.0	126	132	137	Pass	MM
									136	134	139	Pass	
									142	155	159	Pass	
7/21/21	6:10 AM	LM	7	70	HDPE	Wedge	750	8.0	114	120	114	Pass	MM
									128	124	125	Pass	
									159	154	159	Pass	
7/21/21	11:50 AM	CZ	4	85	HDPE	Extrusion	500	400.0	120	-	136	Pass	MM
									129	-	138	Pass	
									121	-	142	Pass	
7/21/21	12:00 PM	LM	7	85	HDPE	Wedge	750	9.0	121	126	117	Pass	MM
									120	123	127	Pass	
									142	148	140	Pass	
7/21/21	12:10 PM	MJ	69	85	HDPE	Wedge	750	9.0	101	107	107	Pass	MM
									109	106	104	Pass	
									150	152	150	Pass	
7/22/21	6:50 AM	CZ	4	70	HDPE	Extrusion	500	400	125	-	139	Pass	MM
									120	-	138	Pass	
									115	-	146	Pass	
7/22/21	6:55 AM	MJ	69	70	HDPE	Wedge	750	8.0	114	118	117	Pass	MM
									119	111	112	Pass	
									157	158	165	Pass	
7/22/21	7:00 AM	LM	7	70	HDPE	Wedge	750	8.0	137	132	126	Pass	MM
									123	119	130	Pass	
									151	158	155	Pass	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
7/22/21	7:05 AM	KP	84	70	HDPE	Wedge	750	8.0	134	134	128	Pass	MM
									123	125	131	Pass	
									157	165	160	Pass	
7/22/21	11:45 AM	CZ	4	84	HDPE	Extrusion	500	400.0	130	-	144	Pass	MM
									119	-	150	Pass	
									108	-	149	Pass	
7/22/21	11:55 AM	MJ	69	84	HDPE	Wedge	750	9.0	117	116	128	Pass	MM
									118	116	134	Pass	
									168	160	165	Pass	
7/22/21	12:00 PM	LM	7	85	HDPE	Wedge	750	9.0	122	129	122	Pass	MM
									103	119	125	Pass	
									163	162	155	Pass	
7/22/21	12:10 PM	KP	84	85	HDPE	Wedge	750	9.0	120	122	125	Pass	MM
									110	122	125	Pass	
									164	159	160	Pass	
7/26/21	6:30 AM	MJ	69	70	HDPE	Wedge	750	8.0	129	124	132	Pass	MM
									121	116	124	Pass	
									146	144	147	Pass	
7/26/21	6:35 AM	LM	7	70	HDPE	Wedge	750	8.0	117	130	120	Pass	MM
									116	129	130	Pass	
									159	157	152	Pass	
7/26/21	6:40 AM	KP	84	70	HDPE	Wedge	750	8.0	120	114	117	Pass	MM
									121	114	115	Pass	
									147	147	150	Pass	
7/26/21	6:35 AM	LM	2	70	HDPE	Extrusion	500	400.0	120	-	148	Pass	MM
									117	-	148	Pass	
									117	-	147	Pass	
7/26/21	11:55 AM	MJ	69	85	HDPE	Wedge	750	9.5	110	118	127	Pass	MM
									110	122	129	Pass	
									140	141	137	Pass	
7/26/21	12:00 PM	LM	7	85	HDPE	Wedge	750	9.5	125	110	115	Pass	MM
									120	117	122	Pass	
									145	140	139	Pass	
7/26/21	12:05 PM	KP	84	85	HDPE	Wedge	750	9.5	110	115	114	Pass	MM
									110	112	111	Pass	
									139	138	139	Pass	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)				
									in	out	Shear (ppi)	Pass/Fail	
7/26/21	12:10 PM	GZ	2	85	HDPE	Extrusion	500	400.0	108	-	136	Pass	MM
									119	-	135	Pass	
									119	-	136	Pass	
7/27/21	6:35 AM	MJ	69	70	HDPE	Wedge	750	8.0	123	120	127	Pass	MM
									122	125	123	Pass	
									160	160	157	Pass	
7/27/21	6:40 AM	CZ	4	70	HDPE	Extrusion	500	400.0	121	-	149	Pass	MM
									117	-	152	Pass	
									121	-	149	Pass	
7/27/21	6:45 AM	KP	84	70	HDPE	Wedge	750	8.0	118	123	121	Pass	MM
									123	129	121	Pass	
									157	154	154	Pass	
7/27/21	7:00 AM	LM	3	70	HDPE	Wedge	750	8.0	126	120	126	Pass	MM
									129	133	129	Pass	
									157	164	160	Pass	
7/27/21	12:00 PM	GZ	4	84	HDPE	Extrusion	490	400.0	119	-	149	Pass	MM
									110	-	152	Pass	
									115	-	147	Pass	
7/22/21	12:10 PM	MJ	7	84	HDPE	Extrusion	475	375.0	112	-	152	Pass	MM
									119	-	149	Pass	
									112	-	147	Pass	

TRIAL SEAM LOG FOR SECONDARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
17-Jun-21	05:55	MJ	3	71	60-Mil	Wedge	750	8.0	121	114	156	Pass	BJ
									120	120	152	Pass	
									120	119	153	Pass	
17-Jun-21	06:05	XC	7	71	60-Mil	Wedge	750	8.0	122	119	157	Pass	BJ
									121	133	153	Pass	
									118	125	157	Pass	
17-Jun-21	06:15	NH	79	71	60-Mil	Wedge	750	7.5	132	135	152	Pass	BJ
									119	130	151	Pass	
									117	122	151	Pass	
17-Jun-21	06:40	TD	7	71	60-Mil	Extrusion	495	395.0	99	-	140	Pass	BJ
									96	-	146	Pass	
									95	-	160	Pass	
17-Jun-21	08:40	MJ	69	73	60-Mil	Wedge	750	8.0	117	119	140	Pass	BJ
									117	117	147	Pass	
									116	114	142	Pass	
17-Jun-21	11:00	MJ	69	85	60-Mil	Wedge	750	9.5	120	126	147	Pass	BJ
									112	114	148	Pass	
									119	113	150	Pass	
17-Jun-21	11:10	XC	7	85	60-Mil	Wedge	750	9.5	115	111	145	Pass	BJ
									111	116	147	Pass	
									111	119	143	Pass	
17-Jun-21	11:20	NH	79	85	60-Mil	Wedge	750	8.0	112	116	141	Pass	BJ
									117	116	143	Pass	
									112	115	147	Pass	
17-Jun-21	11:30	TD	7	85	60-Mil	Extrusion	490	385.0	122	-	131	Pass	BJ
									131	-	138	Pass	
									113	-	136	Pass	
17-Jun-21	11:21	NH	79	85	60-Mil	Wedge	750	8.0	112	113	143	Pass	BJ
									110	109	138	Pass	
									114	111	140	Pass	
18-Jun-21	06:10	MJ	69	71	60-Mil	Wedge	750	8.0	113	119	146	Pass	BJ
									120	125	140	Pass	
									118	115	143	Pass	
18-Jun-21	06:20	XC	7	71	60-Mil	Wedge	750	8.0	131	126	144	Pass	BJ
									117	119	145	Pass	
									124	125	144	Pass	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
18-Jun-21	06:30	NH	79	71	60-Mil	Wedge	750	7.0	135	120	151	Pass	BJ
									111	119	153	Pass	
									114	120	153	Pass	
18-Jun-21	06:40	NH	79	71	60-Mil	Wedge	750	7.0	130	113	166	Pass	BJ
									127	129	160	Pass	
									137	118	162	Pass	
18-Jun-21	06:50	TD	X7	71	60-Mil	Extrusion	490	350.0	104	-	140	Pass	BJ
									103	-	141	Pass	
									102	-	142	Pass	
18-Jun-21	11:25	MJ	69	88	60-Mil	Wedge	750	9.5	108	123	142	Pass	BJ
									112	115	144	Pass	
									117	123	144	Pass	
18-Jun-21	11:35	XC	7	88	60-Mil	Wedge	750	9.5	113	124	144	Pass	BJ
									121	122	145	Pass	
									123	123	140	Pass	
18-Jun-21	11:45	NH	79	88	60-Mil	Wedge	750	7.5	102	121	141	Pass	BJ
									123	113	139	Pass	
									104	120	142	Pass	
18-Jun-21	11:50	NH	79	88	60-Mil	Wedge	750	7.5	117	125	147	Pass	BJ
									119	116	145	Pass	
									126	120	146	Pass	
18-Jun-21	12:05	TD	X7	88	60-Mil	Extrusion	495	380.0	106	-	135	Pass	BJ
									100	-	135	Pass	
									113	-	136	Pass	
19-Jun-21	06:40	MJ	69	74	60-Mil	Wedge	750	8.0	123	120	152	Pass	BJ
									119	126	154	Pass	
									117	119	156	Pass	
19-Jun-21	06:50	XC	7	74	60-Mil	Wedge	750	8.0	132	122	160	Pass	BJ
									127	129	157	Pass	
									130	122	157	Pass	
19-Jun-21	07:00	NH	79	74	60-Mil	Wedge	750	7.5	119	120	126	Pass	BJ
									120	117	125	Pass	
									127	113	127	Pass	
19-Jun-21	07:10	NH	79	74	60-Mil	Wedge	750	7.5	131	127	161	Pass	BJ
									131	129	160	Pass	
									130	129	166	Pass	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)				
									in	out	Shear (ppi)	Pass/Fail	
19-Jun-21	07:00	TD	X7	74	60-Mil	Extrusion	490	380.0	115	-	146	Pass	BJ
									112	-	152	Pass	
									117	-	146	Pass	
21-Jun-21	05:44	NH	79	83	60-Mil	Wedge	750	7.0	141	124	140	Pass	BJ
									136	123	135	Pass	
									140	121	142	Pass	
21-Jun-21	05:55	XC	7	83	60-Mil	Wedge	750	8.0	118	124	140	Pass	BJ
									134	124	152	Pass	
									115	117	147	Pass	
21-Jun-21	06:05	MJ	69	83	60-Mil	Wedge	750	8.0	123	110	150	Pass	BJ
									128	114	148	Pass	
									128	118	146	Pass	
21-Jun-21	06:15	NH	79	83	60-Mil	Wedge	750	7.0	126	124	146	Pass	BJ
									136	118	151	Pass	
									126	103	148	Pass	
21-Jun-21	06:25	TD	X7	83	60-Mil	Extrusion	495	380.0	92	-	158	Pass	BJ
									90	-	148	Pass	
									102	-	150	Pass	
22-Jun-21	05:50	MJ	69	75	60-Mil	Wedge	750	8.0	122	121	151	Pass	BJ
									126	126	149	Pass	
									130	119	150	Pass	
22-Jun-21	06:00	XC	7	75	60-Mil	Wedge	750	8.0	125	146	161	Pass	BJ
									124	132	152	Pass	
									133	130	157	Pass	
22-Jun-21	06:10	NH	79	75	60-Mil	Wedge	750	7.0	140	122	160	Pass	BJ
									122	129	152	Pass	
									127	132	151	Pass	
22-Jun-21	06:10	NH	79	75	60-Mil	Wedge	750	7.0	126	127	161	Pass	BJ
									129	132	159	Pass	
									119	122	159	Pass	
22-Jun-21	06:30	TD	X7	75	60-Mil	Extrusion	495	380.0	120	-	146	Pass	BJ
									117	-	152	Pass	
									119	-	153	Pass	
22-Jun-21	11:40	MJ	69	89	60-Mil	Wedge	750	9.5	128	122	150	Pass	BJ
									129	127	148	Pass	
									127	126	147	Pass	

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SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
22-Jun-21	11:50	NH	79	89	60-Mil	Wedge	750	7.0	131	132	149	Pass	BJ
									110	134	150	Pass	
									123	119	147	Pass	
22-Jun-21	12:00	NH	79	89	60-Mil	Wedge	750	7.0	115	115	151	Pass	BJ
									141	132	155	Pass	
									119	112	157	Pass	
22-Jun-21	12:10	TD	X7	89	60-Mil	Extrusion	495	380.0	101	-	139	Pass	BJ
									110	-	146	Pass	
									107	-	142	Pass	
23-Jun-21	05:50	MJ	69	71	60-Mil	Wedge	750	8.0	121	113	142	Pass	BJ
									114	118	141	Pass	
									119	118	147	Pass	
23-Jun-21	06:00	XC	7	71	60-Mil	Wedge	750	8.0	127	127	152	Pass	BJ
									116	133	152	Pass	
									125	130	156	Pass	
23-Jun-21	06:10	NH	79	71	60-Mil	Wedge	750	7.0	128	119	148	Pass	BJ
									131	121	151	Pass	
									111	126	149	Pass	
23-Jun-21	06:20	NH	79	71	60-Mil	Wedge	750	7.0	127	127	158	Pass	BJ
									114	142	163	Pass	
									112	123	161	Pass	
23-Jun-21	06:30	TD	X7	71	60-Mil	Extrusion	495	380.0	117	-	142	Pass	BJ
									121	-	149	Pass	
									117	-	147	Pass	
23-Jun-21	11:10	MJ	69	88	60-Mil	Wedge	750	9.5	111	110	132	Pass	BJ
									109	111	130	Pass	
									113	108	133	Pass	
23-Jun-21	11:20	NH	79	88	60-Mil	Wedge	750	7.0	117	114	134	Pass	BJ
									113	122	134	Pass	
									127	117	136	Pass	
23-Jun-21	11:30	NH	79	88	60-Mil	Wedge	750	7.0	119	123	136	Pass	BJ
									126	121	136	Pass	
									118	122	141	Pass	
23-Jun-21	11:40	TD	X7	88	60-Mil	Extrusion	495	380.0	116	-	137	Pass	BJ
									101	-	134	Pass	
									107	-	132	Pass	

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UNIT IIA CONSTRUCTION
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SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
24-Jun-21	05:40	TD	X7	71	60-Mil	Extrusion	485	375.0	121	-	150	Pass	BJ
									119	-	151	Pass	
									126	-	157	Pass	
24-Jun-21	05:50	MJ	69	71	60-Mil	Wedge	750	8.0	118	123	146	Pass	BJ
									118	126	146	Pass	
									135	132	147	Pass	
24-Jun-21	06:00	XC	7	71	60-Mil	Wedge	750	8.0	125	118	140	Pass	BJ
									127	115	144	Pass	
									121	116	142	Pass	
24-Jun-21	06:10	NH	79	71	60-Mil	Wedge	750	7.0	116	112	142	Pass	BJ
									111	116	144	Pass	
									132	112	146	Pass	
24-Jun-21	06:20	NH	79	71	60-Mil	Wedge	750	7.0	128	126	150	Pass	BJ
									117	117	147	Pass	
									112	121	147	Pass	
24-Jun-21	11:20	MJ	69	88	60-Mil	Wedge	750	9.5	119	112	137	Pass	BJ
									114	112	136	Pass	
									114	115	140	Pass	
24-Jun-21	11:30	XC	7	88	60-Mil	Wedge	750	9.5	120	119	136	Pass	BJ
									116	125	136	Pass	
									124	120	137	Pass	
24-Jun-21	11:40	NH	79	88	60-Mil	Wedge	750	7.5	113	124	141	Pass	BJ
									129	128	147	Pass	
									134	124	142	Pass	
24-Jun-21	11:50	TD	X7	88	60-Mil	Extrusion	490	375.0	117	-	141	Pass	BJ
									120	-	145	Pass	
									112	-	142	Pass	
25-Jun-21	05:55	MJ	69	78	60-Mil	Wedge	750	8.0	112	114	141	Pass	MM
									116	119	140	Pass	
									121	120	143	Pass	
25-Jun-21	06:00	XC	7	78	60-Mil	Wedge	750	8.0	118	116	144	Pass	MM
									118	126	143	Pass	
									112	129	141	Pass	
25-Jun-21	06:10	NH	79	78	60-Mil	Wedge	750	7.5	125	126	155	Pass	MM
									132	133	152	Pass	
									137	133	152	Pass	

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UNIT IIA CONSTRUCTION
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SECONDARY TRIAL SEAM LOG

Date	Time	Welder ID	Machine Number	Amb. Temp (F)	Materials Type	Weld Type	Set Temp	Set Speed or Pre-Heat	Field Test Results				QA Monitor
									Peel (ppi)		Shear (ppi)	Pass/Fail	
									in	out			
25-Jun-21	06:20	TD	X7	78	60-Mil	Extrusion	480	350.0	122	-	147	Pass	MM
									126	-	147	Pass	
									120	-	143	Pass	
25-Jun-21	11:15	MJ	69	87	60-Mil	Wedge	750	9.5	110	120	140	Pass	MM
									113	118	147	Pass	
									118	117	150	Pass	
25-Jun-21	11:25	TD	X7	87	60-Mil	Extrusion	475	325.0	112	-	140	Pass	MM
									114	-	137	Pass	
									110	-	137	Pass	
26-Jun-21	05:40	MJ	69	68	60-Mil	Wedge	750	8.0	134	129	151	Pass	MM
									129	125	150	Pass	
									132	124	152	Pass	
26-Jun-21	05:50	XC	7	68	60-Mil	Wedge	750	8.0	114	122	149	Pass	MM
									119	126	153	Pass	
									121	124	150	Pass	
26-Jun-21	06:00	NH	79	67	60-Mil	Wedge	750	7.5	119	117	149	Pass	MM
									110	133	150	Pass	
									135	129	155	Pass	
26-Jun-21	06:10	TD	X7	67	60-Mil	Extrusion	475	350.0	112	-	150	Pass	MM
									116	-	142	Pass	
									120	-	150	Pass	
26-Jun-21	06:20	NH	79	67	60-Mil	Wedge	750	7.0	119	117	149	Pass	MM
									110	133	150	Pass	
									135	129	155	Pass	

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TENSIOMETER CALIBRATION CERTIFICATE

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No: M2405-750#
Serial No: 689135

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: 4112689135
Channel No: N/A

Dead Weight:

W1	2
W2	152
W3	302

Reference Cell:

R1	2
R2	152
R3	302

Indicator reading with no load: 0

Offset: 5.750692 Scale: 3.184886

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

GH

Date: 11/20/20

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No: M2405-750#
Serial No: 688301

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: 4112688301
Channel No: N/A

Dead Weight: W1 2, W2 152, W3 302

Reference Cell: R1 2, R2 152, R3 302

Indicator reading with no load: 0

Offset: 9.112250

Scale: 3.188782

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

GH

Date: 11/20/20

SLS RÉSUMÉS

SOUTHWEST LINER SYSTEMS, INC. ALBUQUERQUE, NEW MEXICO
505-345-0043 505-345-0315 fax

Installation Personnel Qualifications

Project Supervisor/Quality Control- The QC/General Supervisor for this project may be Lorenzo Zazpe Jr. Mr. Zazpe was employed by SLT/GSE from 1990 until 1994. Mr. Zazpe started with SLT as a laborer, and was promoted successively to Liner Technician, Master Seamer, and then to Quality Control Technician. During his tenure with SLT/GSE, Mr. Zazpe worked on projects that totaled over (25) million square feet. Mr. Zazpe joined The Snow Company, Inc. in 1995, since that time he has worked on over (50) FML projects that total more than (30) million square feet of liner material. Mr. Zazpe has been working as the "General Supervisor" since the beginning of 2007. Mr. Zazpe came to Southwest Liner Systems, Inc. in 2008. Since that time Mr. Zazpe has installed over (20) million square feet of liner materials for Southwest Liner Systems, Inc.

Project Supervisor/Quality Control- The QC/General Supervisor for this project may be Juan Zazpe. Mr. Zazpe was employed by The Snow Company, Inc. from 2000 until 2008. Mr. Zazpe started with The Snow Company, Inc. as a laborer, and was successively promoted to Liner Technician, Master Seamer, Quality Control Technician, and Project Foreman. While with The Snow Company, Inc. Mr. Zazpe has worked on over (30) FML projects that total more than (20) million square feet of HDPE materials and other liner materials. Mr. Zazpe came to Southwest Liner Systems, Inc. in 2008. Since that time Mr. Zazpe has installed over (20) million square feet of liner materials for Southwest Liner Systems, Inc.

Project Supervisor/Quality Control- Keith Stewart; (9 +) years of seaming experience; over (20) million square feet of HDPE liner material installed. Mr. Stewart started with Southwest Liner Systems, Inc. in November of 2008. Since that time he has been a valuable asset to the company. He currently is an experienced welding technician and can perform all aspects of liner installations.

Project Supervisor/Quality Control- Gabriel Zazpe; (5 +) years of seaming experience; over (20) million square feet of HDPE liner material installed. Mr. Zazpe started with Southwest Liner Systems, Inc. in May of 2016. Since that time he has been a valuable asset to the company. He currently is working as our Project on site supervisor. Managing the crew and supplies needed on site. He has worked his way up thru the ranks and has learned all aspects of the project from installation to QA/QC. He is a valuable asset to the company.

Welding Technician III Master Seamer- Gerrison Baloo, (9 +) years of seaming experience; over (20) million square feet of HDPE liner and other liner material installed. Mr. Baloo started with Southwest

Liner Systems, Inc. in November of 2008. Since that time he has been a valuable asset to the company. He currently is an experienced welding technician and can perform all aspects of liner installations..

Welding Technician III Master Seamer- Ubaldo Mondragon, (9 +) years plus of experience; over (20) million square feet of HDPE and other liner materials installed. Mr. Mondragon started with Southwest Liner Systems, Inc. in 2008. Prior to coming to work for SLS Mr. Saltwater had worked for the Snow Company of Albuquerque, New Mexico. He has extensive training and knowledge of the installation and testing of geomembrane liners.

Welding Technician II- Chris Zazpe, (3 +) Year of experience; about (10) million square feet of HDPE and other geomembrane liner experience. Mr. Zazpe has worked on several projects and continues to learn how to install and weld geomembrane liners. We believe that he will continue to learn and grow with the company and we believe that he will be an asset. He is currently working as the site foreman and it is our hope that he will excel in this position.

Welding Technician II- Tommy Dupree, (3+) Years of experience; about (10) million square feet of HDPE and other geomembrane liner experience. Mr. Dupree has worked on several projects and continues to learn how to install and weld geomembrane liners. Mr. Dupree came back to work with us after an extended leave of absence and has been quite a asset. We believe that he will continue to learn and grow with the company and believe that he will be an asset.

Welding Technician II- Nathaniel Rubio Hamilton, (1) Year of experience; about (1) million square feet of HDPE and other geomembrane liner experience. Mr. Rubio has worked on several projects and continues to learn how to install and weld geomembrane liners. He has been a valuable asset to the company. Mr. Rubio is also enlisted in the NM National Guard and serves and protects us all.

Welding Technician II- Mykal Jones, (1+) Years of experience; about (5) million square feet of HDPE and other geomembrane liner experience. Mr. Jones has worked on several projects and continues to learn how to install and weld geomembrane liners. Mr. Jones has been quite a asset and is learning quickly. We believe that he will continue to learn and grow with the company and believe that he will be an asset.

Welding Technician I- Xavier Crawford, (1) Year of experience: about (1) million square feet of HDPE and other geomembrane liner experience. Mr. Crawford has worked on several projects and continues to learn how to install and weld geomembrane liners. We believe that he will continue to learn and grow with the company and believe that he will be an asset.

Welding Technician I- Keanu Perez, (1) Year of experience; about (1) million square feet of HDPE and other geomembrane liner experience. Mr. Perez has worked on several projects and continues to learn how to install and weld geomembrane liners. We believe that he will continue to learn and grow with the company and believe that he will be an asset.

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Welding Technician I- Daniel Hagherty, (1) Year of experience; about (1) million square feet of HDPE and other geomembrane liner experience. Mr. Hagherty has worked on several projects and continues to learn how to install and weld geomembrane liners. We believe that he will continue to learn and grow with the company and believe that he will be an asset.

Welding Technician III Master Seamer- Bruno Saltwater, (10 +) years plus of experience; over (50) million square feet of HDPE and other liner materials installed. Mr. Saltwater started with Southwest Liner Systems, Inc. in 2008 and has left and returned several times since then. Prior to coming to work for SLS Mr. Saltwater had worked for the Snow Company of Albuquerque, New Mexico. He has extensive training and knowledge of the installation and testing of geomembrane liners. He is quite an asset to the team.

APPENDIX H

GEOMEMBRANE PLACEMENT

Includes pages H-1 through H-48

CONTENTS

Deployment Log for Primary Geomembrane	H-1
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Seaming Log for Primary Geomembrane	H-13
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DEPLOYMENT LOG FOR PRIMARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
1	6284	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	295	23	6,785	
2	6284	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	258	23	5,934	
3	6276	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	40	23	920	
4	6276	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	295	23	6,785	
5	7725	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	135	23	3,105	
6	7725	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	80	23	1,840	
7	7723	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	55	23	1,265	
8	7723	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	135	23	3,105	
9	6276	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	205	23	4,715	
10	6302	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	87	23	2,001	
11	6302	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	295	23	6,785	
12	7723	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	140	23	3,220	
13	7723	60-Mil	16-Jul-21	MM	60	60	60	60	60	60	140	23	3,220	
14	6302	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	157	23	3,611	
15	6291	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	130	23	2,990	
16	6291	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	295	23	6,785	
17	7723	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	25	23	575	
18	7737	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	115	23	2,645	
19	7737	60-Mil	17-Jul-21	MM	60	60	60	60	60	60	115	23	2,645	
20	6291	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	121	23	2,783	
21	6283	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	162	23	3,726	
22	6283	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	285	23	6,555	
23	6283	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	100	23	2,300	
24	6305	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	180	23	4,140	
25	6305	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	285	23	6,555	
26	6305	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	80	23	1,840	

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PRIMARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
27	6286	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
28	6286	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	285	23	6,555	
29	6286	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	77	23	1,771	
30	6292	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	197	23	4,531	
31	6292	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	285	23	6,555	
32	6292	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	75	23	1,725	
33	6307	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	200	23	4,600	
34	6307	60-Mil	19-Jul-21	MM	60	60	60	60	60	60	270	23	6,210	
35	7737	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
36	7737	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	75	23	1,725	
37	7754	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	75	23	1,725	
38	7754	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
39	7754	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
40	7754	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	115	23	2,645	
41	7730	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	40	23	920	
42	7730	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
43	7730	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
44	7730	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	135	23	3,105	
45	7746	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	15	23	345	
46	7746	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
47	7746	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
48	6307	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	64	23	1,472	
49	6301	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	205	23	4,715	
50	6301	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	266	23	6,118	
51	6301	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	60	23	1,380	
52	6297	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	200	23	4,600	

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
53	6297	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	265	23	6,095	
54	6297	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	80	23	1,840	
55	6280	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	180	23	4,140	
56	6280	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	265	23	6,095	
57	6280	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	100	23	2,300	
58	6285	60-Mil	21-Jul-21	MM	60	60	60	60	60	60	153	23	3,519	
59	7746	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	155	23	3,565	
60	7762	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	10	23	230	
61	7762	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
62	7762	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
63	7762	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
64	7734	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
65	7734	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
66	7734	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	150	23	3,450	
67	7763	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	10	23	230	
68	7763	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
69	7763	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
70	7763	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	145	23	3,335	
71	7694	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	15	23	345	
72	7694	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
73	7694	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	178	23	4,094	
74	7694	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	154	23	3,542	
75	7736	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	40	23	920	
76	7736	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
77	6285	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	265	23	6,095	
78	6285	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	125	23	2,875	

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

PRIMARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
79	N/A a	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	130	23	2,990	
80	N/A b	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	88	23	2,024	
81	6287	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	165	23	3,795	
82	6287	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	265	23	6,095	
83	6287	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	116	23	2,668	
84	6289	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	140	23	3,220	
85	6289	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	265	23	6,095	
86	6289	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	160	23	3,680	
87	6295	60-Mil	22-Jul-21	MM	60	60	60	60	60	60	90	23	2,070	
88	6295	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	250	23	5,750	
89	6289	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	196	23	4,508	
90	6289	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	86	23	1,978	
91	7739	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	110	23	2,530	
92	7739	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	196	23	4,508	
93	7739	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	192	23	4,416	
94	7732	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	10	23	230	
95	7732	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
96	7732	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	196	23	4,508	
97	7732	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	109	23	2,507	
98	7760	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	75	23	1,725	
99	7760	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
100	7760	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
101	7695	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
102	7695	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	195	23	4,485	
103	7695	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	69	23	1,587	
104	7753	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	97	23	2,231	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
105	7753	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	138	23	3,174	
106	7753	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	108	23	2,484	
107	7753	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	88	23	2,024	
108	7753	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	33	23	759	
109	7729	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	31	23	713	
110	7729	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	31	23	713	
111	7729	60-Mil	26-Jul-21	MM	60	60	60	60	60	60	14	23	322	
112	*7729*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*175*	*23*	4,025	
113	*7729*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*172*	*23*	3,956	
114	*7729*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*79*	*23*	1,817	
115	*7761*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*92*	*23*	2,116	
116	*7761*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*168*	*23*	3,864	
117	*7761*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*150*	*23*	3,450	
118	*7761*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*80*	*23*	1,840	
119	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*36*	*23*	828	
120	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*104*	*23*	2,392	
121	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*82*	*23*	1,886	
122	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*71*	*23*	1,633	
123	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*51*	*23*	1,173	
124	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*40*	*23*	920	
125	*7752*	60-Mil	27-Jul-21	MM	60	60	60	60	60	60	*15*	*23*	345	

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DEPLOYMENT LOG FOR SECONDARY GEOMEMBRANE

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UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
P1	7708	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	136	23	3,128	
P2	7708	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	132	23	3,036	
P3	6282	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	298	23	6,854	
P4	6282	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	252	23	5,796	
P5	6279	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	39	23	897	
P6	7708	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	134	23	3,082	
P7	7708	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	102	23	2,346	
P8	7726	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	30	23	690	
P9	6279	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	292	23	6,716	
P10	6279	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	207	23	4,761	
P11	6303	60- Mil	17-Jun-21	BJ	60	60	60	60	60	60	83	23	1,909	
P12	7726	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	143	23	3,289	
P13	7726	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	143	23	3,289	
P14	6303	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	288	23	6,624	
P15	6303	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	172	23	3,956	
P16	6306	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	114	23	2,622	
P17	7726	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	187	23	4,301	
P18	7691	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	146	23	3,358	
P19	6306	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	247	23	5,681	
P20	6306	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	187	23	4,301	
P21	6288	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	97	23	2,231	
P22	7691	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	147	23	3,381	
P23	7691	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	148	23	3,404	
P24	6288	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	283	23	6,509	
P25	6288	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	164	23	3,772	
P26	6304	60- Mil	18-Jun-21	BJ	60	60	60	60	60	60	122	23	2,806	

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Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
P27	7691	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	57	23	1,311	
P28	7728	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	94	23	2,162	
P29	7728	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	151	23	3,473	
P30	6304	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	277	23	6,371	
P31	6304	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	133	23	3,059	
P32	6300	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	146	23	3,358	
P33	7728	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	150	23	3,450	
P34	6300	60- Mil	19-Jun-21	BJ	60	60	60	60	60	60	279	23	6,417	
P35	7728	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	107	23	2,461	
P36	7743	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	51	23	1,173	
P37	7743	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	154	23	3,542	
P38	6300	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	115	23	2,645	
P39	6281	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	161	23	3,703	
P40	6281	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	267	23	6,141	
P41	7743	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	159	23	3,657	
P42	6281	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	120	23	2,760	
P43	6294	60- Mil	21-Jun-21	BJ	60	60	60	60	60	60	155	23	3,565	
P44	7743	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	131	23	3,013	
P45	7750	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	29	23	667	
P46	7750	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	157	23	3,611	
P47	6294	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	266	23	6,118	
P48	6294	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	111	23	2,553	
P49	6293	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	155	23	3,565	
P50	7750	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	160	23	3,680	
P51	7750	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	144	23	3,312	
P52	7749	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	24	23	552	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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SECONDARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
P53	6293	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	266	23	6,118	
P54	6293	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	123	23	2,829	
P55	6299	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	143	23	3,289	
P56	7749	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	165	23	3,795	
P57	6299	60- Mil	22-Jun-21	BJ	60	60	60	60	60	60	266	23	6,118	
P58	7749	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	165	23	3,795	
P59	7749	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	150	23	3,450	
P60	7733	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	16	23	368	
P61	6299	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	133	23	3,059	
P62	6278	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	137	23	3,151	
P63	6278	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	264	23	6,072	
P64	7733	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	170	23	3,910	
P65	7733	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	170	23	3,910	
P66	6278	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	149	23	3,427	
P67	6296	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	114	23	2,622	
P68	6296	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	264	23	6,072	
P69	7733	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	150	23	3,450	
P70	7693	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	18	23	414	
P71	6296	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	169	23	3,887	
P72	6277	60- Mil	23-Jun-21	BJ	60	60	60	60	60	60	96	23	2,208	
P73	7693	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	169	23	3,887	
P74	7693	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	169	23	3,887	
P75	6277	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	260	23	5,980	
P76	6277	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	182	23	4,186	
P77	6298	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	80	23	1,840	
P78	7693	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	143	23	3,289	

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SECONDARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
P79	7690	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	28	23	644	
P80	7690	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	171	23	3,933	
P81	7690	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	171	23	3,933	
P82	7690	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	134	23	3,082	
P83	7745	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	42	23	966	
P84	7745	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	172	23	3,956	
P85	7745	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	172	23	3,956	
P86	7745	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	121	23	2,783	
P87	7748	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	47	23	1,081	
P88	7748	60- Mil	24-Jun-21	BJ	60	60	60	60	60	60	148	23	3,404	
P89	7748	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	134	23	3,082	
P90	7748	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	114	23	2,622	
P91	7748	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	84	23	1,932	
P92	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	13	23	299	
P93	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	74	23	1,702	
P94	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	56	23	1,288	
P95	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	39	23	897	
P96	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	36	23	828	
P97	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	57	23	1,311	
P98	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	39	23	897	
P99	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	48	23	1,104	
P100	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	98	23	2,254	
P101	7751	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	31	23	713	
P102	7738	60- Mil	25-Jun-21	BJ	60	60	60	60	60	60	91	23	2,093	
P103	7738	60- Mil	26-Jun-21	BJ	60	60	60	60	60	60	149	23	3,427	
P104	7738	60- Mil	26-Jun-21	BJ	60	60	60	60	60	60	166	23	3,818	

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UNIT IIA CONSTRUCTION

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SECONDARY GEOMEMBRANE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Thickness						Panel Dimensions			Comments
					T1	T2	T3	T4	T5	Avg.	Length, ft	Width, ft	Area, sf	
P105	6298	60-Mil	7/13/2021	MM	60	60	60	60	60	60	250	23	5,750	
P106	6298	60-Mil	7/13/2021	MM	60	60	60	60	60	60	200	23	4,600	
P107	6290	60-Mil	7/13/2021	MM	60	60	60	60	60	60	50	23	1,150	
P108	6290	60-Mil	7/13/2021	MM	60	60	60	60	60	60	200	23	4,600	
P109	7740	60-Mil	7/13/2021	MM	60	60	60	60	60	60	220	23	5,060	
P110	7740	60-Mil	7/13/2021	MM	60	60	60	60	60	60	215	23	4,945	
P111	7740	60-Mil	7/14/2021	MM	60	60	60	60	60	60	56	23	1,288	
P112	7744	60-Mil	7/14/2021	MM	60	60	60	60	60	60	165	23	3,795	
P113	7744	60-Mil	7/14/2021	MM	60	60	60	60	60	60	214	23	4,922	
P114	7744	60-Mil	7/14/2021	MM	60	60	60	60	60	60	120	23	2,760	
P115	7747	60-Mil	7/14/2021	MM	60	60	60	60	60	60	90	23	2,070	
P116	7747	60-Mil	7/14/2021	MM	60	60	60	60	60	60	200	23	4,600	
P117	7747	60-Mil	7/14/2021	MM	60	60	60	60	60	60	198	23	4,554	
P118	7727	60-Mil	7/14/2021	MM	60	60	60	60	60	60	200	23	4,600	
P119	7727	60-Mil	7/14/2021	MM	60	60	60	60	60	60	138	23	3,174	
P120	7727	60-Mil	7/16/2021	MM	60	60	60	60	60	60	76	23	1,748	
P121	7727	60-Mil	7/16/2021	MM	60	60	60	60	60	60	75	23	1,725	
P122	7725	60-Mil	7/16/2021	MM	60	60	60	60	60	60	132	23	3,036	
P123	7725	60-Mil	7/16/2021	MM	60	60	60	60	60	60	137	23	3,151	
P124	7725	60-Mil	7/16/2021	MM	60	60	60	60	60	60	73	23	1,679	

SEAMING LOG FOR PRIMARY GEOMEMBRANE

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
1-3	07/16/21	8:39 AM	Fusion	MM	69	MJ	70	40	
1-2	07/16/21	8:47 AM	Fusion	MM	69	MJ	70	258	
2-3	07/16/21	8:36 AM	Fusion	MM	7	LM	70	22	
3-4	07/16/21	8:49 AM	Fusion	MM	7	LM	70	40	
2-4	07/16/21	8:57 AM	Fusion	MM	7	LM	70	258	
6-7	07/16/21	9:41 AM	Fusion	MM	69	MJ	70	22	
6-8	07/16/21	9:40 AM	Fusion	MM	7	LM	70	135	
5-6	07/16/21	9:47 AM	Fusion	MM	69	MJ	70	80	
7-8	07/16/21	9:50 AM	Fusion	MM	7	LM	70	55	
5-7	07/16/21	9:50 AM	Fusion	MM	69	MJ	70	55	
1-5	07/16/21	12:15 PM	Fusion	MM	7	LM	85	22	
2-6	07/16/21	12:18 PM	Fusion	MM	7	LM	85	23	
4-8	07/16/21	12:22 PM	Fusion	MM	7	LM	85	22	
9-10	07/16/21	11:10 AM	Fusion	MM	69	MJ	85	22	
4-10	07/16/21	11:11 AM	Fusion	MM	7	LM	85	87	
4-9	07/16/21	11:20 AM	Fusion	MM	7	LM	85	205	
9-11	07/16/21	11:52 AM	Fusion	MM	69	MJ	85	205	
8-12	07/16/21	11:48 AM	Fusion	MM	7	LM	85	135	
12-13	07/16/21	12:15 PM	Fusion	MM	69	MJ	85	140	
10-11	07/16/21	11:35 AM	Fusion	MM	69	MJ	85	87	
14-15	07/17/21	5:48 AM	Fusion	MM	69	MJ	70	22	
9-12	07/16/21	12:26 PM	Fusion	MM	7	LM	85	22	
11-13	07/16/21	12:30 PM	Fusion	MM	7	LM	85	22	
11-15	07/17/21	5:43 AM	Fusion	MM	7	LM	70	130	
11-14	07/17/21	6:02 AM	Fusion	MM	7	LM	70	157	

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
15-16	07/17/21	5:56 AM	Fusion	MM	69	MJ	70	130	
14-16	07/17/21	6:10 AM	Fusion	MM	69	MJ	70	157	
17-18	07/17/21	6:30 AM	Fusion	MM	7	LM	70	22	
17-19	07/17/21	6:40 AM	Fusion	MM	69	MJ	70	25	
18-19	07/17/21	6:42 AM	Fusion	MM	69	MJ	70	115	
14-17	07/17/21	7:15 AM	Fusion	MM	69	MJ	70	22	
16-19	07/17/21	7:20 AM	Fusion	MM	69	MJ	70	22	
13-17	07/17/21	6:39 AM	Fusion	MM	7	LM	70	25	
13-18	07/17/21	6:42 AM	Fusion	MM	7	LM	70	115	
20-21	07/19/21	6:18 AM	Fusion	MM	7	LM	70	22	
16-21	07/19/21	6:19 AM	Fusion	MM	69	MJ	70	162	
16-20	07/19/21	6:43 AM	Fusion	MM	69	MJ	70	121	
21-22	07/19/21	6:32 AM	Fusion	MM	7	LM	70	162	
20-22	07/19/21	7:00 AM	Fusion	MM	7	LM	70	121	
22-24	07/19/21	7:15 AM	Fusion	MM	69	MJ	70	180	
23-24	07/19/21	7:15 AM	Fusion	MM	7	LM	70	22	
24-25	07/19/21	7:30 AM	Fusion	MM	7	LM	70	180	
23-25	07/19/21	7:53 AM	Fusion	MM	7	LM	70	100	
25-26	07/19/21	7:19 AM	Fusion	MM	69	MJ	70	80	
26-27	07/19/21	8:12 AM	Fusion	MM	7	LM	70	22	
25-27	07/19/21	7:10 AM	Fusion	MM	69	MJ	70	195	
26-28	07/19/21	8:50 AM	Fusion	MM	7	LM	70	80	
27-28	07/19/21	7:19 AM	Fusion	MM	7	LM	70	195	
28-29	07/19/21	9:30 AM	Fusion	MM	69	MJ	70	77	
28-30	07/19/21	8:55 AM	Fusion	MM	69	MJ	70	197	

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
29-30	07/19/21	8:59 AM	Fusion	MM	7	LM	70	22	
22-23	07/19/21	7:45 AM	Fusion	MM	69	MJ	70	100	
30-31	07/19/21	9:10 AM	Fusion	MM	7	LM	70	197	
29-31	07/19/21	9:40 AM	Fusion	MM	7	LM	70	77	
31-33	07/19/21	11:14 AM	Fusion	MM	69	MJ	85	200	
31-32	07/19/21	11:45 AM	Fusion	MM	69	MJ	85	75	
32-33	07/19/21	11:08 AM	Fusion	MM	7	LM	85	22	
32-34	07/19/21	11:59 AM	Fusion	MM	7	LM	85	75	
33-34	07/19/21	11:29 AM	Fusion	MM	7	LM	85	200	
19-35	07/21/21	6:27 AM	Fusion	MM	7	LM	70	150	
35-36	07/21/21	6:55 AM	Fusion	MM	69	MJ	70	75	
35-37	07/21/21	7:10 AM	Fusion	MM	69	MJ	70	75	
36-37	07/21/21	6:51 AM	Fusion	MM	7	LM	70	22	
36-38	07/21/21	7:02 AM	Fusion	MM	7	LM	70	75	
37-38	07/21/21	7:13 AM	Fusion	MM	7	LM	70	75	
38-39	07/21/21	7:30 AM	Fusion	MM	69	MJ	70	150	
20-35	07/21/21	9:18 AM	Fusion	MM	7	LM	70	22	
22-36	07/21/21	9:21 AM	Fusion	MM	7	LM	70	22	
23-38	07/21/21	9:24 AM	Fusion	MM	7	LM	70	22	
25-39	07/21/21	9:23 AM	Fusion	MM	7	LM	70	22	
26-40	07/21/21	9:30 AM	Fusion	MM	7	LM	70	22	
39-40	07/21/21	7:50 AM	Fusion	MM	7	LM	70	115	
39-41	07/21/21	8:00 AM	Fusion	MM	7	LM	70	40	
40-41	07/21/21	8:10 AM	Fusion	MM	69	MJ	70	22	
28-42	07/21/21	8:13 AM	Fusion	MM	7	LM	70	22	

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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
41-42	07/21/21	8:30 AM	Fusion	MM	69	MJ	70	40	
40-42	07/21/21	8:15 AM	Fusion	MM	69	MJ	70	115	
42-43	07/21/21	8:16 AM	Fusion	MM	7	LM	70	150	
43-44	07/21/21	8:38 AM	Fusion	MM	69	MJ	70	135	
43-45	07/21/21	8:50 AM	Fusion	MM	69	MJ	70	15	
44-45	07/21/21	9:00 AM	Fusion	MM	7	LM	70	22	
44-46	07/21/21	8:50 AM	Fusion	MM	7	LM	70	135	
45-46	07/21/21	9:10 AM	Fusion	MM	7	LM	70	15	
46-47	07/21/21	9:06 AM	Fusion	MM	69	MJ	70	150	
29-43	07/21/21	8:16 AM	Fusion	MM	7	LM	70	22	
31-44	07/21/21	8:19 AM	Fusion	MM	7	LM	70	22	
32-46	07/21/21	8:21 AM	Fusion	MM	7	LM	70	22	
34-47	07/21/21	8:24 AM	Fusion	MM	7	LM	70	22	
34-48	07/21/21	10:01 AM	Fusion	MM	69	MJ	70	80	
34-49	07/21/21	10:25 AM	Fusion	MM	69	MJ	70	205	
48-49	07/21/21	9:58 AM	Fusion	MM	7	LM	70	22	
49-50	07/21/21	10:17 AM	Fusion	MM	7	LM	70	205	
48-50	07/21/21	10:35 AM	Fusion	MM	7	LM	70	80	
50-52	07/21/21	12:10 PM	Fusion	MM	69	MJ	85	200	
50-51	07/21/21	12:30 PM	Fusion	MM	69	MJ	85	60	
51-52	07/21/21	12:04 PM	Fusion	MM	7	LM	85	22	
52-53	07/21/21	12:18 PM	Fusion	MM	7	LM	85	200	
51-53	07/21/21	12:45 PM	Fusion	MM	7	LM	85	60	
53-55	07/21/21	12:55 PM	Fusion	MM	69	MJ	85	180	
53-54	07/21/21	1:20 PM	Fusion	MM	69	MJ	85	80	

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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
55-56	07/21/21	1:05 PM	Fusion	MM	7	LM	85	180	
54-56	07/21/21	1:25 PM	Fusion	MM	7	LM	85	80	
54-55	07/21/21	12:54 PM	Fusion	MM	7	LM	85	22	
57-58	07/21/21	1:35 PM	Fusion	MM	69	MJ	85	22	
56-58	07/21/21	1:37 PM	Fusion	MM	7	LM	85	153	
56-57	07/21/21	1:55 PM	Fusion	MM	7	LM	85	100	
47-59	07/27/21	6:33 AM	Fusion	KP	7	LM	70	155	
47-60	07/27/21	7:08 AM	Fusion	KP	7	LM	70	10	
59-60	07/27/21	6:40 AM	Fusion	KP	69	MJ	70	22	
59-61	07/27/21	7:08 AM	Fusion	KP	69	MJ	70	160	
60-61	07/27/21	7:10 AM	Fusion	KP	69	MJ	70	10	
61-62	07/27/21	6:51 AM	Fusion	KP	84	KP	70	160	
62-63	07/27/21	7:03 AM	Fusion	KP	7	LM	70	160	
63-64	07/27/21	7:30 AM	Fusion	KP	69	MJ	70	160	
64-65	07/27/21	7:50 AM	Fusion	KP	84	KP	70	160	
65-66	07/27/21	7:40 AM	Fusion	KP	7	LM	70	160	
66-67	07/27/21	7:55 AM	Fusion	KP	84	KP	70	22	
66-68	07/27/21	8:09 AM	Fusion	KP	69	MJ	70	150	
67-68	07/27/21	8:35 AM	Fusion	KP	69	MJ	70	10	
68-69	07/27/21	8:22 AM	Fusion	KP	84	KP	70	160	
69-70	07/27/21	8:25 AM	Fusion	KP	7	LM	70	145	
69-71	07/27/21	8:42 AM	Fusion	KP	7	LM	70	15	
70-71	07/27/21	8:47 AM	Fusion	KP	84	KP	70	22	
74-75	07/27/21	9:15 AM	Fusion	KP	84	KP	70	22	
68-69	07/22/21	8:19 AM	Fusion	MM	84	KP	70	160	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
70-72	07/22/21	8:53 AM	Fusion	MM	69	MJ	70	145	
71-22	07/22/21	9:27 AM	Fusion	MM	69	MJ	70	15	
72-13	07/22/21	9:00 AM	Fusion	MM	84	KP	70	160	
73-34	07/22/21	9:12 AM	Fusion	MM	7	LM	70	154	
73-75	07/22/21	9:30 AM	Fusion	MM	7	LM	70	40	
74-76	07/22/21	9:41 AM	Fusion	MM	69	MJ	70	154	
75-76	07/22/21	10:00 AM	Fusion	MM	69	MJ	70	40	
58-77	07/22/21	9:58 AM	Fusion	MM	7	LM	70	154	
57-77	07/22/21	10:20 AM	Fusion	MM	7	LM	70	153	
77-79	07/22/21	10:20 AM	Fusion	MM	69	MJ	70	130	
77-78	07/22/21	10:30 AM	Fusion	MM	84	KP	70	125	
78-79	07/22/21	10:20 AM	Fusion	MM	84	KP	70	22	
48-59	07/22/21	9:40 AM	Fusion	MM	84	KP	70	22	
50-61	07/22/21	9:43 AM	Fusion	MM	84	KP	70	22	
51-62	07/22/21	9:46 AM	Fusion	MM	84	KP	70	22	
53-63	07/22/21	9:50 AM	Fusion	MM	84	KP	70	22	
54-64	07/22/21	9:53 AM	Fusion	MM	84	KP	70	22	
56-65	07/22/21	9:56 AM	Fusion	MM	84	KP	70	22	
57-66	07/22/21	10:00 AM	Fusion	MM	84	KP	70	22	
68-77	07/22/21	1:40 PM	Fusion	MM	84	KP	85	22	
69-78	07/22/21	1:43 PM	Fusion	MM	84	KP	85	22	
50-52	07/22/21	1:50 PM	Fusion	MM	69	MJ	85	200	
50-51	07/22/21	2:10 PM	Fusion	MM	69	MJ	85	60	
51-52	07/22/21	2:12 PM	Fusion	MM	84	KP	85	22	
79-81	07/22/21	12:10 PM	Fusion	MM	7	LM	85	130	

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
78-81	07/22/21	12:22 PM	Fusion	MM	7	LM	85	37	
80-81	07/22/21	12:30 PM	Fusion	MM	84	KP	85	22	
88-95	07/26/21	10:21 AM	Fusion	KP	84	KP	85	22	
100-101	07/26/21	9:53 AM	Fusion	KP	7	LM	70	195	
101-102	07/26/21	10:15 AM	Fusion	KP	69	MJ	70	195	
102-103-104	07/26/21	12:11 PM	Fusion	KP	69	MJ	85	165	
103-104	07/26/21	12:05 PM	Fusion	KP	84	KP	85	23	
103-104-105	07/26/21	12:13 PM	Fusion	KP	84	KP	85	138	
105-106	07/26/21	12:29 PM	Fusion	KP	7	LM	85	108	
106-107	07/26/21	12:45 PM	Fusion	KP	69	MJ	85	88	
108-109	07/26/21	1:02 PM	Fusion	KP	7	LM	85	23	
107-108-109	07/26/21	1:07 PM	Fusion	KP	69	MJ	85	64	
109-110	07/26/21	1:04 PM	Fusion	KP	7	LM	85	31	
110-111	07/26/21	1:21 PM	Fusion	KP	7	LM	85	10	
88-Tie-in(102)	07/26/21	10:26 AM	Fusion	KP	84	KP	70	258	
76-112	07/27/21	6:40 AM	Fusion	KP	69	MJ	70	75	
112-113	07/27/21	6:48 AM	Fusion	KP	84	KP	70	72	
113-114-115	07/27/21	7:11 AM	Fusion	KP	69	MJ	70	170	
114-115	07/27/21	7:14 AM	Fusion	KP	7	LM	70	23	
114-115-116	07/27/21	7:19 AM	Fusion	KP	84	KP	70	160	
116-117	07/27/21	7:35 AM	Fusion	KP	7	LM	70	150	
117-118	07/27/21	7:35 AM	Fusion	KP	84	KP	70	80	
117-119	07/27/21	7:52 AM	Fusion	KP	84	KP	70	36	
118-119	07/27/21	8:25 AM	Fusion	KP	84	KP	70	22	
118-120	07/27/21	8:00 AM	Fusion	KP	69	MJ	70	80	

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UNIT IIA CONSTRUCTION

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PRIMARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
119-120	07/27/21	8:24 AM	Fusion	KP	69	MJ	70	36	
120-121	07/27/21	8:44 AM	Fusion	KP	84	KP	70	82	
121-122	07/27/21	8:47 AM	Fusion	KP	69	MJ	70	71	
122-123	07/27/21	9:12 AM	Fusion	MM	84	KP	70	51	
123-124	07/27/21	9:16 AM	Fusion	MM	69	MJ	70	40	
124-125	07/27/21	9:38 AM	Fusion	MM	84	KP	70	15	
78-80	07/22/21	1:30 PM	Fusion	MM	7	LM	85	88	
80-82	07/22/21	1:38 PM	Fusion	MM	7	LM	85	88	
82-83	07/22/21	1:46 PM	Fusion	MM	7	LM	85	116	
83-85	07/22/21	1:50 PM	Fusion	MM	84	KP	85	116	
88-112	07/27/21	10:16 AM	Fusion	MM	69	MJ	70	22	
102-113	07/27/21	10:13 AM	Fusion	MM	69	MJ	70	22	
102-114	07/27/21	10:10 AM	Fusion	MM	69	MJ	70	22	
103-116	07/27/21	10:07 AM	Fusion	MM	69	MJ	70	27	
103-117	07/27/21	10:03 AM	Fusion	MM	69	MJ	70	10	
105-117	07/27/21	9:59 AM	Fusion	MM	69	MJ	70	16	
105-118	07/27/21	9:56 AM	Fusion	MM	69	MJ	70	22	
106-120	07/27/21	9:53 AM	Fusion	MM	69	MJ	70	32	
106-121	07/27/21	9:49 AM	Fusion	MM	69	MJ	70	7	
107-121	07/27/21	9:48 AM	Fusion	MM	69	MJ	70	22	
107-122	07/27/21	9:45 AM	Fusion	MM	69	MJ	70	17	
108-122	07/27/21	9:42 AM	Fusion	MM	69	MJ	70	10	
108-123	07/27/21	9:48 AM	Fusion	MM	69	MJ	70	27	
110-124	07/27/21	9:38 AM	Fusion	MM	69	MJ	70	28	
111-125	07/27/21	9:35 AM	Fusion	MM	69	MJ	70	15	

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SEAMING LOG FOR SECONDARY GEOMEMBRANE

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UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
1/2	17-Jun-21	0850	FUSION	BJ	7	XC	75	136	
3/4	17-Jun-21	0815	FUSION	BJ	7	XC	75	252	DSS-1
1/3	17-Jun-21	0755	FUSION	BJ	79	NH	75	22.5	
2/4	17-Jun-21	0805	FUSION	BJ	79	NH	75	22.5	
4/5	17-Jun-21	0759	FUSION	BJ	7	XC	75	22.5	
3/5	17-Jun-21	0813	FUSION	BJ	7	XC	75	39	
2/6	17-Jun-21	1209	FUSION	BJ	69	MJ	75	132	
6/7	17-Jun-21	1224	FUSION	BJ	7	XC	75	102	
6/8	17-Jun-21	1220	FUSION	BJ	7	XC	75	30	
7/8	17-Jun-21	1130	FUSION	BJ	79	NH	75	22.5	
4/9	17-Jun-21	1145	FUSION	BJ	69	MJ	75	252	DSS-2
5/9	17-Jun-21	1130	FUSION	BJ	69	MJ	75	39	
6/9	17-Jun-21	1138	FUSION	BJ	79	NH	75	22.5	
9/10	17-Jun-21	1158	FUSION	BJ	7	XC	75	207	
9/11	17-Jun-21	1147	FUSION	BJ	7	XC	75	83	
10/11	17-Jun-21	1155	FUSION	BJ	79	NH	75	22.5	
8/10	17-Jun-21	1145	FUSION	BJ	79	NH	75	22.5	
7/12	18-Jun-21	0750	FUSION	BJ	69	MJ	75	102	
8/12	18-Jun-21	0735	FUSION	BJ	69	MJ	75	30	
12/13	18-Jun-21	0815	FUSION	BJ	7	XC	75	143	
10/14	18-Jun-21	0720	FUSION	BJ	69	MJ	75	208	
11/14	18-Jun-21	0708	FUSION	BJ	69	MJ	75	80	DSS-3
12/14	18-Jun-21	0705	FUSION	BJ	79	NH	75	22.5	
14/15	18-Jun-21	0752	FUSION	BJ	7	XC	75	172	DSS-4
13/15	18-Jun-21	0735	FUSION	BJ	79	NH	75	22.5	
14/16	18-Jun-21	0719	FUSION	BJ	7	XC	75	114	
15/16	18-Jun-21	0740	FUSION	BJ	7	XC	75	22.5	

[1]NTI=North Tie-in, ETI=East Tie-in

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UNIT IIA CONSTRUCTION
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SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
13/17	18-Jun-21	0949	FUSION	BJ	69	MJ	75	146	DSS-6
15/17	18-Jun-21	0944	FUSION	BJ	69	MJ	75	41	
17/18	18-Jun-21	1004	FUSION	BJ	7	XC	75	146	
17/19	18-Jun-21	0915	FUSION	BJ	79	NH	75	113	
15/19	18-Jun-21	0930	FUSION	BJ	69	MJ	75	133	
16/19	18-Jun-21	0914	FUSION	BJ	69	MJ	75	114	DSS-5
17/20	18-Jun-21	0959	FUSION	BJ	7	XC	75	43	
19/20	18-Jun-21	0942	FUSION	BJ	7	XC	75	144	
18/20	18-Jun-21	0920	FUSION	BJ	79	NH	75	22.5	
19/21	18-Jun-21	0930	FUSION	BJ	7	XC	75	97	
20/21	18-Jun-21	0925	FUSION	BJ	7	XC	75	22.5	
18/22	18-Jun-21	1228	FUSION	BJ	69	MJ	75	146	
22/23	18-Jun-21	1240	FUSION	BJ	7	XC	75	147	
20/24	18-Jun-21	1206	FUSION	BJ	69	MJ	75	187	
21/24	18-Jun-21	1156	FUSION	BJ	69	MJ	75	97	
24/25	18-Jun-21	1223	FUSION	BJ	7	XC	75	164	
22/24	18-Jun-21	1155	FUSION	BJ	79	NH	75	22.5	
23/25	18-Jun-21	1205	FUSION	BJ	79	NH	75	22.5	
24/26	18-Jun-21	1208	FUSION	BJ	7	XC	75	122	
25/26	18-Jun-21	1220	FUSION	BJ	79	NH	75	22.5	DSS-7
23/27	19-Jun-21	0745	FUSION	BJ	69	MJ	75	57	
23/28	19-Jun-21	0757	FUSION	BJ	69	MJ	75	94	
27/28	19-Jun-21	0654	FUSION	BJ	79	NH	75	22.5	
27/29	19-Jun-21	0815	FUSION	BJ	7	XC	75	57	
28/29	19-Jun-21	0803	FUSION	BJ	7	XC	75	94	
25/30	19-Jun-21	0725	FUSION	BJ	69	MJ	75	164	
26/30	19-Jun-21	0707	FUSION	BJ	69	MJ	75	122	

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UNIT IIA CONSTRUCTION
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SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
28/30	19-Jun-21	0703	FUSION	BJ	79	NH	75	22.5	DSS-8
30/31	19-Jun-21	0746	FUSION	BJ	7	XC	75	133	DSS-9
30/32	19-Jun-21	0726	FUSION	BJ	7	XC	75	146	
31/32	19-Jun-21	0726	FUSION	BJ	79	NH	75	22.5	
29/33	19-Jun-21	0849	FUSION	BJ	69	MJ	75	151	
31/34	19-Jun-21	0833	FUSION	BJ	69	MJ	75	133	DSS-10
32/34	19-Jun-21	0813	FUSION	BJ	69	MJ	75	146	
33/34	19-Jun-21	0807	FUSION	BJ	79	NH	75	22.5	
29/31	19-Jun-21	0711	FUSION	BJ	79	NH	75	22.5	
35/36	21-Jun-21	0645	FUSION	BJ	79	NH	75	22.5	
33/35	21-Jun-21	0750	FUSION	BJ	69	MJ	75	107	DSS-12
33/36	21-Jun-21	0743	FUSION	BJ	69	MJ	75	51	
35/37	21-Jun-21	0756	FUSION	BJ	7	XC	75	107	
36/37	21-Jun-21	0750	FUSION	BJ	7	XC	75	51	
36/38	21-Jun-21	0700	FUSION	BJ	79	NH	75	22.5	
34/38	21-Jun-21	0728	FUSION	BJ	69	MJ	75	115	
38/39	21-Jun-21	0710	FUSION	BJ	79	NH	75	22.5	
34/39	21-Jun-21	0708	FUSION	BJ	69	MJ	75	161	
37/40	21-Jun-21	0719	FUSION	BJ	79	NH	75	22.5	
38/40	21-Jun-21	0716	FUSION	BJ	7	XC	75	115	
39/40	21-Jun-21	0713	FUSION	BJ	7	XC	75	161	DSS-11
42/43	21-Jun-21	0833	FUSION	BJ	79	NH	75	22.5	
41/42	21-Jun-21	0821	FUSION	BJ	79	NH	75	22.5	
40/42	21-Jun-21	0845	FUSION	BJ	69	MJ	75	120	DSS-13
40/43	21-Jun-21	0828	FUSION	BJ	69	MJ	75	155	
37/41	21-Jun-21	0906	FUSION	BJ	69	MJ	75	159	
41/44	22-Jun-21	0814	FUSION	BJ	69	MJ	75	131	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
41/45	22-Jun-21	0812	FUSION	BJ	69	MJ	75	29	
44/45	22-Jun-21	0717	FUSION	BJ	79	NH	75	22.5	
44/46	22-Jun-21	0824	FUSION	BJ	7	XC	75	131	DSS-15
45/46	22-Jun-21	0820	FUSION	BJ	7	XC	75	29	
45/47	22-Jun-21	0730	FUSION	BJ	79	NH	75	22.5	
42/47	22-Jun-21	0756	FUSION	BJ	69	MJ	75	120	
43/47	22-Jun-21	0736	FUSION	BJ	69	MJ	75	155	
46/48	22-Jun-21	0737	FUSION	BJ	79	NH	75	22.5	
47/48	22-Jun-21	0805	FUSION	BJ	7	XC	75	111	
47/49	22-Jun-21	0745	FUSION	BJ	7	XC	75	155	DSS-14
48/49	22-Jun-21	0800	FUSION	BJ	79	NH	75	22.5	
46/50	22-Jun-21	1009	FUSION	BJ	7	XC	75	160	
50/51	22-Jun-21	1020	FUSION	BJ	69	MJ	75	144	
50/52	22-Jun-21	1017	FUSION	BJ	69	MJ	75	24	
51/52	22-Jun-21	0926	FUSION	BJ	79	NH	75	22.5	
50/53	22-Jun-21	0935	FUSION	BJ	79	NH	75	22.5	
48/53	22-Jun-21	0956	FUSION	BJ	7	XC	75	111	
49/53	22-Jun-21	0935	FUSION	BJ	7	XC	75	155	
53/54	22-Jun-21	1004	FUSION	BJ	69	MJ	75	123	DSS-16
52/54	22-Jun-21	0945	FUSION	BJ	79	NH	75	22.5	DSS-17
53/55	22-Jun-21	0948	FUSION	BJ	69	MJ	75	143	
54/55	22-Jun-21	0957	FUSION	BJ	79	NH	75	22.5	
51/56	22-Jun-21	1230	FUSION	BJ	69	MJ	75	144	
52/56	22-Jun-21	1227	FUSION	BJ	69	MJ	75	24	
56/57	22-Jun-21	1152	FUSION	BJ	79	NH	75	22.5	
54/57	22-Jun-21	1213	FUSION	BJ	69	MJ	75	123	DSS-18
55/57	22-Jun-21	1156	FUSION	BJ	69	MJ	75	143	

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UNIT IIA CONSTRUCTION
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SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
56/58	23-Jun-21	0734	FUSION	BJ	69	MJ	75	165	DSS-20
58/59	23-Jun-21	0750	FUSION	BJ	7	XC	75	150	
58/60	23-Jun-21	0747	FUSION	BJ	7	XC	75	16	
59/60	23-Jun-21	0648	FUSION	BJ	79	NH	75	22.5	
58/61	23-Jun-21	0657	FUSION	BJ	79	NH	75	22.5	
57/61	23-Jun-21	0717	FUSION	BJ	69	MJ	75	133	DSS-19
61/62	23-Jun-21	0710	FUSION	BJ	79	NH	75	22.5	
57/62	23-Jun-21	0756	FUSION	BJ	69	MJ	75	137	
60/63	23-Jun-21	0721	FUSION	BJ	79	NH	75	22.5	
61/63	23-Jun-21	0730	FUSION	BJ	7	XC	75	133	
62/63	23-Jun-21	0708	FUSION	BJ	7	XC	75	137	
59/64	23-Jun-21	0953	FUSION	BJ	69	MJ	75	150	
60/64	23-Jun-21	0950	FUSION	BJ	69	MJ	75	16	
64/65	23-Jun-21	1053	FUSION	BJ	7	XC	75	170	DSS-22
64/66	23-Jun-21	0906	FUSION	BJ	79	NH	75	22.5	
63/66	23-Jun-21	0930	FUSION	BJ	69	MJ	75	149	
66/67	23-Jun-21	0918	FUSION	BJ	79	NH	75	22.5	
63/67	23-Jun-21	0915	FUSION	BJ	69	MJ	75	114	
66/68	23-Jun-21	0937	FUSION	BJ	7	XC	75	149	
67/68	23-Jun-21	0922	FUSION	BJ	7	XC	75	114	DSS-21
65/69	23-Jun-21	1200	FUSION	BJ	69	MJ	75	150	DSS-23
69/70	23-Jun-21	1130	FUSION	BJ	79	NH	75	22.5	
65/70	23-Jun-21	1150	FUSION	BJ	69	MJ	75	18	
70/71	23-Jun-21	1137	FUSION	BJ	79	NH	75	22.5	
68/71	23-Jun-21	1152	FUSION	BJ	79	NH	75	169	
68/72	23-Jun-21	1142	FUSION	BJ	69	MJ	75	96	
71/72	23-Jun-21	1147	FUSION	BJ	79	NH	75	22.5	

[1]NTI=North Tie-in, ETI=East Tie-in

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
65/68	23-Jun-21	0931	FUSION	BJ	79	NH	75	22.5	
69/73	24-Jun-21	0726	FUSION	BJ	69	MJ	75	150	
70/73	24-Jun-21	0723	FUSION	BJ	69	MJ	75	18	
73/74	24-Jun-21	0733	FUSION	BJ	7	XC	75	169	
73/75	24-Jun-21	0645	FUSION	BJ	79	NH	75	22.5	
71/75	24-Jun-21	0755	FUSION	BJ	69	MJ	75	169	
72/75	24-Jun-21	0742	FUSION	BJ	69	MJ	75	96	
74/76	24-Jun-21	0657	FUSION	BJ	79	NH	75	22.5	
75/76	24-Jun-21	0710	FUSION	BJ	7	XC	75	182	DSS-24
76/77	24-Jun-21	0700	FUSION	BJ	79	NH	75	22.5	
75/77	24-Jun-21	0657	FUSION	BJ	7	XC	75	80	
74/78	24-Jun-21	0814	FUSION	BJ	69	MJ	75	143	
74/79	24-Jun-21	0813	FUSION	BJ	69	MJ	75	26	
78/79	24-Jun-21	0805	FUSION	BJ	79	NH	75	24.5	
78/80	24-Jun-21	0820	FUSION	BJ	7	XC	75	143	
79/80	24-Jun-21	0815	FUSION	BJ	7	XC	75	28	DSS-25
80/81	24-Jun-21	0840	FUSION	BJ	69	MJ	75	171	
81/82	24-Jun-21	0853	FUSION	BJ	7	XC	75	134	DSS-26
81/83	24-Jun-21	0848	FUSION	BJ	69	MJ	75	42	
82/83	24-Jun-21	0845	FUSION	BJ	79	NH	75	22.5	
82/84	24-Jun-21	0945	FUSION	BJ	69	MJ	75	134	
83/84	24-Jun-21	0940	FUSION	BJ	69	MJ	75	42	
84/85	24-Jun-21	0945	FUSION	BJ	7	XC	75	172	
85/86	24-Jun-21	1147	FUSION	BJ	69	MJ	75	121	DSS-27
85/87	24-Jun-21	1153	FUSION	BJ	69	MJ	75	47	
86/87	24-Jun-21	1138	FUSION	BJ	79	NH	75	22.5	
86/88	24-Jun-21	1152	FUSION	BJ	7	XC	75	101	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
87/88	24-Jun-21	1145	FUSION	BJ	7	XC	75	47	
88/89	25-Jun-21	0651	FUSION	BJ	69	MJ	75	134	
89/90	25-Jun-21	0700	FUSION	BJ	7	XC	75	114	
90/91	25-Jun-21	0725	FUSION	BJ	69	MJ	75	84	
91/92	25-Jun-21	0710	FUSION	BJ	79	NH	75	22.5	
90/92	25-Jun-21	0724	FUSION	BJ	69	MJ	75	13	
92/93	25-Jun-21	0726	FUSION	BJ	7	XC	75	13	
91/93	25-Jun-21	0728	FUSION	BJ	7	XC	75	56	DSS-28
93/94	25-Jun-21	0741	FUSION	BJ	69	MJ	75	56	
94/95	25-Jun-21	0748	FUSION	BJ	7	XC	75	39	
96/97	25-Jun-21	0906	FUSION	BJ	69	MJ	75	36	
97/99	25-Jun-21	0917	FUSION	BJ	7	XC	75	57	
98/99	25-Jun-21	0908	FUSION	BJ	79	NH	75	22.5	
98/100	25-Jun-21	0950	FUSION	BJ	69	MJ	75	39	
99/100	25-Jun-21	0959	FUSION	BJ	69	MJ	75	48	
101/102	25-Jun-21	1003	FUSION	BJ	79	NH	75	22.5	
100/102	25-Jun-21	1008	FUSION	BJ	7	XC	75	98	DSS-29
95/96	25-Jun-21	1140	FUSION	BJ	69	MJ	75	28	
94/97	25-Jun-21	1145	FUSION	BJ	69	MJ	75	28	
93/97	25-Jun-21	1154	FUSION	BJ	69	MJ	75	4	
93/98	25-Jun-21	1155	FUSION	BJ	69	MJ	75	23	
91/98	25-Jun-21	1159	FUSION	BJ	69	MJ	75	12	
91/100	25-Jun-21	1201	FUSION	BJ	69	MJ	75	16	
90/100	25-Jun-21	1203	FUSION	BJ	69	MJ	75	19	
90/101	25-Jun-21	1206	FUSION	BJ	69	MJ	75	9	
89/101	25-Jun-21	1207	FUSION	BJ	69	MJ	75	22	
101/103	26-Jun-21	0625	FUSION	BJ	69	MJ	75	31	

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UNIT IIA CONSTRUCTION

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SECONDARY GEOMEMBRANE SEAMING LOG

Seam Description	Date Seamed	Start Time	Weld Type	QA Monitor	Equipment No.	Tech Operator	Ambient Temp., °F	Seam Length	Comments
102/103	26-Jun-21	0630	FUSION	BJ	69	MJ	75	91	
103/104	26-Jun-21	0625	FUSION	BJ	7	XC	75	149	DSS-30
89/103	26-Jun-21	0627	FUSION	BJ	79	NH	75	5	
88/103	26-Jun-21	0633	FUSION	BJ	79	NH	75	28	
86/104	26-Jun-21	0637	FUSION	BJ	79	NH	75	27	

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NON-DESTRUCTIVE SEAMING TESTING LOG FOR PRIMARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
1-3	07/16/21	07/10/21	MM	FSL	36	35	-1	9:35	9:40	0:05	Y	P		
1-2	07/16/21	07/16/21	MM	FSL	36	35	-1	9:35	9:40	0:05	Y	P		
2-3	07/16/21	07/16/21	MM	FSL	34	34	0	9:30	9:35	0:05	Y	P		
3-4	07/16/21	07/16/21	MM	FSL	35	34	-1	9:35	9:40	0:05	Y	P		
2-4	07/16/21	07/16/21	MM	FSL	35	34	-1	9:35	9:40	0:05	Y	P		
6-7	07/16/21	07/16/21	MM	FSL	31	30	-1	11:50	11:55	0:05	Y	P		
6-8	07/16/21	07/16/21	MM	FSL	35	35	0	11:58	12:03	0:05	Y	P		
5-6	07/16/21	07/16/21	MM	FSL	40	40	0	11:58	12:03	0:05	Y	P		
7-8	07/16/21	07/16/21	MM	FSL	35	35	0	11:58	12:03	0:05	Y	P		
5-7	07/16/21	07/16/21	MM	FSL	40	40	0	11:58	12:03	0:05	Y	P		
1-5	07/16/21	07/16/21	MM	FSL	35	35	0	12:55	13:08	0:05	Y	P		
2-6	07/16/21	07/16/21	MM	FSL	35	34	-1	12:50	12:55	0:05	Y	P		
4-8	07/16/21	07/16/21	MM	FSL	35	34	-1	12:45	12:50	0:05	Y	P		
9-10	07/16/21	07/16/21	MM	FSL	32	32	0	12:50	12:55	0:05	Y	P		
4-10	07/16/21	07/16/21	MM	FSL	32	32	0	12:50	12:55	0:05	Y	P		
4-9	07/16/21	07/16/21	MM	FSL	35	34	-1	12:15	12:20	0:05	Y	P		
9-11	07/16/21	07/16/21	MM	FSL	38	38	0	12:15	12:20	0:05	Y	P		
8-12	07/16/21	07/16/21	MM	FSL	33	33	0	12:20	12:25	0:05	Y	P		
12-13	07/16/21	07/16/21	MM	FSL	32	32	0	12:25	12:30	0:05	Y	P		
10-11	07/16/21	07/16/21	MM	FSL	32	32	0	12:25	12:30	0:05	Y	P		
14-15	07/17/21	07/16/21	MM	FSL	34	32	-2	6:00	6:05	0:05	Y	P		
9-12	07/16/21	07/16/21	MM	FSL	35	34	-1	12:45	12:50	0:05	Y	P		
11-13	07/16/21	07/16/21	MM	FSL	35	34	-1	12:45	12:50	0:05	Y	P		
11-15	07/17/21	07/17/21	MM	FSL	31	31	0	6:39	6:44	0:05	Y	P		
11-14	07/17/21	07/17/21	MM	FSL	31	31	0	6:39	6:44	0:05	Y	P		

NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, FSL= Full Seam Length, T=Intersection

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
15-16	07/17/21	07/17/21	MM	FSL	34	34	0	7:05	7:10	0:05	Y	P		
14-16	07/17/21	07/17/21	MM	FSL	34	34	0	7:05	7:10	0:05	Y	P		
17-18	07/17/21	07/17/21	MM	FSL	33	33	0	7:20	7:25	0:05	Y	P		
17-19	07/17/21	07/17/21	MM	FSL	33	33	0	7:20	7:25	0:05	Y	P		
18-19	07/17/21	07/17/21	MM	AT-36'/36'-NEOS	33	33	0	7:15	7:20	0:05	Y	P		
14-17	07/17/21	07/17/21	MM	FSL	34	34	0	7:05	7:10	0:05	Y	P		
16-19	07/17/21	07/17/21	MM	FSL	34	34	0	7:05	7:10	0:05	Y	P		
13-17	07/17/21	07/17/21	MM	FSL	32	32	0	6:15	6:20	0:05	Y	P		
13-18	07/17/21	07/17/21	MM	FSL	32	32	0	6:15	6:20	0:05	Y	P		
20-21	07/19/21	07/19/21	MM	FSL	36	36	0	7:14	7:19	0:05	Y	P		
16-21	07/19/21	07/19/21	MM	FSL	36	36	0	7:14	7:19	0:05	Y	P		
16-20	07/19/21	07/19/21	MM	FSL	36	36	0	7:14	7:19	0:05	Y	P		
21-22	07/19/21	07/19/21	MM	FSL	37	36	-1	7:23	7:28	0:05	Y	P		
20-22	07/19/21	07/19/21	MM	FSL	37	37	0	7:23	7:28	0:05	Y	P		
22-24	07/19/21	07/19/21	MM	FSL	35	35	0	8:15	8:20	0:05	Y	P		
23-24	07/19/21	07/19/21	MM	FSL	32	32	0	7:25	7:30	0:05	Y	P		
24-25	07/19/21	07/19/21	MM	FSL	35	34	-1	8:15	8:20	0:05	Y	P		
23-25	07/19/21	07/19/21	MM	FSL	35	34	-1	8:15	8:20	0:05	Y	P		
25-26	07/19/21	07/19/21	MM	FSL	31	30	-1	8:48	8:53	0:05	Y	P		
26-27	07/19/21	07/19/21	MM	FSL	32	32	0	8:12	8:24	0:05	Y	P		
25-27	07/19/21	07/19/21	MM	FSL	31	30	-1	8:48	8:53	0:05	Y	P		
26-28	07/19/21	07/19/21	MM	FSL	33	32	-1	9:00	9:05	0:05	Y	P		
27-28	07/19/21	07/19/21	MM	FSL	33	32	-1	9:00	9:05	0:05	Y	P		
28-29	07/19/21	07/19/21	MM	FSL	33	33	0	9:30	9:35	0:05	Y	P		
28-30	07/19/21	07/19/21	MM	FSL	33	32	-1	9:10	9:15	0:05	Y	P		

NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, FSL= Full Seam Length, T=Intersection

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
29-30	07/19/21	07/19/21	MM	FSL	33	32	-1	9:10	9:15	0:05	Y	P		
22-23	07/19/21	07/19/21	MM	FSL	35	35	0	8:15	8:20	0:05	Y	P		
30-31	07/19/21	07/19/21	MM	FSL	32	32	0	11:45	11:50	0:05	Y	P		
29-31	07/19/21	07/19/21	MM	FSL	32	32	0	11:45	11:50	0:05	Y	P		
31-33	07/19/21	07/19/21	MM	FSL	36	35	-1	11:45	11:50	0:05	Y	P		
31-32	07/19/21	07/19/21	MM	FSL	36	35	-1	11:45	11:50	0:05	Y	P		
32-33	07/19/21	07/19/21	MM	FSL	35	35	0	12:00	12:05	0:05	Y	P		
32-34	07/19/21	07/19/21	MM	FSL	30	30	0	12:05	12:10	0:05	Y	P		
33-34	07/19/21	07/19/21	MM	FSL	30	30	0	12:05	12:10	0:05	Y	P		
19-35	07/21/21	07/21/21	MM	FSL	33	33	0	7:08	7:13	0:05	Y	P		
35-36	07/21/21	07/21/21	MM	FSL	32	32	0	7:25	7:30	0:05	Y	P		
35-37	07/21/21	07/21/21	MM	FSL	32	32	0	7:25	7:30	0:05	Y	P		
36-37	07/21/21	07/21/21	MM	FSL	32	32	0	7:25	7:30	0:05	Y	P		
36-38	07/21/21	07/21/21	MM	FSL	32	32	0	7:30	7:35	0:05	Y	P		
37-38	07/21/21	07/21/21	MM	FSL	32	32	0	7:30	7:35	0:05	Y	P		
38-39	07/21/21	07/21/21	MM	FSL	36	35	-1	8:15	8:20	0:05	Y	P		
20-35	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
22-36	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
23-38	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
25-39	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
26-40	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
39-40	07/21/21	07/21/21	MM	FSL	30	30	0	8:15	8:20	0:05	Y	P		
39-41	07/21/21	07/21/21	MM	FSL	30	30	0	8:15	8:20	0:05	Y	P		
40-41	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
28-42	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
41-42	07/21/21	07/21/21	MM	FSL	32	32	0	8:30	8:35	0:05	Y	P		
40-42	07/21/21	07/21/21	MM	FSL	32	32	0	8:30	8:35	0:05	Y	P		
42-43	07/21/21	07/21/21	MM	FSL	32	32	0	8:50	8:55	0:05	Y	P		
43-44	07/21/21	07/21/21	MM	FSL	32	32	0	9:00	9:05	0:05	Y	P		
43-45	07/21/21	07/21/21	MM	FSL	32	32	0	9:00	9:05	0:05	Y	P		
44-45	07/21/21	07/21/21	MM	FSL	35	35	0	8:45	8:50	0:05	Y	P		
44-46	07/21/21	07/21/21	MM	FSL	35	35	0	8:45	8:50	0:05	Y	P		
45-46	07/21/21	07/21/21	MM	FSL	35	35	0	8:45	8:50	0:05	Y	P		
46-47	07/21/21	07/21/21	MM	FSL	35	35	0	11:00	11:05	0:05	Y	P		
29-43	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
31-44	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
32-46	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
34-47	07/21/21	07/21/21	MM	FSL	36	35	-1	10:00	10:05	0:05	Y	P		
34-48	07/21/21	07/21/21	MM	FSL	35	35	0	10:55	11:0	0:05	Y	P		
34-49	07/21/21	07/21/21	MM	FSL	35	35	0	10:55	11:00	0:05	Y	P		
48-49	07/21/21	07/21/21	MM	FSL	31	30	-1	10:05	10:10	0:05	Y	P		
49-50	07/21/21	07/21/21	MM	FSL	36	36	0	10:55	11:00	0:05	Y	P		
48-50	07/21/21	07/21/21	MM	FSL	36	36	0	10:55	11:00	0:05	Y	P		
50-52	07/21/21	07/21/21	MM	FSL	32	32	0	12:50	11:00	0:05	Y	P		
50-51	07/21/21	07/21/21	MM	FSL	33	32	-1	12:50	12:5	0:05	Y	P		
51-52	07/21/21	07/21/21	MM	FSL	31	30	-1	12:25	12:30	0:05	Y	P		
52-53	07/21/21	07/21/21	MM	FSL	37	36	-1	12:55	1:00	0:05	Y	P		
51-53	07/21/21	07/21/21	MM	FSL	37	36	-1	12:55	1:00	0:05	Y	P		
53-55	07/21/21	07/21/21	MM	FSL	30	30	0	13:45	13:50	0:05	Y	P		
53-54	07/21/21	07/21/21	MM	FSL	34	33	-2	13:45	13:50	0:05	Y	P		

NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, FSL= Full Seam Length, T=Intersection

Released to Imaging: 9/8/2022 10:18:07 AM
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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
55-56	07/21/21	07/21/21	MM	FSL	37	36	-1	13:55	14:00	0:05	Y	P		
54-56	07/21/21	07/21/21	MM	FSL	37	36	-1	13:55	14:00	0:05	Y	P		
54-55	07/21/21	07/21/21	MM	FSL	30	30	0	11:00	11:05	0:05	Y	P		
57-58	07/21/21	07/21/21	MM	FSL	31	30	-1	13:55	14:00	0:05	Y	P		
56-58	07/21/21	07/21/21	MM	FSL	38	37	-1	14:10	14:15	0:05	Y	P		
56-57	07/21/21	07/21/21	MM	FSL	38	37	-1	14:10	14:15	0:05	Y	P		
47-59	07/27/21	07/22/21	MM	FSL	32	32	0	7:20	7:25	0:05	Y	P		
47-60	07/27/21	07/22/21	MM	FSL	35	34	-1	7:20	7:25	0:05	Y	P		
59-60	07/27/21	07/22/21	MM	FSL	35	35	0	7:20	7:25	0:05	Y	P		
59-61	07/27/21	07/22/21	MM	FSL	35	35	0	7:20	7:25	0:05	Y	P		
60-61	07/27/21	07/22/21	MM	FSL	35	33	-2	7:30	7:35	0:05	Y	P		
61-62	07/27/21	07/22/21	MM	FSL	37	37	0	7:20	7:25	0:05	Y	P		
62-63	07/27/21	07/22/21	MM	FSL	35	34	-1	7:40	7:45	0:05	Y	P		
63-64	07/27/21	07/22/21	MM	FSL	34	34	0	7:45	7:50	0:05	Y	P		
64-65	07/27/21	07/22/21	MM	FSL	35	35	0	8:00	8:05	0:05	Y	P		
65-66	07/27/21	07/22/21	MM	FSL	30	30	0	8:05	8:15	0:05	Y	P		
67-68	07/27/21	07/22/21	MM	FSL	30	30	0	8:05	8:10	0:05	Y	P		
102-103	07/26/21	07/26/21	MM	FSL	35	34	-1	12:29	12:34	0:05	Y	P		
102-104	07/26/21	07/26/21	MM	FSL	35	34	-1	12:29	12:34	0:05	Y	P		
103-105	07/26/21	07/26/21	MM	FSL	37	35	-2	12:29	12:34	0:05	Y	P		
104-105	07/26/21	07/26/21	MM	FSL	37	35	-2	12:29	12:34	0:05	Y	P		
105-106	07/26/21	07/26/21	MM	FSL	37	35	-2	12:40	12:45	0:05	Y	P		
106-107	07/26/21	07/26/21	MM	FSL	35	34	-1	12:53	12:58	0:05	Y	P		

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UNIT IIA CONSTRUCTION
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PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
107-108	07/26/21	07/26/21	MM	FSL	35	33	-2	13:14	13:19	0:05	Y	P		
108-109	07/26/21	07/26/21	MM	FSL	36	35	-1	13:23	13:28	0:05	Y	P		
109-110	07/26/21	07/26/21	MM	FSL	36	35	-1	13:23	13:28	0:05	Y	P		
110-111	07/26/21	07/26/21	MM	FSL	36	35	-1	13:23	13:28	0:05	Y	P		
103-104	07/26/21	07/26/21	MM	FSL	34	32	-2	12:09	12:14	0:05	Y	P		
68-77	07/22/21	07/22/21	MM	FSL	30	30	0	10:22	10:27	0:05	Y	P		
67-68	07/22/21	07/22/21	MM	FSL	30	30	0	10:25	10:30	0:05	Y	P		
70-80	07/22/21	07/22/21	MM	FSL	30	30	0	10:25	10:30	0:05	Y	P		
72-82	07/22/21	07/22/21	MM	FSL	30	30	0	10:25	10:30	0:05	Y	P		
73-83	07/22/21	07/22/21	MM	FSL	30	30	0	10:25	10:30	0:05	Y	P		
74-85	07/22/21	07/22/21	MM	FSL	30	30	0	10:25	10:30	0:05	Y	P		
76-86	07/27/21	07/27/21	MM	FSL	35	35	0	10:25	10:30	0:05	Y	P		
100-101	07/26/21	07/26/21	MM	BOS-53'E	32	30	-2	10:11	10:16	0:05	Y	P		
101-102	07/26/21	07/26/21	MM	FSL	33	33	0	10:48	10:53	0:05	Y	P		
76-112	07/27/21	07/26/21	MM	FSL	34	34	0	7:00	7:05	0:05	Y	P		
112-113	07/27/21	07/26/21	MM	FSL	34	34	0	7:00	7:05	0:05	Y	P		
113-114-115	07/27/21	07/26/21	MM	FSL	34	34	0	7:00	7:05	0:05	Y	P		
114-115	07/27/21	07/26/21	MM	FSL	35	34	-1	7:43	7:48	0:05	Y	P		
114-115-116	07/27/21	07/26/21	MM	FSL	35	34	-1	7:43	7:48	0:05	Y	P		
116-117	07/27/21	07/27/21	MM	FSL	35	34	-1	8:02	8:07	0:05	Y	P		
117-118	07/27/21	07/27/21	MM	FSL	35	34	-1	8:23	8:28	0:05	Y	P		
117-119	07/27/21	07/27/21	MM	FSL	35	34	-1	8:23	8:28	0:05	Y	P		
118-119	07/27/21	07/27/21	MM	FSL	30	30	0	8:00	8:05	0:05	Y	P		
118-120	07/27/21	07/27/21	MM	FSL	35	35	0	8:30	8:05	0:05	Y	P		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
119-120	07/27/21	07/27/21	MM	FSL	37	36	-1	8:30	8:35	0:05	Y	P		
120-121	07/27/21	07/27/21	MM	FSL	39	39	0	8:40	8:45	0:05	Y	P		
121-122	07/27/21	07/27/21	MM	FSL	35	34	-1	8:47	8:52	0:05	Y	P		
122-123	07/27/21	07/27/21	MM	FSL	32	31	-1	9:01	9:06	0:05	Y	P		
123-124	07/27/21	07/27/21	MM	FSL	32	31	-1	9:05	9:10	0:05	Y	P		
124-125	07/27/21	07/27/21	MM	FSL	32	31	-1	9:01	10:10	0:05	Y	P		
88-112	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
102-113	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
102-114	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
103-116	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
103-117	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
105-117	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
105-118	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
106-120	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
106-121	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
107-121	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
102-122	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
108-122	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
108-123	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
110-124	07/27/21	07/27/21	MM	FSL	38	36	-2	10:05	10:10	0:05	Y	P		
83-84	07/22/21	07/22/21	MM	FSL	32	32	0	13:05	13:10	0:05	Y	P		
68-69	07/22/21	07/22/21	MM	FSL	30	30	0	9:55	10:00	0:05	Y	P		
69-70	07/22/21	07/22/21	MM	FSL	30	30	0	9:55	10:00	0:05	Y	P		
69-71	07/22/21	07/22/21	MM	FSL	30	30	0	9:55	10:00	0:05	Y	P		
70-71	07/22/21	07/22/21	MM	FSL	30	30	0	9:55	10:00	0:05	Y	P		

NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, FSL= Full Seam Length, T=Intersection

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
71-72	07/22/21	07/22/21	MM	FSL	34	34	0	9:55	10:00	0:05	Y	P		
73-75	07/22/21	07/22/21	MM	FSL	33	32	-1	9:55	10:00	0:05	Y	P		
74-75	07/22/21	07/22/21	MM	FSL	35	35	0	10:15	10:20	0:05	Y	P		
75-76	07/22/21	07/22/21	MM	FSL	35	35	0	10:15	10:20	0:05	Y	P		

NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, FSL= Full Seam Length, T=Intersection

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NON-DESTRUCTIVE SEAMING TESTING LOG FOR SECONDARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
1/2	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	916	0921	:05	Y	Pass		
3/4	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	915	0920	:05	Y	Pass		
1/3	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	922	0927	:05	Y	Pass		
2/4	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	923	0928	:05	Y	Pass		
4/5	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	937	0942	:05	Y	Pass		
3/5	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	915	0920	:05	Y	Pass		
2/6	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1252	1257	:05	Y	Pass		
6/7	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1300	1305	:05	Y	Pass		
6/8	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1300	1305	:05	Y	Pass		
7/8	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1247	1252	:05	Y	Pass		
4/9	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1252	1257	:05	Y	Pass		
5/9	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	1220	1225	:05	Y	Pass		
6/9	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1240	1245	:05	Y	Pass		
9/10	17-Jun-21	17-Jun-21	BJ	FSL	35	34	-1	1300	1305	:05	Y	Pass		
9/11	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	1230	1235	:05	Y	Pass		
10/11	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	1229	1234	:05	Y	Pass		
8/10	17-Jun-21	17-Jun-21	BJ	FSL	35	35	0	1241	1246	:05	Y	Pass		
7/12	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	837	0842	:05	Y	Pass		
8/12	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	830	0835	:05	Y	Pass		
12/13	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	837	0842	:05	Y	Pass		
10/14	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	757	0802	:05	Y	Pass		
11/14	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	758	0803	:05	Y	Pass		
12/14	18-Jun-21	18-Jun-21	BJ	FSL	35	34	-1	820	0825	:05	Y	Pass		
14/15	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	830	0835	:05	Y	Pass		
13/15	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	821	0826	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
14/16	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	809	0814	:05	Y	Pass		
15/16	18-Jun-21	18-Jun-21	BJ	FSL	35	34	-1	805	0810	:05	Y	Pass		
13/17	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	1230	1235	:05	Y	Pass		
15/17	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	837	0842	:05	Y	Pass		
17/18	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1251	1256	:05	Y	Pass		
17/19	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1220	1225	:05	Y	Pass		
15/19	18-Jun-21	18-Jun-21	BJ	R10 TO N EOS	35	33	-2	1230	1235	:05	N	Pass		
16/19	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	837	0842	:05	Y	Pass		
17/20	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1251	1256	:05	Y	Pass		
19/20	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1238	1243	:05	Y	Pass		
18/20	18-Jun-21	18-Jun-21	BJ	FSL	35	34	-1	1252	1257	:05	Y	Pass		
19/21	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1237	1242	:05	Y	Pass		
20/21	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1239	1244	:05	Y	Pass		
18/22	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	1301	1306	:05	Y	Pass		
22/23	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1302	1307	:05	Y	Pass		
20/24	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	1301	1306	:05	Y	Pass		
21/24	18-Jun-21	18-Jun-21	BJ	FSL	35	33	-2	1301	1306	:05	Y	Pass		
24/25	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1302	1307	:05	Y	Pass		
22/24	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1252	1258	:05	Y	Pass		
23/25	18-Jun-21	18-Jun-21	BJ	FSL	35	34	-1	1254	1259	:05	Y	Pass		
24/26	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1302	1307	:05	Y	Pass		
25/26	18-Jun-21	18-Jun-21	BJ	FSL	35	35	0	1245	1250	:05	Y	Pass		
23/27	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	835	0840	:05	Y	Pass		
23/28	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	835	0840	:05	Y	Pass		
27/28	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	705	0710	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
27/29	19-Jun-21	19-Jun-21	BJ	FSL	35	34	-1	836	0841	:05	Y	Pass		
28/29	19-Jun-21	19-Jun-21	BJ	FSL	35	34	-1	836	0841	:05	Y	Pass		
25/30	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	802	0807	:05	Y	Pass		
26/30	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	803	0808	:05	Y	Pass		
28/30	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	727	73235	:05	Y	Pass		
30/31	19-Jun-21	19-Jun-21	BJ	FSL	35	34	-1	817	0822	:05	Y	Pass		
30/32	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	815	0820	:05	Y	Pass		
31/32	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	750	0755	:05	Y	Pass		
29/33	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	910	0915	:05	Y	Pass		
31/34	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	910	0915	:05	Y	Pass		
32/34	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	910	0915	:05	Y	Pass		
33/34	19-Jun-21	19-Jun-21	BJ	FSL	35	34	-1	745	0750	:05	Y	Pass		
29/31	19-Jun-21	19-Jun-21	BJ	FSL	35	35	0	728	0733	:05	Y	Pass		
35/36	21-Jun-21	21-Jun-21	BJ	FSL	35	34	-1	743	0748	:05	Y	Pass		
33/35	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	841	0846	:05	Y	Pass		
33/36	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	845	0850	:05	Y	Pass		
35/37	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	920	0925	:05	Y	Pass		
36/37	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	920	0925	:05	Y	Pass		
36/38	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	741	0746	:05	Y	Pass		
34/38	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	805	0810	:05	Y	Pass		
38/39	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	752	0757	:05	Y	Pass		
34/39	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	805	0810	:05	Y	Pass		
37/40	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	748	0753	:05	Y	Pass		
38/40	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	920	0925	:05	Y	Pass		
39/40	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	905	0910	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
42/43	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	900	0905	:05	Y	Pass		
41/42	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	857	0902	:05	Y	Pass		
40/42	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	920	0925	:05	Y	Pass		
40/43	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	920	0925	:05	Y	Pass		
37/41	21-Jun-21	21-Jun-21	BJ	FSL	35	35	0	930	0935	:05	Y	Pass		
41/44	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	834	0839	:05	Y	Pass		
41/45	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	834	0839	:05	Y	Pass		
44/45	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	809	0814	:05	Y	Pass		
44/46	22-Jun-21	22-Jun-21	BJ	R35 TO S EOS	35	35	0	847	0852	:05	N	Pass		
45/46	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	852	0857	:05	Y	Pass		
45/47	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	802	0807	:05	Y	Pass		
42/47	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	834	0839	:05	Y	Pass		
43/47	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	834	0839	:05	Y	Pass		
46/48	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	803	0808	:05	Y	Pass		
47/48	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	852	0857	:05	Y	Pass		
47/49	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	853	0858	:05	Y	Pass		
48/49	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	815	0820	:05	Y	Pass		
46/50	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	1214	1219	:05	Y	Pass		
50/51	22-Jun-21	22-Jun-21	BJ	FSL	35	33	-2	1215	1220	:05	Y	Pass		
50/52	22-Jun-21	22-Jun-21	BJ	FSL	35	33	-2	1215	1220	:05	Y	Pass		
51/52	22-Jun-21	22-Jun-21	BJ	FSL	35	33	-2	1215	1220	:05	Y	Pass		
50/53	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	1035	1040	:05	Y	Pass		
48/53	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	1214	1219	:05	Y	Pass		
49/53	22-Jun-21	22-Jun-21	BJ	FSL	35	34	-1	1214	1219	:05	Y	Pass		
53/54	22-Jun-21	22-Jun-21	BJ	FSL	35	33	-2	1215	1220	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
52/54	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1036	1041	:05	Y	Pass		
53/55	22-Jun-21	22-Jun-21	BJ	FSL	35	33	-2	1215	1220	:05	Y	Pass		
54/55	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1227	1232	:05	Y	Pass		
51/56	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1246	1251	:05	Y	Pass		
52/56	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1246	1251	:05	Y	Pass		
56/57	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1225	1230	:05	Y	Pass		
54/57	22-Jun-21	22-Jun-21	BJ	FSL	35	35	0	1235	1240	:05	Y	Pass		
55/57	22-Jun-21	22-Jun-21	BJ	R37 TO S EOS	35	35	0	1235	1240	:05	N	Pass		
56/58	23-Jun-21	23-Jun-21	BJ	R45 TO N EOS	35	35	0	801	0806	:05	N	Pass		
58/59	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	825	0830	:05	Y	Pass		
58/60	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	825	0830	:05	Y	Pass		
59/60	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	825	0830	:05	Y	Pass		
58/61	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	731	0736	:05	Y	Pass		
57/61	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	801	0806	:05	Y	Pass		
61/62	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	750	0755	:05	Y	Pass		
57/62	23-Jun-21	23-Jun-21	BJ	R41 TO S EOS	35	35	0	801	0806	:05	N	Pass		
60/63	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	730	0735	:05	Y	Pass		
61/63	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	826	0831	:05	Y	Pass		
62/63	23-Jun-21	23-Jun-21	BJ	R42 TO S EOS	35	35	0	826	0831	:05	N	Pass		
59/64	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1215	1220	:05	Y	Pass		
60/64	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1210	1215	:05	Y	Pass		
64/65	23-Jun-21	23-Jun-21	BJ	R50 TO S EOS	35	35	0	1216	1221	:05	N	Pass		
64/66	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1150	1155	:05	Y	Pass		
63/66	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1210	1215	:05	Y	Pass		
66/67	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1229	1234	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
63/67	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1210	1215	:05	Y	Pass		
66/68	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1200	1205	:05	Y	Pass		
67/68	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1200	1205	:05	Y	Pass		
65/69	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1240	1245	:05	Y	Pass		
69/70	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1217	1222	:05	Y	Pass		
65/70	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1240	1245	:05	Y	Pass		
70/71	23-Jun-21	23-Jun-21	BJ	FSL	35	34	-1	1152	1157	:05	Y	Pass		
68/71	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1240	1245	:05	Y	Pass		
68/72	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1240	1245	:05	Y	Pass		
71/72	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1230	1235	:05	Y	Pass		
65/68	23-Jun-21	23-Jun-21	BJ	FSL	35	35	0	1151	1156	:05	Y	Pass		
69/73	24-Jun-21	24-Jun-21	BJ	FSL	35	33	-2	800	0805	:05	Y	Pass		
70/73	24-Jun-21	24-Jun-21	BJ	FSL	35	33	-2	800	0805	:05	Y	Pass		
73/74	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	802	0807	:05	Y	Pass		
73/75	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	749	0754	:05	Y	Pass		
71/75	24-Jun-21	24-Jun-21	BJ	FSL	35	33	-2	800	0805	:05	Y	Pass		
72/75	24-Jun-21	24-Jun-21	BJ	R51 TO S EOS	35	35	0	735	0740	:05	N	Pass		
74/76	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	750	0755	:05	Y	Pass		
75/76	24-Jun-21	24-Jun-21	BJ	R52 TO N EOS	35	34	-1	742	0747	:05	N	Pass		
76/77	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	720	0725	:05	Y	Pass		
75/77	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	742	0747	:05	Y	Pass		
74/78	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	900	0905	:05	Y	Pass		
74/79	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	900	0905	:05	Y	Pass		
78/79	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	855	0900	:05	Y	Pass		
78/80	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	901	0906	:05	Y	Pass		

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
79/80	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	901	0906	:05	Y	Pass		
80/81	24-Jun-21	24-Jun-21	BJ	R55 TO N EOS	35	35	0	911	0916	:05	N	Pass		
81/82	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	930	0935	:05	Y	Pass		
81/83	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	930	0935	:05	Y	Pass		
82/83	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	935	0940	:05	Y	Pass		
82/84	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	1207	1212	:05	Y	Pass		
83/84	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	1207	1212	:05	Y	Pass		
84/85	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	1208	1213	:05	Y	Pass		
85/86	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	1210	1215	:05	Y	Pass		
85/87	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	1210	1215	:05	Y	Pass		
86/87	24-Jun-21	24-Jun-21	BJ	FSL	35	35	0	1225	1230	:05	Y	Pass		
86/88	24-Jun-21	24-Jun-21	BJ	R58 TO N EOS	35	35	0	1222	1227	:05	N	Pass		
87/88	24-Jun-21	24-Jun-21	BJ	FSL	35	34	-1	1223	1228	:05	Y	Pass		
88/89	25-Jun-21	24-Jun-21	BJ	FSL	35	35	0	817	0822	:05	Y	Pass		
89/90	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	818	0823	:05	Y	Pass		
90/91	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	819	0824	:05	Y	Pass		
91/92	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	820	0825	:05	N	Pass		
90/92	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	819	0824	:05	Y	Pass		
92/93	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	830	0835	:05	N	Pass		
91/93	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	830	0835	:05	Y	Pass		
93/94	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	831	0836	:05	Y	Pass		
94/95	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	832	0837	:05	Y	Pass		
96/97	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	950	0955	:05	Y	Pass		
97/99	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	951	0956	:05	Y	Pass		
98/99	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	1150	1155	:05	Y	Pass		

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UNIT IIA CONSTRUCTION
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GEOMEMBRANE NON DESTRUCTIVE SEAM TESTING LOG

Seam Desription	Date Seamed	Date Tested	QA Monitor	Test Location1	Air Pressure Test								Vacuum Test	
					Test Pressure, psi			Test Time			Seam Complete Y/N	Pass/ Fail	Duration (sec)	Pass/ Fail
					Start	Final	Change	Start	Final	Duration (min)				
98/100	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	1151	1156	:05	Y	Pass		
99/100	25-Jun-21	25-Jun-21	BJ	R60 TO W EOS	35	35	0	1151	1156	:05	N	Pass		
101/102	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	1203	1208	:05	Y	Pass		
100/102	25-Jun-21	25-Jun-21	BJ	FSL	35	35	0	1200	1205	:05	Y	Pass		
95/96	25-Jun-21	25-Jun-21	BJ	FSL	35	34	-1	1215	1220	:05	Y	Pass		
94/97	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
93/97	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
93/98	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
91/98	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
91/100	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
90/100	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
90/101	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	N	Pass		
89/101	25-Jun-21	25-Jun-21	BJ	FSL	35	33	-2	1216	1221	:05	Y	Pass		
101/103	26-Jun-21	26-Jun-21	BJ	FSL	35	34	-1	700	0705	:05	Y	Pass		
102/103	26-Jun-21	26-Jun-21	BJ	FSL	35	34	-1	700	0705	:05	Y	Pass		
103/104	26-Jun-21	26-Jun-21	BJ	FSL	35	35	0	701	0706	:05	Y	Pass		
89/103	26-Jun-21	26-Jun-21	BJ	FSL	35	33	-2	645	0650	:05	N	Pass		
88/103	26-Jun-21	26-Jun-21	BJ	FSL	35	33	-2	645	0650	:05	Y	Pass		
86/104	26-Jun-21	26-Jun-21	BJ	FSL	35	33	-2	645	0650	:05	N	Pass		

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APPENDIX I

FIELD AND LABORATORY DESTRUCTIVE SEAM TESTING

Includes pages I-1 through I-59

CONTENTS

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DESTRUCTIVE SEAM TESTING LOG
FOR PRIMARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DS1	16-Jul-21	1/2	MJ	69	60-Mil	FUSION	R1	128	122	159	Pass	134	128	172	Pass
								106	108	154					
DS2	16-Jul-21	2/3	LM	7	60-Mil	FUSION	R2	120	117	170	Pass	146	141	169	Pass
								116	119	156					
DS3	16-Jul-21	4/9	MJ	69	60-Mil	FUSION	R5	112	110	156	Pass	142	141	169	Pass
								118	108	158					
DS4	16-Jul-21	9/10	LM	7	60-Mil	FUSION	R4	102	112	160	Pass	136	121	171	Pass
								108	114	153					
DS5	17-Jul-21	11/15	LM	7	60-Mil	FUSION	R13	107	105	155	Pass	120	117	179	Pass
								110	112	150					
DS6	17-Jul-21	15/16	MJ	69	60-Mil	FUSION	R14	111	116	162	Pass	124	140	178	Pass
								115	109	160					
DS7	19-Jul-21	22/24	MJ	69	60-Mil	FUSION	R18	108	110	158	Pass	124	117	174	Pass
								111	110	154					
DS8	19-Jul-21	24/25	LM	7	60-Mil	FUSION	R19	125	120	153	Pass	127	121	176	Pass
								112	109	161					
DS9	19-Jul-21	27/28	LM	7	60-Mil	FUSION	R20	108	111	158	Pass	129	122	172	Pass
								101	112	154					
DS10	19-Jul-21	30/31	LM	7	60-Mil	FUSION	R21	115	108	160	Pass	123	129	172	Pass
								109	106	164					
DS11	19-Jul-21	28/30	MJ	69	60-Mil	FUSION	R22	111	110	150	Pass	123	137	173	Pass
								117	112	159					
DS12	19-Jul-21	25/27	MJ	69	60-Mil	FUSION	R23	112	114	148	Pass	130	126	175	Pass
								114	104	153					

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PRIMARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/ Fail
								in	out			in	out		
DS13	19-Jul-21	R20/28	CZ	Ex7	60-Mil	EXTRUSION	R31	101	111	156	Pass	153	-	166	Pass
								113	112	152					
DS14	21-Jul-21	35/36	MJ	69	60-Mil	FUSION	R34	108	106	149	Pass	130	119	185	Pass
								106	103	156					
DS15	21-Jul-21	36/38	LM	7	60-Mil	FUSION	R35	112	110	150	Pass	128	123	184	Pass
								115	111	153					
DS16	21-Jul-21	44/46	LM	7	60-Mil	FUSION	R38	120	118	140	Pass	128	114	182	Pass
								117	104	136					
DS17	21-Jul-21	46/47	MJ	69	60-Mil	FUSION	R39	109	100	150	Pass	132	120	180	Pass
								110	109	148					
DS18	21-Jul-21	50/52	MJ	69	60-Mil	FUSION	R50	110	111	139	Pass	117	121	170	Pass
								115	114	129					
DS19	21-Jul-21	52/53	LM	7	60-Mil	FUSION	R51	116	106	143	Pass	116	129	171	Pass
								110	104	140					
DS20	21-Jul-21	56/58	LM	7	60-Mil	FUSION	R59	108	100	154	Pass	131	136	174	Pass
								103	108	151					
DS21	22-Jul-21	61/62	KP	84	60-Mil	FUSION	R62	119	110	149	Pass	128	123	180	Pass
								111	118	146					
DS22	22-Jul-21	63/64	MJ	69	60-Mil	FUSION	R73	107	103	144	Pass	124	124	184	Pass
								106	108	150					
DS23	22-Jul-21	65/66	LM	7	60-Mil	FUSION	R75	115	109	147	Pass	124	125	182	Pass
								116	110	140					
DS24	22-Jul-21	74/76	MJ	69	60-Mil	FUSION	R67	107	100	150	Pass	125	121	175	Pass
								103	101	146					

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DS25	22-Jul-21	73/74	LM	7	60-Mil	FUSION	R68	100	115	154	Pass	122	122	173	Pass
								110	108	153					
DS26	22-Jul-21	79/81	LM	7	60-Mil	FUSION	R78	108	111	160	Pass	115	121	169	Pass
								104	107	157					
DS27	22-Jul-21	81/82	MJ	69	60-Mil	FUSION	R79	111	108	152	Pass	121	122	164	Pass
								103	101	140					
DS28	22-Jul-21	84/85	KP	84	60-Mil	FUSION	R80	115	113	161	Pass	127	122	165	Pass
								111	110	158					
DS29	26-Jul-21	87/88	MJ	69	60-Mil	FUSION	R105	108	104	148	Pass	121	118	166	Pass
								101	100	153					
DS30	26-Jul-21	90/92	LM	7	60-Mil	FUSION	R106	112	115	157	Pass	128	123	169	Pass
								115	113	152					
DS31	26-Jul-21	92/93	KP	84	60-Mil	FUSION	R107	106	103	159	Pass	129	123	178	Pass
								102	101	151					
DS32	26-Jul-21	93/95	MJ	69	60-Mil	FUSION	R108	100	107	147	Pass	126	129	181	Pass
								120	105	152					
DS33	26-Jul-21	100/101	LM	7	60-Mil	FUSION	R109	113	110	150	Pass	129	119	179	Pass
								111	109	147					
DS34	26-Jul-21	101/102	MJ	69	60-Mil	FUSION	R110	107	112	152	Pass	124	123	175	Pass
								105	114	154					
DS35	27-Jul-21	123/124	MJ	69	60-Mil	FUSION	R97	103	106	162	Pass	123	122	178	Pass
								108	109	154					
DS36	27-Jul-21	122/123	KP	84	60-Mil	FUSION	R98	118	110	155	Pass	127	119	178	Pass
								107	102	147					

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
PRIMARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DS37	27-Jul-21	121/122	MJ	69	60-Mil	FUSION	R99	116	105	156	Pass	133	132	178	Pass
								108	102	153					
DS38	27-Jul-21	120/121	KP	84	60-Mil	FUSION	R100	110	104	148	Pass	127	122	180	Pass
								114	103	150					
DS39	27-Jul-21	119/120	MJ	69	60-Mil	FUSION	R101	104	108	155	Pass	126	127	179	Pass
								107	107	146					
DS40	27-Jul-21	117/119	KP	84	60-Mil	FUSION	R102	115	110	140	Pass	134	122	177	Pass
								106	115	152					
DS41	27-Jul-21	116/117	LN	7	60-Mil	FUSION	R103	119	108	151	Pass	130	137	188	Pass
								120	116	157					
DS42	27-Jul-21	115/116	KP	84	60-Mil	FUSION	R104	114	107	141	Pass	139	126	187	Pass
								106	102	143					
DS43	17-Jul-21	118/120	MJ	7	60-Mil	FUSION	R154	108	100	150	Pass	144	128	186	Pass
								104	106	156					
DS44	17-Jul-21	113/114	MJ	7	60-Mil	FUSION	R151	100	108	157	Pass	148	137	174	Pass
								116	110	150					

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DESTRUCTIVE SEAM TESTING LOG
FOR SECONDARY GEOMEMBRANE

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

SECONDARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DSS1	17-Jun-21	3/4	XC	7	60-Mil	FUSION	R-5	110	110	142	Pass	123	116	173	Pass
								110	109	146					
DSS2	17-Jun-21	4/9	MJ	69	60-Mil	FUSION	R-4	100	109	146	Pass	122	133	172	Pass
								110	113	147					
DSS3	18-Jun-21	11/14	MJ	69	60-Mil	FUSION	R-18	124	111	145	Pass	110	131	173	Pass
								109	114	148					
DSS4	18-Jun-21	14/15	XC	7	60-Mil	FUSION	R-9	114	111	142	Pass	123	121	175	Pass
								111	103	149					
DSS5	18-Jun-21	16/19	MJ	69	60-Mil	FUSION	R-13	110	113	143	Pass	124	123	177	Pass
								109	110	144					
DSS6	18-Jun-21	13/17	MJ	69	60-Mil	FUSION	R-7	112	115	148	Pass	131	128	184	Pass
								108	113	147					
DSS7	18-Jun-21	25/26	NH	79	60-Mil	FUSION	R-11	117	115	145	Pass	128	144	159	Pass
								107	113	139					
DSS8	19-Jun-21	28/30	NH	79	60-Mil	FUSION	R-23	121	123	145	Pass	128	144	166	Pass
								122	115	151					
DSS9	19-Jun-21	30/31	XC	7	60-Mil	FUSION	R-19	109	109	142	Pass	123	122	168	Pass
								120	117	147					
DSS10	19-Jun-21	31/34	MJ	69	60-Mil	FUSION	R-21	113	110	140	Pass	125	126	171	Pass
								107	103	144					
DSS11	21-Jun-21	39/40	XC	7	60-Mil	FUSION	R-25	113	107	142	Pass	127	131	171	Pass
								108	116	150					
DSS12	21-Jun-21	33/35	MJ	69	60-Mil	FUSION	R-32	120	123	152	Pass	144	130	181	Pass
								113	129	155					
DSS13	21-Jun-21	40/42	MJ	69	60-Mil	FUSION	R-29	110	103	142	Pass	123	131	172	Pass
								113	107	156					
DSS14	22-Jun-21	47/49	XC	7	60-Mil	FUSION	R-33	112	117	164	Pass	126	125	172	Pass
								114	114	160					
DSS15	22-Jun-21	44/46	XC	7	60-Mil	FUSION	R-34	122	130	167	Pass	135	141	186	Pass
								117	129	163					

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

SECONDARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DSS16	22-Jun-21	53/54	MJ	69	60-Mil	FUSION	R-36	120	137	143	Pass	116	120	173	Pass
								115	121	152					
DSS17	22-Jun-21	52/54	NH	79	60-Mil	FUSION	R-39	134	119	140	Pass	145	142	159	Pass
								132	130	141					
DSS18	22-Jun-21	54/57	MJ	69	60-Mil	FUSION	R-38	107	109	150	Pass	126	141	173	Pass
								111	120	146					
DSS19	23-Jun-21	57/61	MJ	69	60-Mil	FUSION	R-43	105	110	154	Pass	120	129	177	Pass
								116	113	153					
DSS20	23-Jun-21	56/58	MJ	69	60-Mil	FUSION	R-46	121	126	163	Pass	131	122	183	Pass
								122	114	162					
DSS21	23-Jun-21	67/68	XC	7	60-Mil	FUSION	R-44	115	120	135	Pass	122	121	173	Pass
								110	112	140					
DSS22	23-Jun-21	64/65	XC	7	60-Mil	FUSION	R-48	131	126	149	Pass	138	123	184	Pass
								123	119	151					
DSS23	23-Jun-21	65/69	MJ	69	60-Mil	FUSION	R-49	115	113	143	Pass	132	123	184	Pass
								113	111	141					
DSS24	24-Jun-21	75/76	XC	7	60-Mil	FUSION	R-53	120	112	151	Pass	122	126	176	Pass
								117	114	152					
DSS25	24-Jun-21	79/80	XC	7	60-Mil	FUSION	R-54	118	119	153	Pass	134	121	188	Pass
								123	127	157					
DSS26	24-Jun-21	81/82	XC	7	60-Mil	FUSION	R-56	127	137	143	Pass	149	119	183	Pass
								114	112	147					
DSS27	24-Jun-21	85/86	MJ	69	60-Mil	FUSION	R-57	110	115	146	Pass	129	118	188	Pass
								112	110	144					
DSS28	25-Jun-21	91/93	XC	7	60-Mil	FUSION	R-62	114	123	166	Pass	135	133	187	Fail
								125	127	158					
DSS29	25-Jun-21	100/102	XC	7	60-Mil	FUSION	R-59	113	123	155	Pass	144	118	189	Pass
								120	114	151					
DSS30	26-Jun-21	103/104	MJ	69	60-Mil	FUSION	R-64	111	112	164	Pass	151	122	184	Pass
								114	122	167					

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LEA LAND LANDFILL

UNIT IIA CONSTRUCTION

6041-001-17-00

SECONDARY DESTRUCTIVE SEAM TESTING LOG

Sample Number	Date	Seam Number	Welder ID	Machine Number	Material Type	Weld Type	Repair No.	Field Test Results				Lab Test Results (avg.)			
								Peel (ppi)		Shear (ppi)	Pass/Fail	Peel (ppi)		Shear (ppi)	Pass/Fail
								in	out			in	out		
DX1	26-Jun-21	104/R63	TD	X7	60-Mil	EXTRUSION	R-85	109	100	167	Pass	109	-	175	Pass
								110	111	169					
DSS32	13-Jul-21	72/75	MJ	69	60-Mil	FUSION	R-70	103	107	171	Pass	110	117	181	Pass
								104	101	171					
DSS33	13-Jul-21	75/76	MJ	69	60-Mil	FUSION	R-52	103	111	155	Pass	123	120	179	Pass
								119	99	165					
DSS34	13-Jul-21	105/107	LM	84	60-Mil	FUSION	R-72	98	99	140	Pass	121	118	179	Pass
								98	103	146					
DSS35	13-Jul-21	106/108	MJ	69	60-Mil	FUSION	R-93	100	150	144	Pass	112	119	173	Pass
								117	116	146					
DSS36	13-Jul-21	109/110	LM	84	60-Mil	FUSION	R-83	100	99	153	Pass	147	128	191	Pass
								98	99	156					
DSS28A	14-Jul-21	28/30	NH	79	60-Mil	FUSION	R-22	122	130	171	Pass	138	144	170	Pass
								108	115	163					
DSS28B	14-Jul-21	23/25	NH	79	60-Mil	FUSION	R-171	137	147	161	Pass	153	154	170	Pass
								142	138	160					
DSS37	14-Jul-21	110/111	MJ	79	60-Mil	FUSION	R-113	112	111	150	Pass	140	144	188	Pass
								110	109	149					
DSS38	14-Jul-21	113/114	MJ	7	60-Mil	FUSION	R-114	99	101	154	Pass	141	129	187	Pass
								103	111	137					
DSS39	14-Jul-21	116/117	MJ	7	60-Mil	FUSION	R-115	115	100	154	Pass	131	123	183	Pass
								116	109	150					
DSS40	16-Jul-21	118/120	LM	7	60-Mil	FUSION	R-120	120	117	169	Pass	139	130	184	Pass
								116	121	170					
DSS41	16-Jul-21	121/122	MJ	69	60-Mil	FUSION	R-122	128	122	159	Pass	137	146	171	Pass
								106	108	154					
DSS42	16-Jul-21	121/123	MJ	69	60-Mil	FUSION	R-124	105	98	159	Pass	135	125	186	Pass
								117	110	163					

DESTRUCTIVE SEAM LABORATORY RESULTS FOR PRIMARY GEOMEMBRANE

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
AUSTIN, TX - USA | ANAHEIM, CA - USA | ANDERSON, SC - USA | GOLD COAST - AUSTRALIA | SUZHOU - CHINA

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65452

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	135	121	142	135	**134**
Peel Incursion (%)	<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	124	133	127	124	**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)	176	176	167	171	170	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	149	140	145	148	**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	
Side: B						**Peel B**
Peel Strength (ppi)	135	142	149	137	140	**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)	174	172	168	168	165	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65452

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	152	140	134	152	**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	
Side: B						**Peel B**
Peel Strength (ppi)	142	142	139	140	144	**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)	175	172	168	168	164	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	136	139	137	140	**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	
Side: B						**Peel B**
Peel Strength (ppi)	119	128	120	118	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	
Shear						**Shear**
Shear Strength (ppi)	174	174	171	169	167	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65486

	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	119	119	121	121	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	116	119	120	114	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	
Shear						**Shear**
Shear Strength (ppi)	182	181	178	179	174	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	134	114	141	118	**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)	116	131	151	156	148	**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)	174	178	178	180	178	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65486

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	117	125	133	126	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	112	124	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	
Shear						**Shear**
Shear Strength (ppi)	175	176	177	174	169	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	128	124	131	129	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	114	125	118	129	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	
Shear						**Shear**
Shear Strength (ppi)	173	176	176	179	178	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65486

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	136	123	132	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	
Side: B						**Peel B**
Peel Strength (ppi)	120	123	119	119	128	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	168	172	173	174	173	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	123	124	122	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)	126	134	120	125	139	**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)	169	172	171	175	171	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65486

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	120	136	116	126	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	143	116	146	135	143	**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	
Shear						**Shear**
Shear Strength (ppi)	168	171	174	174	177	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	130	129	136	119	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	134	120	125	125	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	
Shear						**Shear**
Shear Strength (ppi)	172	175	174	179	176	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65565

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	130	130	131	130	127	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	120	119	121	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)	184	185	186	185	183	**185**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	128	129	127	128	**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)	126	125	120	119	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	
Shear						**Shear**
Shear Strength (ppi)	184	184	187	183	181	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65565

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	136	121	126	126	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	116	115	108	115	115	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	185	184	182	179	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	139	129	131	131	132	**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)	122	116	119	123	120	**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)	180	179	182	182	178	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65565

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	116	119	115	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)	132	115	117	123	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	
Shear						**Shear**
Shear Strength (ppi)	169	172	173	170	168	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	119	116	117	115	**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)	130	122	145	126	124	**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)	169	173	174	171	169	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65565

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	130	131	125	134	**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)	133	131	131	136	147	**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)	173	173	176	177	173	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65565

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-12 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	163	148	128	157	167	**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	
Shear						**Shear**
Shear Strength (ppi)	170	164	160	172	164	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65603

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	128	128	127	130	**128**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	130	120	121	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	
Shear						**Shear**
Shear Strength (ppi)	177	182	181	181	181	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	123	121	130	120	126	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	129	124	123	119	127	**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)	180	187	187	185	180	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65603

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	129	122	124	126	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	120	131	132	120	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	179	183	187	182	181	**182**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	131	123	125	120	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	118	124	115	118	129	**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)	173	177	177	175	171	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65603

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	122	120	121	124	**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)	130	117	121	117	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)	173	173	174	172	171	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	111	119	110	122	115	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	121	119	122	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	
Shear						**Shear**
Shear Strength (ppi)	167	171	172	169	166	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65603

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	121	125	122	114	**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)	120	125	115	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	
Shear						**Shear**
Shear Strength (ppi)	163	165	167	162	164	**164**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	133	122	140	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	
Side: B						**Peel B**
Peel Strength (ppi)	118	116	119	115	140	**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)	163	166	169	164	165	**165**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65689

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	118	118	122	126	**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)	117	116	117	119	119	**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)	165	168	165	169	162	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-30 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	129	126	133	128	**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)	101	131	127	136	120	**123**
Peel Incursion (%)	10	<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)	169	172	166	172	167	**169**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65689

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-31 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	128	127	127	124	**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	
Side: B						**Peel B**
Peel Strength (ppi)	131	122	125	116	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)	179	178	178	176	180	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-32 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	128	125	125	124	**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)	121	136	136	132	120	**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)	179	182	185	179	179	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65689

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-33 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	129	127	128	125	**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	
Side: B						**Peel B**
Peel Strength (ppi)	121	125	116	115	120	**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)	180	178	181	180	174	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-34 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	129	125	121	120	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	
Side: B						**Peel B**
Peel Strength (ppi)	121	122	122	124	125	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	174	176	175	175	176	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65746

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-35 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	126	122	121	125	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	122	122	119	123	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	
Shear						**Shear**
Shear Strength (ppi)	176	180	179	178	177	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	126	122	124	143	**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)	117	120	119	121	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)	177	179	181	177	174	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65746

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-37 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	137	121	133	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	
Side: B						**Peel B**
Peel Strength (ppi)	122	139	140	130	131	**132**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	177	178	178	179	176	**178**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-38 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	132	125	124	129	**127**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	120	120	122	127	**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)	180	179	181	178	180	**180**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65746

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-39 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	127	122	131	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)	134	126	118	124	131	**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)	181	179	177	180	176	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-40 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	145	141	123	127	134	**134**
Peel Incursion (%)	<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	121	115	122	121	**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)	172	177	180	177	178	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65746

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-41 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	125	121	134	146	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	138	152	147	121	127	**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	
Shear						**Shear**
Shear Strength (ppi)	192	191	186	187	183	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-42 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	141	141	143	133	139	**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	
Side: B						**Peel B**
Peel Strength (ppi)	123	131	126	127	124	**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)	182	186	184	192	191	**187**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Primary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 66441

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DT-43 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	144	143	137	147	**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	
Side: B						**Peel B**
Peel Strength (ppi)	134	119	134	127	127	**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)	189	186	190	182	184	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DT-44 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	149	138	146	157	**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)	136	137	144	134	136	**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	
Shear						**Shear**
Shear Strength (ppi)	177	180	172	176	166	**174**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM LABORATORY RESULTS FOR SECONDARY GEOMEMBRANE

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64762

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	131	134	109	115	**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)	112	115	115	119	121	**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)	178	171	172	174	170	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	123	119	126	120	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	130	135	135	132	134	**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)	176	172	170	176	168	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64762

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-3 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	97	115	113	110	**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	
Side: B						**Peel B**
Peel Strength (ppi)	135	135	131	132	124	**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)	178	172	171	170	176	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-4 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	128	121	121	125	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	117	120	116	122	128	**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)	176	180	173	172	174	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64762

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-5 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	123	122	127	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	120	121	123	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)	177	176	174	182	175	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-6 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	144	135	126	125	126	**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)	126	133	128	127	127	**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)	188	182	181	182	187	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64762

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-7 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	130	132	125	126	**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)	150	138	137	139	156	**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)	164	163	155	157	156	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64805

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-8 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	91	140	132	140	139	**128**
Peel Incursion (%)	100	<5	<5	<5	<5	
Peel Locus Of Failure Code	AD	SE	SE	SE	SE	
Peel NSF Failure Code	NON-FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	147	139	148	137	149	**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)	167	163	171	167	164	**166**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-9 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	119	118	120	127	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)	119	125	115	126	124	**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)	169	168	165	172	168	**168**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64805

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	124	127	130	121	**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)	142	125	119	121	122	**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)	172	173	170	171	171	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-11 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	117	120	131	127	138	**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)	150	124	130	129	124	**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)	174	168	169	173	169	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64805

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-12 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	145	150	138	146	140	**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	
Side: B						**Peel B**
Peel Strength (ppi)	127	129	131	130	133	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	182	180	182	180	179	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-13 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	128	119	122	119	**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)	132	128	136	133	127	**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)	173	171	172	173	173	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64854

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	133	124	129	123	**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)	125	128	122	128	121	**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)	173	179	169	169	170	**172**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-15 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	134	133	133	135	139	**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)	133	133	143	152	144	**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)	188	184	183	184	190	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64854

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-16 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	120	118	112	113	116	**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)	139	121	112	111	116	**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)	174	172	175	172	171	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-17 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	142	146	145	143	**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	
Side: B						**Peel B**
Peel Strength (ppi)	143	145	143	140	141	**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	156	155	160	165	**159**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64854

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-18 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	127	128	124	124	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)	148	142	141	127	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)	172	175	177	173	168	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64892

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-19 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	121	128	118	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	
Side: B						**Peel B**
Peel Strength (ppi)	138	126	126	130	125	**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)	180	177	174	177	178	**177**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-20 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	131	133	132	127	**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)	121	122	124	120	121	**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)	187	185	183	181	179	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64892

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	121	121	122	120	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	121	119	130	116	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	173	172	173	176	172	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-22 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	126	131	144	143	146	**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	
Side: B						**Peel B**
Peel Strength (ppi)	122	124	123	124	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	
Shear						**Shear**
Shear Strength (ppi)	186	182	186	183	182	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64892

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-23 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	127	133	131	137	**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)	122	120	127	123	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	
Shear						**Shear**
Shear Strength (ppi)	184	183	184	188	183	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64980

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-24 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	125	118	126	126	115	**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	128	125	126	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	
Shear						**Shear**
Shear Strength (ppi)	181	179	174	175	172	**176**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	130	130	136	135	**134**
Peel Incursion (%)	<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)	135	123	120	105	123	**121**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	185	190	185	185	193	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64980

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-26 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	156	142	146	152	149	**149**
Peel Incursion (%)	<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	121	123	124	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	
Shear						**Shear**
Shear Strength (ppi)	187	185	182	180	181	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-27 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	133	129	128	124	**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	
Side: B						**Peel B**
Peel Strength (ppi)	113	120	118	119	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)	193	187	186	189	185	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 64980

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-28 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	148	129	135	128	136	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	131	130	128	136	142	**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)	191	192	185	188	180	**187**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DSS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	149	143	142	144	144	**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	
Side: B						**Peel B**
Peel Strength (ppi)	118	119	119	118	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)	191	193	187	186	186	**189**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65025

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSS-30 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	150	141	154	156	154	**151**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	123	125	120	124	**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)	176	188	187	185	183	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65025

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DX-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	105	105	109	112	113	**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)	174	173	174	179	176	**175**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65353

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-32 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	110	109	111	110	112	**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	
Side: B						**Peel B**
Peel Strength (ppi)	116	116	117	118	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	
Shear						**Shear**
Shear Strength (ppi)	185	180	178	181	183	**181**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-33 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	132	119	130	121	**123**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	119	120	118	120	122	**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)	176	179	178	183	181	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65353

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-34 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	122	121	122	119	122	**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)	118	118	119	118	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)	176	179	181	181	176	**179**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-35 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	114	107	113	109	115	**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	
Side: B						**Peel B**
Peel Strength (ppi)	118	116	117	123	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)	173	173	170	176	175	**173**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65406

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-28A | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	140	143	131	136	140	**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	
Side: B						**Peel B**
Peel Strength (ppi)	150	140	138	151	143	**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)	173	167	168	168	173	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-28B | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	153	146	152	158	154	**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)	149	155	154	157	155	**154**
Peel Incursion (%)	<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	170	175	167	174	**170**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65406

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	142	146	140	148	157	**147**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	126	131	138	123	124	**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)	194	193	190	191	186	**191**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-37 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	133	137	142	144	143	**140**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	144	143	145	146	142	**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)	193	191	185	188	184	**188**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65406

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-38 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	143	140	146	132	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	
Side: B						**Peel B**
Peel Strength (ppi)	128	126	133	127	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)	190	189	188	187	181	**187**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-39 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	131	120	131	132	140	**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)	131	125	131	105	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	
Shear						**Shear**
Shear Strength (ppi)	188	185	182	183	179	**183**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65450

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-40 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	146	139	136	139	137	**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	
Side: B						**Peel B**
Peel Strength (ppi)	126	133	133	129	127	**130**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	190	188	186	174	181	**184**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-41 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	147	149	117	140	131	**137**
Peel Incursion (%)	<5	<5	25	<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)	142	146	145	150	148	**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)	175	173	171	168	168	**171**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Southwest Liner Systems, Inc
Project: Lealand Landfill 2A Secondary

Material: 60 mil. HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 65450

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-42 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	128	157	128	126	137	**135**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	123	126	119	122	135	**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)	191	185	178	187	189	**186**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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APPENDIX J

GEOMEMBRANE REPAIR LOG

Includes pages J-1 through J-18

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Repair Log for Primary Geomembrane J-1

Repair Log for Secondary Geomembrane J-9

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REPAIR LOG FOR PRIMARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
1	7/16/2021	MM	EXTRUSION	4	CZ	INT 1/2/3 S 3FT	2x4 DS1	MM	7/17/2021	Pass
2	7/16/2021	MM	EXTRUSION	4	CZ	INT 1/2/3 E 4 FT	2x4 DS2	MM	7/17/2021	Pass
3	7/16/2021	MM	EXTRUSION	4	CZ	P10 4"N 9/10 SEAM	1X1	MM	7/17/2021	Pass
4	7/16/2021	MM	EXTRUSION	4	CZ	INT 4/9/10 S 2FT	2X4 DS4	MM	7/17/2021	Pass
5	7/16/2021	MM	EXTRUSION	4	CZ	INT 4/9/10 S 4FT	2X4 DS3	MM	7/17/2021	Pass
6	7/16/2021	MM	EXTRUSION	4	CZ	INT 1/2/5/6	1X1	MM	7/17/2021	Pass
7	7/16/2021	MM	EXTRUSION	4	CZ	INT 2/4/6/8	1X2	MM	7/17/2021	Pass
8	7/16/2021	MM	EXTRUSION	4	CZ	INT 4/8/9/12	1X1	MM	7/17/2021	Pass
9	7/16/2021	MM	EXTRUSION	4	CZ	INT 9/11/12/13	1X1	MM	7/17/2021	Pass
10	7/17/2021	MM	EXTRUSION	4	CZ	P15/16 AT NEOS	2X2	MM	7/17/2021	Pass
11	7/17/2021	MM	EXTRUSION	4	CZ	P18/19 SEOS N 36FT	1X1	MM	7/17/2021	Pass
12	7/17/2021	MM	EXTRUSION	4	CZ	INT P11/14/15	1X1	MM	7/17/2021	Pass
13	7/17/2021	MM	EXTRUSION	4	CZ	P11/15 NEOS S 10FT	2X4 DS5	MM	7/17/2021	Pass
14	7/17/2021	MM	EXTRUSION	4	CZ	P15/16 NEOS S 10FT	2X4 DS6	MM	7/17/2021	Pass
15	7/17/2021	MM	EXTRUSION	4	CZ	INT 20/21/22	2X6	MM	7/17/2021	Pass
16	7/17/2021	MM	EXTRUSION	4	CZ	INT 16/20/21	1X2	MM	7/17/2021	Pass
17	7/17/2021	MM	EXTRUSION	4	CZ	P22/24 27' S of NEOS	2X4	MM	7/17/2021	Pass
18	7/17/2021	MM	EXTRUSION	4	CZ	P22/24 12' S of NEOS	2X4 DS7	MM	7/17/2021	Pass
19	7/17/2021	MM	EXTRUSION	4	CZ	P24/25 12' S of NEOS	2X4 DS8	MM	7/17/2021	Pass
20	7/17/2021	MM	EXTRUSION	4	CZ	P27/28 15' S of NEOS	2X4 DS9	MM	7/17/2021	Pass
21	7/17/2021	MM	EXTRUSION	4	CZ	P30/31 15' S of NEOS	2X4 DS10	MM	7/17/2021	Pass
22	7/17/2021	MM	EXTRUSION	4	CZ	P28/30 15' S of NEOS	2X4 DS11	MM	7/17/2021	Pass
23	7/17/2021	MM	EXTRUSION	4	CZ	P25/27 15' S of NEOS	2X4 DS12	MM	7/17/2021	Pass
24	7/17/2021	MM	EXTRUSION	4	CZ	INT 29/30/31	1X1	MM	7/17/2021	Pass
25	7/17/2021	MM	EXTRUSION	4	CZ	P30/31 6' N of 29/30/21	1X1	MM	7/17/2021	Pass

[1]NTI=North Tie-in, SAT=South Anchor Trench, ETI=East Tie In, T=Intersection

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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
26	7/17/2021	MM	EXTRUSION	4	CZ	INT 25/26/27	1X1	MM	7/17/2021	Pass
27	7/17/2021	MM	EXTRUSION	4	CZ	INT 26/27/28	1X1	MM	7/17/2021	Pass
28	7/17/2021	MM	EXTRUSION	4	CZ	6FT N of INT 26/27/28	1X1	MM	7/17/2021	Pass
29	7/17/2021	MM	EXTRUSION	4	CZ	INT 31/32/33	1X1	MM	7/17/2021	Pass
30	7/17/2021	MM	EXTRUSION	4	CZ	INT 32/33/34	1X1	MM	7/17/2021	Pass
31	7/17/2021	MM	EXTRUSION	4	CZ	DS9/P28 15' S of NEOS	2X4 DS13	MM	7/17/2021	Pass
32	7/17/2021	MM	EXTRUSION	4	CZ	INT 14/15/16	1X1	MM	7/17/2021	Pass
33	7/17/2021	MM	EXTRUSION	4	CZ	INT 11/14/17	1X1	MM	7/17/2021	Pass
34	7/17/2021	MM	EXTRUSION	4	CZ	P35/36 5' N of INT P35/36/37	2X4 DS14	MM	7/17/2021	Pass
35	7/17/2021	MM	EXTRUSION	4	CZ	P36/38 10' N of INT P36/37/38	2X4 DS15	MM	7/17/2021	Pass
36	7/17/2021	MM	EXTRUSION	4	CZ	INT 36/37/38	1X1	MM	7/17/2021	Pass
37	7/17/2021	MM	EXTRUSION	4	CZ	INT 35/36/37	1X1	MM	7/17/2021	Pass
38	7/17/2021	MM	EXTRUSION	4	CZ	P44/46 2' N of SEOS	2X4 DS16	MM	7/17/2021	Pass
39	7/17/2021	MM	EXTRUSION	4	CZ	P46/47 3' N of SEOS	2X4 DS17	MM	7/17/2021	Pass
40	7/17/2021	MM	EXTRUSION	4	CZ	INT 16/19/20/35	1X1	MM	7/17/2021	Pass
41	7/17/2021	MM	EXTRUSION	4	CZ	INT 20/22/35/36	1X1	MM	7/17/2021	Pass
42	7/17/2021	MM	EXTRUSION	4	CZ	INT 22/23/36/38	1X1	MM	7/17/2021	Pass
43	7/17/2021	MM	EXTRUSION	4	CZ	INT 23/25/38/39	1X1	MM	7/17/2021	Pass
44	7/17/2021	MM	EXTRUSION	4	CZ	INT 25/26/39/40	1X1	MM	7/17/2021	Pass
45	7/17/2021	MM	EXTRUSION	4	CZ	INT 28/26/40/42	1X1	MM	7/17/2021	Pass
46	7/17/2021	MM	EXTRUSION	4	CZ	INT 28/29/42/43	1X1	MM	7/17/2021	Pass
47	7/17/2021	MM	EXTRUSION	4	CZ	INT 29/31/43/44	1X1	MM	7/17/2021	Pass
48	7/17/2021	MM	EXTRUSION	4	CZ	INT 31/32/44/46	1X1	MM	7/17/2021	Pass
49	7/17/2021	MM	EXTRUSION	4	CZ	INT 32/34/46/47	1X1	MM	7/17/2021	Pass
50	7/17/2021	MM	EXTRUSION	4	CZ	P50/52 15' S of NEOS	2X4 DS18	MM	7/17/2021	Pass

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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
51	7/17/2021	MM	EXTRUSION	4	CZ	P 52/53 15' S of NEOS	2X4 DS19	MM	7/17/2021	Pass
52	7/17/2021	MM	EXTRUSION	4	CZ	INT 34/48/49	1X1	MM	7/17/2021	Pass
53	7/17/2021	MM	EXTRUSION	4	CZ	INT 48/49/50	1X1	MM	7/17/2021	Pass
54	7/17/2021	MM	EXTRUSION	4	CZ	INT 50/51/52	2X3	MM	7/17/2021	Pass
55	7/17/2021	MM	EXTRUSION	4	CZ	INT 51/52/53	1X1	MM	7/17/2021	Pass
56	7/17/2021	MM	EXTRUSION	4	CZ	INT 53/54/55	1X1	MM	7/17/2021	Pass
57	7/17/2021	MM	EXTRUSION	4	CZ	INT 54/55/56	1X1	MM	7/17/2021	Pass
58	7/17/2021	MM	EXTRUSION	4	CZ	INT 56/57/58	1X1	MM	7/17/2021	Pass
59	7/17/2021	MM	EXTRUSION	4	CZ	P 56/58 15' S of NEOS	2X4 DS20	MM	7/17/2021	Pass
60	7/17/2021	MM	EXTRUSION	4	CZ	P 34/49 N AT	2X4	MM	7/17/2021	Pass
61	7/17/2021	MM	EXTRUSION	4	CZ	P52/53 N AT	2X4	MM	7/17/2021	Pass
62	7/17/2021	MM	EXTRUSION	4	CZ	P61/62 3' S of NEOS	2X4 DS21	MM	7/17/2021	Pass
63	7/17/2021	MM	EXTRUSION	4	CZ	INT 47/59/60	1X1	MM	7/17/2021	Pass
64	7/17/2021	MM	EXTRUSION	4	CZ	INT 59/60/61	1X1	MM	7/17/2021	Pass
65	7/17/2021	MM	EXTRUSION	4	CZ	INT 65/66/67	1X1	MM	7/17/2021	Pass
66	7/17/2021	MM	EXTRUSION	4	CZ	INT 66/67/68	1X1	MM	7/17/2021	Pass
67	7/17/2021	MM	EXTRUSION	4	CZ	P74/76 3' from NEOS	2X4 DS24	MM	7/17/2021	Pass
68	7/17/2021	MM	EXTRUSION	4	CZ	P73/74 3' from NEOS	2X4 DS25	MM	7/17/2021	Pass
69	7/17/2021	MM	EXTRUSION	4	CZ	INT 34/48/47/59	2X3	MM	7/17/2021	Pass
70	7/17/2021	MM	EXTRUSION	4	CZ	INT 48/50/59/61	1X1	MM	7/17/2021	Pass
71	7/17/2021	MM	EXTRUSION	4	CZ	INT 50/51/61/62	1X1	MM	7/17/2021	Pass
72	7/17/2021	MM	EXTRUSION	4	CZ	INT 51/53/62/63	1X1	MM	7/17/2021	Pass
73	7/17/2021	MM	EXTRUSION	4	CZ	INT 53/54/63/64	1X1	MM	7/17/2021	Pass
74	7/17/2021	MM	EXTRUSION	4	CZ	INT 56/54/64/65	2X4	MM	7/17/2021	Pass
75	7/17/2021	MM	EXTRUSION	4	CZ	INT 56/57/65/66	2X2	MM	7/17/2021	Pass

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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
76	7/17/2021	MM	EXTRUSION	4	CZ	INT 57/66/68/77	2X2	MM	7/17/2021	Pass
77	7/17/2021	MM	EXTRUSION	4	CZ	INT 68/69/77/78	1X1	MM	7/17/2021	Pass
78	7/17/2021	MM	EXTRUSION	4	CZ	P79/81 15' S of NEOS	2X4 DS26	MM	7/17/2021	Pass
79	7/17/2021	MM	EXTRUSION	4	CZ	P81/82 15' S of NEOS	2X4 DS27	MM	7/17/2021	Pass
80	7/17/2021	MM	EXTRUSION	4	CZ	P84/85 15' S of NEOS	2X4 DS28	MM	7/17/2021	Pass
81	7/17/2021	MM	EXTRUSION	4	CZ	INT 85/86/87	1X1	MM	7/17/2021	Pass
82	7/17/2021	MM	EXTRUSION	4	CZ	INT 83/84/85	1X1	MM	7/17/2021	Pass
83	7/17/2021	MM	EXTRUSION	4	CZ	INT 82/83/84	1X1	MM	7/17/2021	Pass
84	7/17/2021	MM	EXTRUSION	4	CZ	INT 80/81/82	1X11	MM	7/17/2021	Pass
85	7/17/2021	MM	EXTRUSION	4	CZ	INT 78/80/81	1X1	MM	7/17/2021	Pass
86	7/17/2021	MM	EXTRUSION	4	CZ	INT 78/79/81	1X1	MM	7/17/2021	Pass
87	7/17/2021	MM	EXTRUSION	4	CZ	INT 77/78/79	1X2	MM	7/17/2021	Pass
88	7/17/2021	MM	EXTRUSION	4	CZ	INT 28/29/30	1X1	MM	7/17/2021	Pass
89	7/17/2021	MM	EXTRUSION	4	CZ	INT 57/58/77	1X1	MM	7/17/2021	Pass
90	7/17/2021	MM	EXTRUSION	4	CZ	P57/77 57' N of SEOS	1X1	MM	7/17/2021	Pass
91	7/17/2021	MM	EXTRUSION	4	CZ	P57/77 5' N of R90	1X1	MM	7/17/2021	Pass
92	7/17/2021	MM	EXTRUSION	4	CZ	INT 69/70/78/80	1X1	MM	7/17/2021	Pass
93	7/17/2021	MM	EXTRUSION	4	CZ	INT 70/72/80/82	1X1	MM	7/17/2021	Pass
94	7/17/2021	MM	EXTRUSION	4	CZ	INT 72/73/82/83	1X1	MM	7/17/2021	Pass
95	7/17/2021	MM	EXTRUSION	4	CZ	INT 73/74/83/85	1X1	MM	7/17/2021	Pass
96	7/17/2021	MM	EXTRUSION	4	CZ	INT 74/76/85/86	1X1	MM	7/17/2021	Pass
97	7/17/2021	MM	EXTRUSION	4	CZ	P123/124 10' N from S AT	2X4 DS35	MM	7/17/2021	Pass
98	7/17/2021	MM	EXTRUSION	4	CZ	P122/123 10' N from S AT	2X4 DS36	MM	7/17/2021	Pass
99	7/17/2021	MM	EXTRUSION	4	CZ	P121/122 10' N from S AT	2X4 DS37	MM	7/17/2021	Pass
100	7/17/2021	MM	EXTRUSION	4	CZ	P120/121 10' N from S AT	2X4 DS38	MM	7/17/2021	Pass

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								QA Mon.	Date	Pass/Fail
101	7/17/2021	MM	EXTRUSION	4	CZ	P119/120 10' N from S AT	2X4 DS39	MM	7/17/2021	Pass
102	7/17/2021	MM	EXTRUSION	4	CZ	P117/119 10' N from S AT	2X4 DS40	MM	7/17/2021	Pass
103	7/17/2021	MM	EXTRUSION	4	CZ	P116/117 10' N from S AT	2X4 DS41	MM	7/17/2021	Pass
104	7/17/2021	MM	EXTRUSION	4	CZ	P115/116 10' N from S AT	2X4 DS42	MM	7/17/2021	Pass
105	7/17/2021	MM	EXTRUSION	4	CZ	P87/88 45' S of NEOS	2X4 DS29	MM	7/17/2021	Pass
106	7/17/2021	MM	EXTRUSION	4	CZ	P90/92 100' W of AT	2X4 DS30	MM	7/17/2021	Pass
107	7/17/2021	MM	EXTRUSION	4	CZ	P92/93 100' W of AT	2X4 DS31	MM	7/17/2021	Pass
108	7/17/2021	MM	EXTRUSION	4	CZ	P93/95 100' W of AT	2X4 DS32	MM	7/17/2021	Pass
109	7/17/2021	MM	EXTRUSION	4	CZ	P100/101 30' W of AT	2X4 DS33	MM	7/17/2021	Pass
110	7/17/2021	MM	EXTRUSION	4	CZ	P101/102 30' W of AT	2X4 DS34	MM	7/17/2021	Pass
111	7/17/2021	MM	EXTRUSION	4	CZ	INT 86/87/88	1X1	MM	7/17/2021	Pass
112	7/17/2021	MM	EXTRUSION	4	CZ	INT 76/86/88/112	2X9	MM	7/17/2021	Pass
113	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/112/113	2X6	MM	7/17/2021	Pass
114	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/101/102	1X1	MM	7/17/2021	Pass
115	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/100/101	1X1	MM	7/17/2021	Pass
116	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/99/100	1X1	MM	7/17/2021	Pass
117	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/97/99	1X1	MM	7/17/2021	Pass
118	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/96/97	1X1	MM	7/17/2021	Pass
119	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/89/96	1X1	MM	7/17/2021	Pass
120	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/89/90	1X1	MM	7/17/2021	Pass
121	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/90/92	1X1	MM	7/17/2021	Pass
122	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/92/93	1X1	MM	7/17/2021	Pass
123	7/17/2021	MM	EXTRUSION	4	CZ	INT 88/93/95	1X1	MM	7/17/2021	Pass
124	7/17/2021	MM	EXTRUSION	4	CZ	P92/93 30' E of WEOS	2X4	MM	7/17/2021	Pass
125	7/17/2021	MM	EXTRUSION	4	CZ	INT 90/91/92	1X1	MM	7/17/2021	Pass

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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
126	7/17/2021	MM	EXTRUSION	4	CZ	INT 90/91/89	1X1	MM	7/17/2021	Pass
127	7/17/2021	MM	EXTRUSION	4	CZ	INT 96/97/98	1X1	MM	7/17/2021	Pass
128	7/17/2021	MM	EXTRUSION	4	CZ	P97/98 Midseam	1X1	MM	7/17/2021	Pass
129	7/17/2021	MM	EXTRUSION	4	CZ	INT 97/98/99	1X1	MM	7/17/2021	Pass
130	7/17/2021	MM	EXTRUSION	4	CZ	P98/99 3' E of R129	1X1	MM	7/17/2021	Pass
131	7/17/2021	MM	EXTRUSION	4	CZ	P100/101 45' E of WEOS	2X4	MM	7/17/2021	Pass
132	7/17/2021	MM	EXTRUSION	4	CZ	INT 107/108/109	1X1	MM	7/17/2021	Pass
133	7/17/2021	MM	EXTRUSION	4	CZ	P123/124 4' S of NEOS	1X1	MM	7/17/2021	Pass
134	7/17/2021	MM	EXTRUSION	4	CZ	P122/123 20' S of NEOS	1X1	MM	7/17/2021	Pass
135	7/17/2021	MM	EXTRUSION	4	CZ	INT 110/111/124/125	1X1	MM	7/17/2021	Pass
136	7/17/2021	MM	EXTRUSION	4	CZ	INT 109/110/124/123/108	1X1	MM	7/17/2021	Pass
137	7/17/2021	MM	EXTRUSION	4	CZ	INT 108/122/123	1X1	MM	7/17/2021	Pass
138	7/17/2021	MM	EXTRUSION	4	CZ	INT 107/108/122	1X1	MM	7/17/2021	Pass
139	7/17/2021	MM	EXTRUSION	7	MJ	INT 107/121/122	1X1	MM	7/17/2021	Pass
140	7/17/2021	MM	EXTRUSION	7	MJ	INT 106/107/121	1X1	MM	7/17/2021	Pass
141	7/17/2021	MM	EXTRUSION	7	MJ	INT 106/120/121	1X1	MM	7/17/2021	Pass
142	7/17/2021	MM	EXTRUSION	7	MJ	P105/106 8' E of WEOS	2X4	MM	7/17/2021	Pass
143	7/17/2021	MM	EXTRUSION	7	MJ	INT 106/118/120	1X1	MM	7/17/2021	Pass
144	7/17/2021	MM	EXTRUSION	7	MJ	INT 105/106/118	1X1	MM	7/17/2021	Pass
145	7/17/2021	MM	EXTRUSION	7	MJ	INT 105/117/118	1X1	MM	7/17/2021	Pass
146	7/17/2021	MM	EXTRUSION	7	MJ	INT 103/105/117	1X1	MM	7/17/2021	Pass
147	7/17/2021	MM	EXTRUSION	7	MJ	INT 103/116/117	1X1	MM	7/17/2021	Pass
148	7/17/2021	MM	EXTRUSION	7	MJ	P103/116 Midseam	1X1	MM	7/17/2021	Pass
149	7/17/2021	MM	EXTRUSION	7	MJ	INT 102/103/114/116	3X10	MM	7/17/2021	Pass
150	7/17/2021	MM	EXTRUSION	7	MJ	INT 102/113/114	1X1	MM	7/17/2021	Pass

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
151	7/17/2021	MM	EXTRUSION	7	MJ	INT 113/114/115	5x3 DS44	MM	7/17/2021	Pass
152	7/17/2021	MM	EXTRUSION	7	MJ	INT 114/115/116	1X1	MM	7/17/2021	Pass
153	7/17/2021	MM	EXTRUSION	7	MJ	INT 117/118/119	1X1	MM	7/17/2021	Pass
154	7/17/2021	MM	EXTRUSION	7	MJ	INT 118/119/120	5x3 DS43	MM	7/17/2021	Pass
155	7/17/2021	MM	EXTRUSION	4	CZ	P 53 '57 ft S of N Anchor Trench in Leachate Trench	2X4	MM	7/17/2021	Pass
156	7/17/2021	MM	EXTRUSION	4	CZ	P91/89 Where Panels Meet E Anchor Trench	2X4	MM	7/17/2021	Pass
157	7/17/2021	MM	EXTRUSION	4	CZ	P89/96 Where Panels Meet E Anchor Trench	2X4	MM	7/17/2021	Pass
158	7/17/2021	MM	EXTRUSION	4	CZ	P96/98 Where Panels Meet E Anchor Trench	2X4	MM	7/17/2021	Pass
159	7/17/2021	MM	EXTRUSION	4	CZ	P104/105 Where Panels Meet E Anchor Trench	2X4	MM	7/17/2021	Pass
160	7/17/2021	MM	EXTRUSION	4	CZ	P125/124 Where Panels Meet S Anchor Trench	2X4	MM	7/17/2021	Pass
161	7/17/2021	MM	EXTRUSION	4	CZ	INT 5/6/7	1X1	MM	7/17/2021	Pass
162	7/17/2021	MM	EXTRUSION	4	CZ	INT 6/7/8	1X1	MM	7/17/2021	Pass
163	7/17/2021	MM	EXTRUSION	4	CZ	INT 13/17/18	1X1	MM	7/17/2021	Pass
164	7/17/2021	MM	EXTRUSION	4	CZ	INT 17/18/19	1X1	MM	7/17/2021	Pass
165	7/17/2021	MM	EXTRUSION	4	CZ	INT 14/16/17/19	1X1	MM	7/17/2021	Pass
166	7/17/2021	MM	EXTRUSION	4	CZ	INT 22/23/24	1X1	MM	7/17/2021	Pass
167	7/17/2021	MM	EXTRUSION	4	CZ	INT 23/24/25	1X1	MM	7/17/2021	Pass
168	7/17/2021	MM	EXTRUSION	4	CZ	INT 39/40/41	1X1	MM	7/17/2021	Pass
169	7/17/2021	MM	EXTRUSION	4	CZ	INT 40/41/42	1X1	MM	7/17/2021	Pass
170	7/17/2021	MM	EXTRUSION	4	CZ	INT 43/44/45	1X1	MM	7/17/2021	Pass
171	7/17/2021	MM	EXTRUSION	4	CZ	INT 69/70/71	1X1	MM	7/17/2021	Pass
172	7/17/2021	MM	EXTRUSION	4	CZ	INT 70/71/72	1X1	MM	7/17/2021	Pass
173	7/17/2021	MM	EXTRUSION	4	CZ	INT 73/74/75	1X1	MM	7/17/2021	Pass
174	7/17/2021	MM	EXTRUSION	4	CZ	INT 74/75/76	1X1	MM	7/17/2021	Pass
175	7/17/2021	MM	EXTRUSION	4	CZ	INT 103/104/105	1X1	MM	7/17/2021	Pass
176	7/17/2021	MM	EXTRUSION	4	CZ	INT 102/103/104	1X1	MM	7/17/2021	Pass
177	7/17/2021	MM	EXTRUSION	4	CZ	INT 92/93/94	1X1	MM	7/17/2021	Pass
178	7/17/2021	MM	EXTRUSION	4	CZ	INT 93/94/95	1X1	MM	7/17/2021	Pass

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REPAIR LOG FOR SECONDARY GEOMEMBRANE

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R1	6/17/2021	BJ	EXT	X7	TD	P3/P5 - NEOS	2x1	BJ	6/23/2021	Pass
R2	6/17/2021	BJ	EXT	X7	TD	INT 4/5/9	2x2	BJ	6/23/2021	Pass
R3	6/17/2021	BJ	EXT	X7	TD	INT 9/10/11	2x2	BJ	6/23/2021	Pass
R4	6/17/2021	BJ	EXT	X7	TD	P4/P9 38' North of SEOS	5x3 DSS2	BJ	6/23/2021	Pass
R5	6/17/2021	BJ	EXT	X7	TD	P3/P4 1' North of SEOS	6x3 DSS1	BJ	6/23/2021	Pass
R6	6/17/2021	BJ	EXT	X7	TD	P2/P6 SEOS	3x1	BJ	6/23/2021	Pass
R7	6/18/2021	BJ	EXT	X7	TD	P13/P17 95' South of NEOS	5x3DSS6	BJ	6/23/2021	Pass
R8	6/18/221	BJ	EXT	X7	TD	P8/P12 18' South of NEOS	2x2	BJ	6/23/2021	Pass
R9	6/18/2021	BJ	EXT	X7	TD	INT 12/13/14/15	7x3 DSS4	BJ	6/23/2021	Pass
R10	6/18/2021	BJ	EXT	X7	TD	P15/19 54' North of SEOS	2x2	BJ	6/23/2021	Pass
R11	6/18/2021	BJ	EXT	X7	TD	P25/26 10' West of EEOS	5x3 DSS7	BJ	6/23/2021	Pass
R12	6/18/2021	BJ	EXT	X7	TD	INT 19/20/21	2x2	BJ	6/23/2021	Pass
R13	6/18/2021	BJ	EXT	X7	TD	P16/P19 10' North of SEOS	5x3 DSS5	BJ	6/23/2021	Pass
R14	6/18/2021	BJ	EXT	X7	TD	P14/P15 8' South of NEOS	2x2	BJ	6/23/2021	Pass
R15	6/18/2021	BJ	EXT	X7	TD	P14/P15 8' North of SEOS	2x2	BJ	6/23/2021	Pass
R16	6/18/2021	BJ	EXT	X7	TD	P10/P14 42' South of R17	2x2	BJ	6/23/2021	Pass
R17	6/18/2021	BJ	EXT	X7	TD	INT 10/11/14	2x2	BJ	6/23/2021	Pass
R18	6/18/2021	BJ	EXT	X7	TD	P11/P14 38' South of NEOS	5x3 DSS3	BJ	6/23/2021	Pass
R19	6/19/2021	BJ	EXT	X7	TD	INT 30/31/32	9x3 DSS9	BJ	6/23/2021	Pass
R20	6/19/2021	BJ	EXT	X7	TD	P32 / 1' North and 1' West of INT	1x1	BJ	6/23/2021	Pass
R21	6/19/2021	BJ	EXT	X7	TD	P31/P34 62' North of SEOS	5x3 DSS21	BJ	6/23/2021	Pass
R22	6/19/2021	BJ	EXT	X7	TD	INT 28/29/30/31	5x3 DSS28A	BJ	6/23/2021	Pass
R23	6/19/2021	BJ	EXT	X7	TD	INT 23/25/28/30	6x3 DSS8	BJ	6/23/2021	Pass
R24	6/19/2021	BJ	EXT	X7	TD	P23/P28 2' South of R23	2x2	BJ	6/23/2021	Pass
R25	6/21/2021	BJ	EXT	X7	TD	P39/P40 110' North of SEOS	5x3 DSS11	BJ	6/23/2021	Pass

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R26	6/21/2021	BJ	EXT	X7	TD	P39 7' North of R27	1x1	BJ	6/23/2021	Pass
R27	6/21/2021	BJ	EXT	X7	TD	P39 3' North of INT	1x1	BJ	6/23/2021	Pass
R28	6/21/2021	BJ	EXT	X7	TD	INT 38/39/40	2x2	BJ	6/23/2021	Pass
R29	6/21/2021	BJ	EXT	X7	TD	P40/P42 48' South of NEOS	5x3 DSS13	BJ	6/23/2021	Pass
R30	6/21/2021	BJ	EXT	X7	TD	INT P33/34/36/38	8x3	BJ	6/23/2021	Pass
R31	6/21/2021	BJ	EXT	X7	TD	INT P37/40/41/42	2x2	BJ	6/23/2021	Pass
R32	6/21/2021	BJ	EXT	X7	TD	P33/P35 44' North of SEOS	5x3 DSS12	BJ	6/23/2021	Pass
R33	6/22/2021	BJ	EXT	X7	TD	P47/P49 79' North of SEOS	5x3 DSS14	BJ	6/23/2021	Pass
R34	6/22/2021	BJ	EXT	X7	TD	INT 44/45/46	7x3 DSS15	BJ	6/23/2021	Pass
R35	6/22/2021	BJ	EXT	X7	TD	P44/P46 14'North of AT	2x2	BJ	6/23/2021	Pass
R36	6/22/2021	BJ	EXT	X7	TD	P53/P54 6' South of NEOS	5x3 DSS16	BJ	6/23/2021	Pass
R37	6/22/2021	BJ	EXT	X7	TD	P55/P57 8' North of SEOS	2x2	BJ	6/23/2021	Pass
R38	6/22/2021	BJ	EXT	X7	TD	P54/P57 23' South of NEOS	5x3 DSS18	BJ	6/23/2021	Pass
R39	6/22/2021	BJ	EXT	X7	TD	P52/P54 6' West of R40	5x3 DSS17	BJ	6/23/2021	Pass
R40	6/22/2021	BJ	EXT	X7	TD	INT P52/54/56/57	2x2	BJ	6/23/2021	Pass
R41	6/23/2021	BJ	EXT	X7	TD	P57/P62 65' South of NEOS	2x2	BJ	6/23/2021	Pass
R42	6/23/2021	BJ	EXT	X7	TD	P62/P63 63' South of NEOS	2x2	BJ	6/23/2021	Pass
R43	6/23/2021	BJ	EXT	X7	TD	P57/P61 31' South of NEOS	5x3 DSS19	BJ	6/23/2021	Pass
R44	6/23/2021	BJ	EXT	X7	TD	P67/P68 47' South of NEOS	5x3 DSS21	BJ	6/23/2021	Pass
R45	6/23/2021	BJ	EXT	X7	TD	P56/P58 12'South of NEOS	2x2	BJ	6/23/2021	Pass
R46	6/23/2021	BJ	EXT	X7	TD	P56/P58 81' North of SEOS	5x3 DSS20	BJ	6/23/2021	Pass
R47	6/23/2021	BJ	EXT	X7	TD	P56/P58 26' North of SEOS	2x2	BJ	6/23/2021	Pass
R48	6/23/2021	BJ	EXT	X7	TD	P64/P65 43' North of SEOS	5x3 DSS22	BJ	6/23/2021	Pass
R49	6/23/2021	BJ	EXT	X7	TD	P65/P69 22' North of SEOS	5x3 DSS23	BJ	6/23/2021	Pass
R50	6/23/2021	BJ	EXT	X7	TD	P64/P65 5' North of SEOS	2x2	BJ	6/23/2021	Pass

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R51	6/24/2021	BJ	EXT	X7	TD	P/72/P72 63' South of NEOS	3x2	BJ	6/26/2021	Pass
R52	6/24/2021	BJ	EXT	X7	TD	P75/P76 48' South of NEOS	5x3 DSS33	BJ	6/26/2021	Pass
R53	6/24/2021	BJ	EXT	X7	TD	P75/P76 52' North of SEOS	5x3 DSS24	BJ	6/26/2021	Pass
R54	6/24/2021	BJ	EXT	X7	TD	R79/R80 10' South of NEOS	5x3 DSS25	BJ	6/26/2021	Pass
R55	6/24/2021	BJ	EXT	X7	TD	P80/P81 26' North of SEOS	2x2	BJ	6/26/2021	Pass
R56	6/24/2021	BJ	EXT	X7	TD	P81/P82 26'North of SEOS	5x3 DSS26	BJ	6/26/2021	Pass
R57	6/24/2021	BJ	EXT	X7	TD	P85/P86 1' North of SEOS	6x3 DSS27	BJ	6/26/2021	Pass
R58	6/24/2021	BJ	EXT	X7	TD	P86/P88 36' North of SEOS	2x2	BJ	6/26/2021	Pass
R59	6/25/2021	BJ	EXT	X7	TD	P100/P102 51' East of WEOS	5x3 DSS29	BJ	6/26/2021	Pass
R60	6/25/2021	BJ	EXT	X7	TD	P99/P100 8' East of WEOS	2x2	BJ	6/26/2021	Pass
R61	6/25/2021	BJ	EXT	X7	TD	INT P94/95/96/97	3x2	BJ	6/26/2021	Pass
R62	6/25/2021	BJ	EXT	X7	TD	P91/P93 1' North of SEOS	5x3 DSS28	BJ	6/26/2021	Pass
R63	6/26/2021	BJ	EXT	X7	TD	INT P89/101/103	3x3	BJ	6/26/2021	Pass
R64	6/26/2021	BJ	EXT	X7	TD	P103/P104 5' West of EEOS	5x3 DSS30	BJ	6/26/2021	Pass
R65	6/26/2021	BJ	EXT	X7	TD	R64/P104 / On R64	5x3 DX1	BJ	6/26/2021	Pass
R66	7/12/2021	BJ	EXT	69	MJ	SE. Slope Repair	6x70	BJ	7/16/2021	Pass
R67	7/12/2021	BJ	EXT	69	MJ	SE. Slope Repair	6x70	BJ	7/16/2021	Pass
R68	7/12/2021	BJ	EXT	69	MJ	SE. Slope Repair	6x70	BJ	7/16/2021	Pass
R69	7/12/2021	BJ	EXT	69	MJ	SE. Slope Repair	6x70	BJ	7/16/2021	Pass
R70	7/13/2021	BJ	EXT	4	CZ	P72/P75 15' SEOS	2x4	BJ	7/16/2021	Pass
R71	7/13/2021	BJ	EXT	4	CZ	INT P73/74/75/76	2x4	BJ	7/16/2021	Pass
R72	7/13/221	BJ	EXT	701	MJ	INT P105/106/107	5x3 DSS34	BJ	7/16/2021	Pass
R73	7/13/2021	BJ	EXT	701	MJ	INT P106/107/108	2x4	BJ	7/16/2021	Pass
R74	7/13/2021	BJ	EXT	4	CZ	INT R69/P85/P86	2x3	BJ	7/16/2021	Pass
R75	7/13/2021	BJ	EXT	4	CZ	R75/R69/P104 / R69P104 Midseam	2x10	BJ	7/16/2021	Pass

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LEA LAND LANDFILL
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REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R76	7/13/2021	BJ	EXT	4	CZ	INT R68/R69/P86/P88	3x6	BJ	7/16/2021	Pass
R77	7/13/2021	BJ	EXT	4	CZ	INT R68/R69/P104/P103	1x1	BJ	7/16/2021	Pass
R78	7/13/2021	BJ	EXT	4	CZ	INT R68/P88/P89	1x1	BJ	7/16/2021	Pass
R79	7/13/2021	BJ	EXT	4	CZ	INT R68/P102/P103	1x1	BJ	7/16/2021	Pass
R80	7/13/2021	BJ	EXT	4	CZ	INT R68/P89/P90	1x1	BJ	7/16/2021	Pass
R81	7/13/2021	BJ	EXT	4	CZ	R68/P102 Midseam	1x1	BJ	7/16/2021	Pass
R82	7/13/2021	BJ	EXT	4	CZ	INT R68/R67/P90	1x1	BJ	7/16/2021	Pass
R83	7/13/2021	BJ	EXT	4	CZ	INT P108/P109/P110	1x1	BJ	7/16/2021	Pass
R84	7/13/2021	BJ	EXT	4	CZ	INT R69/P104/P109	1x1	BJ	7/16/2021	Pass
R85	7/13/2021	BJ	EXT	4	CZ	INT R69/P85/P109	1x1	BJ	7/16/2021	Pass
R86	7/13/2021	BJ	EXT	4	CZ	INT P84/P86/P109	1x1	BJ	7/16/2021	Pass
R87	7/13/2021	BJ	EXT	4	CZ	INT P83/P84/P109	1x1	BJ	7/16/2021	Pass
R88	7/13/2021	BJ	EXT	4	CZ	INT P81/P83/P9108/P109	1x1	BJ	7/16/2021	Pass
R89	7/13/2021	BJ	EXT	4	CZ	INT P108/P109/P110	1x1	BJ	7/16/2021	Pass
R90	7/13/2021	BJ	EXT	701	MJ	INT P80/P81/P106/P108	1x1	BJ	7/16/2021	Pass
R91	7/14/2021	BJ	EXT	4	CZ	INT P79/P80/P105/P106	1x1	BJ	7/16/2021	Pass
R92	7/14/2021	BJ	EXT	4	CZ	INT P77/P78/P79/P105	3x3	BJ	7/16/2021	Pass
R93	7/13/2021	BJ	EXT	4	CZ	P106/P108 57' S. of INT P106/P107/P108	1x1	BJ	7/16/2021	Pass
R94	7/13/2021	BJ	EXT	4	CZ	P77/P105 53' SEOS	1x1	BJ	7/16/2021	Pass
R95	7/13/2021	BJ	EXT	4	CZ	INT P76/P77/P105	1x1	BJ	7/16/2021	Pass
R96	7/13/2021	BJ	EXT	4	CZ	P76/P105 49' S of INT P76/P77/P105	1x1	BJ	7/16/2021	Pass
R97	7/13/2021	BJ	EXT	4	CZ	INT R67/R68/P100/P102	1x1	BJ	7/16/2021	Pass
R98	7/13/2021	BJ	EXT	4	CZ	P100/P102 / 10' SE of INT R67/R68/P100/P102	1x1	BJ	7/16/2021	Pass
R99	7/13/2021	BJ	EXT	4	CZ	INT P90/P91/P100	1x1	BJ	7/16/2021	Pass
R100	7/13/2021	BJ	EXT	4	CZ	INT R67/P98/P100	1x1	BJ	7/16/2021	Pass

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REPAIR LOG

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								QA Mon.	Date	Pass/Fail
R101	7/13/2021	BJ	EXT	4	CZ	INT R67/P91/P92	1x1	BJ	7/16/2021	Pass
R102	7/13/2021	BJ	EXT	4	CZ	INT R66/R67/P93	1x1	BJ	7/16/2021	Pass
R103	7/13/2021	BJ	EXT	4	CZ	INT R66/R67/R98/R99	1x3	BJ	7/16/2021	Pass
R104	7/13/2021	BJ	EXT	4	CZ	INT R66/P97/P99	1x1	BJ	7/16/2021	Pass
R105	7/13/2021	BJ	EXT	4	CZ	INT R66/P93/P94	1x1	BJ	7/16/2021	Pass
R106	7/13/2021	BJ	EXT	4	CZ	R66/P97 / R66/P97 Midseam	1x1	BJ	7/16/2021	Pass
R107	7/13/2021	BJ	EXT	4	CZ	R66/P94 /R66/P94 Midseam	1x1	BJ	7/16/2021	Pass
R108	7/13/2021	BJ	EXT	4	CZ	INT R66/P96/P97	1x1	BJ	7/16/2021	Pass
R109	7/13/2021	BJ	EXT	4	CZ	INT R66/P94/P95	1x1	BJ	7/16/2021	Pass
R110	7/13/2021	BJ	EXT	4	CZ	INT AT/R66/P95	1x1	BJ	7/16/2021	Pass
R111	7/14/2021	BJ	EXT	4	CZ	P28/P30 10'E of DS-28	2x4	BJ	7/16/2021	Pass
R112	7/14/2021	BJ	EXT	4	CZ	P23/P25 Midseam	2x4	BJ	7/16/2021	Pass
R113	7/14/2021	BJ	EXT	4	CZ	INT P110/P111/P108	2x4 DS37	BJ	7/16/2021	Pass
R114	7/14/2021	BJ	EXT	4	CZ	INT P108/P113/P114	2x4 DS38	BJ	7/16/2021	Pass
R115	7/14/2021	BJ	EXT	4	CZ	INT P108/P116/P117	2x4 DS39	BJ	7/16/2021	Pass
R116	7/14/2021	BJ	EXT	7	CZ	P119 Midpanel 25' E of P108	1x1	BJ	7/16/2021	Pass
R117	7/14/2021	BJ	EXT	7	CZ	P119 Midpanel 4' N of R116	1x1	BJ	7/16/2021	Pass
R118	7/14/2021	BJ	EXT	69	LM	P119 Fusion Weld 10' Long from R117 to Panel Edge	2x2	BJ	7/16/2021	Pass
R119	7/14/2021	BJ	EXT	7	CZ	P117/P118 33' E of INT P108/P117/P118	2x2	BJ	7/16/2021	Pass
R120	7/16/2021	BJ	EXT	4	CZ	P118/P120 E EOS	2x4 DS40	BJ	7/16/2021	Pass
R121	7/16/2021	BJ	EXT	4	CZ	P117/P118/AT	2x4	BJ	7/16/2021	Pass
R122	7/16/2021	BJ	EXT	4	CZ	P121/P122 INT P119/P121/P122 DS41	2x4 DS41	BJ	7/16/2021	Pass
R123	7/16/2021	BJ	EXT	4	CZ	INT P118/P119/P120	2x2	BJ	7/16/2021	Pass
R124	7/16/2021	BJ	EXT	4	CZ	INT P108/P121/P123	2x5 DSS42	BJ	7/16/2021	Pass
R125	7/16/2021	BJ	EXT	4	CZ	INT 121/122/123	1x1	BJ	7/16/2021	Pass

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R126	7/16/2021	BJ	EXT	4	CZ	INT 122/123/124	1x1	BJ	7/16/2021	Pass
R127	7/16/2021	BJ	EXT	4	CZ	INT 119/120/122	1x1	BJ	7/16/2021	Pass
R128	7/14/2021	BJ	EXT	4	CZ	INT 114/115/116	1x1	BJ	7/16/2021	Pass
R129	7/14/2021	BJ	EXT	4	CZ	INT 113/114/115	1x1	BJ	7/16/2021	Pass
R130	7/14/2021	BJ	EXT	4	CZ	INT 111/112/113	1x1	BJ	7/16/2021	Pass
R131	7/14/2021	BJ	EXT	4	CZ	INT 110/111/112	1x1	BJ	7/16/2021	Pass
R132	7/13/2021	BJ	EXT	4	CZ	INT 85/104/109	1x1	BJ	7/16/2021	Pass
R133	6/26/2021	BJ	EXT	X7	TD	INT 85/86/104	1x1	BJ	6/26/2021	Pass
R134	6/26/2021	BJ	EXT	X7	TD	INT 86/103/104	1x1	BJ	6/26/2021	Pass
R135	6/26/2021	BJ	EXT	X7	TD	INT 86/88/103	1x1	BJ	6/26/2021	Pass
R136	6/26/2021	BJ	EXT	X7	TD	INT 88/89/101/103	1x1	BJ	6/26/2021	Pass
R137	6/26/2021	BJ	EXT	X7	TD	INT 101/102/103	1x1	BJ	6/26/2021	Pass
R138	6/26/2021	BJ	EXT	X7	TD	INT 90/100/101/102	1x1	BJ	6/26/2021	Pass
R139	6/26/2021	BJ	EXT	X7	TD	INT 91/98/100	1x1	BJ	6/26/2021	Pass
R140	6/26/2021	BJ	EXT	X7	TD	INT 91/93/98	1x1	BJ	6/26/2021	Pass
R141	6/26/2021	BJ	EXT	X7	TD	INT 98/99/100	1x1	BJ	6/26/2021	Pass
R142	6/26/2021	BJ	EXT	X7	TD	INT 93/94/97/98	1x1	BJ	6/26/2021	Pass
R143	6/26/2021	BJ	EXT	X7	TD	INT 97/98/99	1x1	BJ	6/26/2021	Pass
R144	6/26/2021	BJ	EXT	X7	TD	INT 94/95/97	1x1	BJ	6/26/2021	Pass
R145	6/26/2021	BJ	EXT	X7	TD	INT 95/96/97	1x1	BJ	6/26/2021	Pass
R146	6/26/2021	BJ	EXT	X7	TD	INT 90/91/92	1x1	BJ	6/26/2021	Pass
R147	6/26/2021	BJ	EXT	X7	TD	INT 86/87/88	1x1	BJ	6/26/2021	Pass
R148	6/26/2021	BJ	EXT	X7	TD	INT 82/83/84	1x1	BJ	6/26/2021	Pass
R149	6/26/2021	BJ	EXT	X7	TD	INT 81/82/83	1x1	BJ	6/26/2021	Pass
R150	6/26/2021	BJ	EXT	X7	TD	INT 78/79/80	1x1	BJ	6/26/2021	Pass

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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R151	6/26/2021	BJ	EXT	X7	TD	INT 74/78/79	1x1	BJ	6/26/2021	Pass
R152	6/26/2021	BJ	EXT	X7	TD	INT 69/70/73	1x1	BJ	6/26/2021	Pass
R153	6/26/2021	BJ	EXT	X7	TD	INT 65/69/70	1x1	BJ	6/26/2021	Pass
R154	6/26/2021	BJ	EXT	X7	TD	INT 59/60/64	1x1	BJ	6/26/2021	Pass
R155	6/26/2021	BJ	EXT	X7	TD	INT 58/59/60	1x1	BJ	6/26/2021	Pass
R156	6/26/2021	BJ	EXT	X7	TD	INT 51/52/56	1x1	BJ	6/26/2021	Pass
R157	6/26/2021	BJ	EXT	X7	TD	INT 50/51/52	1x1	BJ	6/26/2021	Pass
R158	6/26/2021	BJ	EXT	X7	TD	INT 41/44/45	1x1	BJ	6/26/2021	Pass
R159	6/26/2021	BJ	EXT	X7	TD	INT 35/36/37	1x1	BJ	6/26/2021	Pass
R160	6/26/2021	BJ	EXT	X7	TD	INT 33/35/36	1x1	BJ	6/26/2021	Pass
R161	6/26/2021	BJ	EXT	X7	TD	INT 27/28/29	1x1	BJ	6/26/2021	Pass
R162	6/26/2021	BJ	EXT	X7	TD	INT 23/27/28	1x1	BJ	6/26/2021	Pass
R163	6/26/2021	BJ	EXT	X7	TD	INT 6/7/8	1x1	BJ	6/26/2021	Pass
R164	6/26/2021	BJ	EXT	X7	TD	INT 7/8/12	1x1	BJ	6/26/2021	Pass
R165	6/26/2021	BJ	EXT	X7	TD	INT 8/10/12/14	1x1	BJ	6/26/2021	Pass
R166	6/26/2021	BJ	EXT	X7	TD	INT 6/8/9/10	1x1	BJ	6/26/2021	Pass
R167	6/26/2021	BJ	EXT	X7	TD	INT 2/4/6/9	1x1	BJ	6/26/2021	Pass
R168	6/26/2021	BJ	EXT	X7	TD	INT 13/15/17	1x1	BJ	6/26/2021	Pass
R169	6/26/2021	BJ	EXT	X7	TD	INT 17/18/20	1x1	BJ	6/26/2021	Pass
R170	6/26/2021	BJ	EXT	X7	TD	INT 18/20/22/24	1x1	BJ	6/26/2021	Pass
R171	6/26/2021	BJ	EXT	X7	TD	INT 22/23/24/25	6x3 DSS28B	BJ	6/26/2021	Pass
R172	6/26/2021	BJ	EXT	X7	TD	INT 17/19/20	1x1	BJ	6/26/2021	Pass
R173	6/26/2021	BJ	EXT	X7	TD	INT 15/17/19	1x1	BJ	6/26/2021	Pass
R174	6/26/2021	BJ	EXT	X7	TD	INT 3/4/5	1x1	BJ	6/26/2021	Pass
R175	6/26/2021	BJ	EXT	X7	TD	INT 14/15/16	1x1	BJ	6/26/2021	Pass

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UNIT IIA CONSTRUCTION
6041-001-17-00
REPAIR LOG

Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R176	6/26/2021	BJ	EXT	X7	TD	INT 15/16/19	1x1	BJ	6/26/2021	Pass
R177	6/26/2021	BJ	EXT	X7	TD	INT 20/21/24	1x1	BJ	6/26/2021	Pass
R178	6/26/2021	BJ	EXT	X7	TD	INT 24/25/26	1x1	BJ	6/26/2021	Pass
R179	6/26/2021	BJ	EXT	X7	TD	INT 25/26/30	1x1	BJ	6/26/2021	Pass
R180	6/26/2021	BJ	EXT	X7	TD	INT 31/32/34	1x1	BJ	6/26/2021	Pass
R181	6/26/2021	BJ	EXT	X7	TD	INT 34/38/39	1x1	BJ	6/26/2021	Pass
R182	6/26/2021	BJ	EXT	X7	TD	INT 40/42/43	1x1	BJ	6/26/2021	Pass
R183	6/26/2021	BJ	EXT	X7	TD	INT 42/43/47	1x1	BJ	6/26/2021	Pass
R184	6/26/2021	BJ	EXT	X7	TD	INT 47/48/49	1x1	BJ	6/26/2021	Pass
R185	6/26/2021	BJ	EXT	X7	TD	INT 48/49/53	1x1	BJ	6/26/2021	Pass
R186	6/26/2021	BJ	EXT	X7	TD	INT 53/54/55	1x1	BJ	6/26/2021	Pass
R187	6/26/2021	BJ	EXT	X7	TD	INT 54/55/57	1x1	BJ	6/26/2021	Pass
R188	6/26/2021	BJ	EXT	X7	TD	INT 57/61/62	1x1	BJ	6/26/2021	Pass
R189	6/26/2021	BJ	EXT	X7	TD	INT 61/62/63	1x1	BJ	6/26/2021	Pass
R190	6/26/2021	BJ	EXT	X7	TD	INT 63/66/67	1x1	BJ	6/26/2021	Pass
R191	6/26/2021	BJ	EXT	X7	TD	INT 66/67/68	1x1	BJ	6/26/2021	Pass
R192	6/26/2021	BJ	EXT	X7	TD	INT 68/71/72	1x1	BJ	6/26/2021	Pass
R193	6/26/2021	BJ	EXT	X7	TD	INT 71/72/75	1x1	BJ	6/26/2021	Pass
R194	6/26/2021	BJ	EXT	X7	TD	INT 75/76/77	1x1	BJ	6/26/2021	Pass
R195	6/26/2021	BJ	EXT	X7	TD	INT 74/76/79/105	1x1	BJ	6/26/2021	Pass
R196	6/26/2021	BJ	EXT	X7	TD	INT 70/71/73/75	1x1	BJ	6/26/2021	Pass
R197	6/26/2021	BJ	EXT	X7	TD	INT 65/68/70/71	1x1	BJ	6/26/2021	Pass
R198	6/26/2021	BJ	EXT	X7	TD	INT 64/65/66/68	1x1	BJ	6/26/2021	Pass
R199	6/26/2021	BJ	EXT	X7	TD	INT 60/63/64/66	1x1	BJ	6/26/2021	Pass
R200	6/26/2021	BJ	EXT	X7	TD	INT 58/60/61/63	1x1	BJ	6/26/2021	Pass

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UNIT IIA CONSTRUCTION
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Repair No.	Date Repaired	QA Monitor	Weld Type	Equipment No.	Operator	Panel/Seam Location[1]	Description	ND Test Data		
								QA Mon.	Date	Pass/Fail
R201	6/26/2021	BJ	EXT	X7	TD	INT 56/57/58/61	1x1	BJ	6/26/2021	Pass
R202	6/26/2021	BJ	EXT	X7	TD	INT 50/52/53/54	1x1	BJ	6/26/2021	Pass
R203	6/26/2021	BJ	EXT	X7	TD	INT 46/48/50/53	1x1	BJ	6/26/2021	Pass
R204	6/26/2021	BJ	EXT	X7	TD	INT 45/46/47/48	1x1	BJ	6/26/2021	Pass
R205	6/26/2021	BJ	EXT	X7	TD	INT 41/42/45/47	1x1	BJ	6/26/2021	Pass
R206	6/26/2021	BJ	EXT	X7	TD	INT 36/37/38/40	1x1	BJ	6/26/2021	Pass
R207	6/26/2021	BJ	EXT	X7	TD	INT 29/31/33/34	1x1	BJ	6/26/2021	Pass
R208	7/16/2021	BJ	EXT	4	CZ	INT 108/119/121	1x1	BJ	7/16/2021	Pass
R209	7/16/2021	BJ	EXT	4	CZ	INT 108/118/119	1x1	BJ	7/16/2021	Pass
R210	7/16/2021	BJ	EXT	4	CZ	INT 108//117/118	1x1	BJ	7/16/2021	Pass
R211	7/16/2021	BJ	EXT	4	CZ	INT 108/114/116	1x1	BJ	7/16/2021	Pass
R212	7/16/2021	BJ	EXT	4	CZ	INT 108/111/113	1x1	BJ	7/16/2021	Pass

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APPENDIX K

GEOCOMPOSITE AND GEONET INFORMATION

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DOUBLE-SIDED GEOCOMPOSITE INFORMATION

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GEOCOMPOSITE INVENTORY

Roll Number	Batch or Lot No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731010001	TILX 586584	3/30/2021	200	14.5	200 mil	Yes	Yes	-
0102731010002	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010003	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010004	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010005	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010006	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010007	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010008	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010009	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010010	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010011	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010012	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010013	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010014	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010015	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010016	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010017	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010018	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010019	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010020	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010021	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010022	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010023	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010024	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010025	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010026	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010027	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010028	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010029	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010030	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010031	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010032	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010033	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010034	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010035	TILX 586584	3/31/2021	200	14.5	200 mil	Yes	Yes	-
0102731010036	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010037	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010038	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010039	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010040	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010041	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010042	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010043	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-

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GEOCOMPOSITE INVENTORY

Roll Number	Batch or Lot No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731010044	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010045	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010046	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010047	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010048	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010049	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010050	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010051	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010052	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010053	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010054	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010055	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010056	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010057	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010058	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010059	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010060	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010061	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010062	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010063	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010064	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010065	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010066	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010067	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010068	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010069	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010070	TILX 586584	3/31/2021	200	14.5	200 mil	Yes	Yes	-
0102731010071	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010072	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010073	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010074	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010075	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010076	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010077	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010078	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010079	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010080	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010081	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010082	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010083	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010084	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010085	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010086	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE INVENTORY

Roll Number	Batch or Lot No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731010087	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010088	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010089	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010090	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010091	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010092	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010093	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010094	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010095	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010096	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010097	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010098	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010099	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010100	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010101	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010102	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010103	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010104	TILX 586584	3/31/2021	200	14.5	200 mil	Yes	Yes	-
0102731010105	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010106	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010107	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010108	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010109	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010110	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010111	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010112	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010113	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010114	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010115	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010116	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010117	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010118	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010119	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010120	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010121	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010122	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010123	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010124	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010125	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010126	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010127	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010128	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010129	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE INVENTORY

Roll Number	Batch or Lot No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731010130	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010131	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010132	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010133	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010134	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010135	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010136	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010137	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010138	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010139	TILX 586584	3/30/2021	200	14.5	200 mil	Yes	Yes	-
0102731010140	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010141	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010142	TILX 586584	3/30/2021	200	14.5	200 mil	-	Yes	-
0102731010143	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010144	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010145	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010146	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010147	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010148	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010149	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010150	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010151	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010152	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010153	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010154	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010155	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010156	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010157	TILX 586584	3/31/2021	200	14.5	200 mil	-	Yes	-
0102731010158	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010159	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010160	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010161	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010162	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010163	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010164	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010165	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010166	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010167	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010168	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010169	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010170	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010171	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-
0102731010172	TILX 586584	3/29/2021	200	14.5	200 mil	-	Yes	-

December 14, 2020
Southwest Liner Systems Inc.
P.O. Box 1972
Bernalillo, NM, 87004

Ref. : Lea Land LF Unit IIA, NM
Customer P.O. # SW2101
Product : TN 220-2-10

We hereby certify that the TN 220-2-10 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				
Thickness	ASTM D 5199	mil	200	MAV[6]
Carbon Black	ASTM D 4218	%	2.0	MAV
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[1]	ASTM D 4716	m^2/sec	2.0 x 10^{-3}	MAV
Composite				
Ply Adhesion	ASTM D 7005	lb/in	1.0	MAV
Transmissivity[1]	ASTM D 4716	m^2/sec	9.0 x 10^{-5}	MAV
Geotextile[3&4]				
Fabric Weight	ASTM D 5261	oz/yd^2	10.0	MARV[5]
Grab Strength	ASTM D 4632	lbs	270	MARV
Grab Elongation	ASTM D 4632	%	50	MARV
Trap Tear Strength	ASTM D 4533	lbs	100	MARV
CBR Puncture	ASTM D 6241	lbs	725	MARV
Water Flow Rate	ASTM D 4491	gpm/ft^2	75	MARV
Permittivity	ASTM D 4491	sec^{-1}	0.94	MARV
AOS	ASTM D 4751	US Sieve	100	MaxARV
UV Resistance	ASTM D 4355	%/hrs	70/500	MARV

Notes:

1. *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*

Sincerely,
Rajesh Patel
Rajesh Patel
QA Manager

APPROVED 5 QA

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

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Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

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"							
102731010001	2.05	1.80	9.87×10^{-5}	TILX 586584	0.9566	220	2.53	52	2.96×10^{-3}
102731010002				TILX 586584	0.9566				
102731010003				TILX 586584	0.9566				
102731010004				TILX 586584	0.9566				
102731010005				TILX 586584	0.9566				
102731010006				TILX 586584	0.9566				
102731010007				TILX 586584	0.9566				
102731010008				TILX 586584	0.9566				
102731010009				TILX 586584	0.9566				
102731010010				TILX 586584	0.9566				
102731010011				TILX 586584	0.9566				
102731010012				TILX 586584	0.9566				
102731010013				TILX 586584	0.9566				
102731010014				TILX 586584	0.9566				
102731010015	1.86	2.38		TILX 586584	0.9566	224	2.60	58	
102731010016				TILX 586584	0.9566				
102731010017				TILX 586584	0.9566				
102731010018				TILX 586584	0.9566				
102731010019				TILX 586584	0.9566				
102731010020				TILX 586584	0.9566				
102731010021				TILX 586584	0.9566				
102731010022				TILX 586584	0.9566				
102731010023				TILX 586584	0.9566				
102731010024				TILX 586584	0.9566				

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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"							
102731010025				TILX 586584	0.9566				
102731010026				TILX 586584	0.9566				
102731010027				TILX 586584	0.9566				
102731010028				TILX 586584	0.9566				
102731010029				TILX 586584	0.9566				
102731010030	1.62	1.95		TILX 586584	0.9566	226	2.35	54	
102731010031				TILX 586584	0.9566				
102731010032				TILX 586584	0.9566				
102731010033				TILX 586584	0.9566				
102731010034				TILX 586584	0.9566				
102731010035				TILX 586584	0.9566				
102731010036				TILX 586584	0.9566				
102731010037				TILX 586584	0.9566				
102731010038				TILX 586584	0.9566				
102731010039				TILX 586584	0.9566				
102731010040				TILX 586584	0.9566				
102731010041				TILX 586584	0.9566				
102731010042				TILX 586584	0.9566				
102731010043				TILX 586584	0.9566				
102731010044				TILX 586584	0.9566				
102731010045	1.77	2.17		TILX 586584	0.9566	219	2.70	56	
102731010046				TILX 586584	0.9566				
102731010047				TILX 586584	0.9566				
102731010048				TILX 586584	0.9566				

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Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

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"							
102731010049				TILX 586584	0.9566				
102731010050				TILX 586584	0.9566				
102731010051				TILX 586584	0.9566				
102731010052				TILX 586584	0.9566				
102731010053				TILX 586584	0.9566				
102731010054				TILX 586584	0.9566				
102731010055				TILX 586584	0.9566				
102731010056				TILX 586584	0.9566				
102731010057				TILX 586584	0.9566				
102731010058				TILX 586584	0.9566				
102731010059				TILX 586584	0.9566				
102731010060	1.55	1.88		TILX 586584	0.9566	215	2.61	53	
102731010061				TILX 586584	0.9566				
102731010062				TILX 586584	0.9566				
102731010063				TILX 586584	0.9566				
102731010064				TILX 586584	0.9566				
102731010065				TILX 586584	0.9566				
102731010066				TILX 586584	0.9566				
102731010067				TILX 586584	0.9566				
102731010068				TILX 586584	0.9566				
102731010069				TILX 586584	0.9566				
102731010070				TILX 586584	0.9566				
102731010071				TILX 586584	0.9566				
102731010072				TILX 586584	0.9566				

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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"							
102731010073				TILX 586584	0.9566				
102731010074				TILX 586584	0.9566				
102731010075	1.84	2.20	10.3×10^{-5}	TILX 586584	0.9566	221	2.58	55	2.95×10^{-3}
102731010076				TILX 586584	0.9566				
102731010077				TILX 586584	0.9566				
102731010078				TILX 586584	0.9566				
102731010079				TILX 586584	0.9566				
102731010080				TILX 586584	0.9566				
102731010081				TILX 586584	0.9566				
102731010082				TILX 586584	0.9566				
102731010083				TILX 586584	0.9566				
102731010084				TILX 586584	0.9566				
102731010085				TILX 586584	0.9566				
102731010086				TILX 586584	0.9566				
102731010087				TILX 586584	0.9566				
102731010088				TILX 586584	0.9566				
102731010089				TILX 586584	0.9566				
102731010090	2.65	2.12		TILX 586584	0.9566	218	2.68	51	
102731010091				TILX 586584	0.9566				
102731010092				TILX 586584	0.9566				
102731010093				TILX 586584	0.9566				
102731010094				TILX 586584	0.9566				
102731010095				TILX 586584	0.9566				
102731010096				TILX 586584	0.9566				

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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"							
102731010097				TILX 586584	0.9566				
102731010098				TILX 586584	0.9566				
102731010099				TILX 586584	0.9566				
102731010100				TILX 586584	0.9566				
102731010101				TILX 586584	0.9566				
102731010102				TILX 586584	0.9566				
102731010103				TILX 586584	0.9566				
102731010104				TILX 586584	0.9566				
102731010105	2.02	1.67		TILX 586584	0.9566	223	2.24	57	
102731010106				TILX 586584	0.9566				
102731010107				TILX 586584	0.9566				
102731010108				TILX 586584	0.9566				
102731010109				TILX 586584	0.9566				
102731010110				TILX 586584	0.9566				
102731010111				TILX 586584	0.9566				
102731010112				TILX 586584	0.9566				
102731010113				TILX 586584	0.9566				
102731010114				TILX 586584	0.9566				
102731010115				TILX 586584	0.9566				
102731010116				TILX 586584	0.9566				
102731010117				TILX 586584	0.9566				
102731010118				TILX 586584	0.9566				
102731010119				TILX 586584	0.9566				
102731010120	2.43	1.90		TILX 586584	0.9566	225	2.59	59	

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Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

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"							
102731010121				TILX 586584	0.9566				
102731010122				TILX 586584	0.9566				
102731010123				TILX 586584	0.9566				
102731010124				TILX 586584	0.9566				
102731010125				TILX 586584	0.9566				
102731010126				TILX 586584	0.9566				
102731010127				TILX 586584	0.9566				
102731010128				TILX 586584	0.9566				
102731010129				TILX 586584	0.9566				
102731010130				TILX 586584	0.9566				
102731010131				TILX 586584	0.9566				
102731010132				TILX 586584	0.9566				
102731010133				TILX 586584	0.9566				
102731010134				TILX 586584	0.9566				
102731010135	2.52	1.45		TILX 586584	0.9566	216	2.25	56	
102731010136				TILX 586584	0.9566				
102731010137				TILX 586584	0.9566				
102731010138				TILX 586584	0.9566				
102731010139				TILX 586584	0.9566				
102731010140				TILX 586584	0.9566				
102731010141				TILX 586584	0.9566				
102731010142				TILX 586584	0.9566				
102731010143				TILX 586584	0.9566				
102731010144				TILX 586584	0.9566				

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Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

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"							
102731010145				TILX 586584	0.9566				
102731010146				TILX 586584	0.9566				
102731010147				TILX 586584	0.9566				
102731010148				TILX 586584	0.9566				
102731010149				TILX 586584	0.9566				
102731010150	1.73	2.29	9.89×10^{-5}	TILX 586584	0.9566	227	2.30	59	3.09×10^{-3}
102731010151				TILX 586584	0.9566				
102731010152				TILX 586584	0.9566				
102731010153				TILX 586584	0.9566				
102731010154				TILX 586584	0.9566				
102731010155				TILX 586584	0.9566				
102731010156				TILX 586584	0.9566				
102731010157				TILX 586584	0.9566				
102731010158				TILX 586584	0.9566				
102731010159				TILX 586584	0.9566				
102731010160				TILX 586584	0.9566				
102731010161				TILX 586584	0.9566				
102731010162				TILX 586584	0.9566				
102731010163				TILX 586584	0.9566				
102731010164				TILX 586584	0.9566				
102731010165	2.34	2.00		TILX 586584	0.9566	222	2.52	55	
102731010166				TILX 586584	0.9566				
102731010167				TILX 586584	0.9566				
102731010168				TILX 586584	0.9566				

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Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

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"							
102731010169				TILX 586584	0.9566				
102731010170				TILX 586584	0.9566				
102731010171				TILX 586584	0.9566				
102731010172				TILX 586584	0.9566				

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Southwest Liner Systems Inc.
Project Name : Lea Land LF Unit IIA, NM
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 220-2-10

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
Osterman and Company	TILX 586584	Density	ASTM D1505	g/cm^3	0.9550	0.9519
		Melt flow Index	ASTM D1238[(a)]	g/10 min	0.18	0.20

(a) Condition 190/2.16
* Data from SKAPS Quality Control

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Geotextile Certification

Product: TN 220-2-10
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

GEOCOMP ROLL#	FABRIC SIDE	WEIGHT oz/yd^2	GRAB lbs. (MD)	GRAB ELG % (MD)	GRAB lbs. (XMD)	GRAB ELG % (XMD)	TRAP lbs. (MD)	TRAP lbs. (XMD)	CBR PUNCTURE lbs	AOS us sieve	WATER-FLOW gpm/ft^2	PERM-ITY sec^{-1}
102731010001	Side A	10.52	279	73	287	83	105	133	837	100	78	1.04
	Side B	10.16	278	75	289	80	114	128	836	100	79	1.05
102731010030	Side A	10.58	275	74	295	84	111	134	843	100	79	1.05
	Side B	10.48	280	72	285	89	109	132	864	100	78	1.04
102731010060	Side A	10.34	281	79	282	88	112	135	868	100	79	1.05
	Side B	10.25	282	72	294	82	106	131	840	100	75	1.00
102731010090	Side A	10.23	285	80	290	81	107	126	830	100	78	1.04
	Side B	10.30	276	78	283	87	111	130	854	100	78	1.04
102731010120	Side A	10.29	284	70	288	90	113	124	838	100	79	1.05
	Side B	10.10	283	76	291	82	115	121	826	100	79	1.05
102731010150	Side A	10.50	277	77	284	85	108	127	869	100	79	1.05
	Side B	10.60	282	71	292	86	110	123	856	100	78	1.04

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DOUBLE-SIDED GEOCOMPOSITE DEPLOYMENT LOG

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
1	31	220-2-10	7/23/2021	BJ	200	14.5	2,900	
2	43	220-2-10	7/23/2021	BJ	200	14.5	2,900	
3	34	220-2-10	7/23/2021	BJ	200	14.5	2,900	
4	37	220-2-10	7/23/2021	BJ	200	14.5	2,900	
5	23	220-2-10	7/24/2021	BJ	200	14.5	2,900	
6	26	220-2-10	7/24/2021	BJ	130	14.5	1,885	
7	52	220-2-10	7/24/2021	BJ	200	14.5	2,900	
8	110	220-2-10	7/24/2021	BJ	200	14.5	2,900	
9	72	220-2-10	7/24/2021	BJ	200	14.5	2,900	
10	104	220-2-10	7/24/2021	BJ	200	14.5	2,900	
11	38	220-2-10	7/24/2021	BJ	200	14.5	2,900	
12	85	220-2-10	7/24/2021	BJ	200	14.5	2,900	
13	41	220-2-10	7/24/2021	BJ	200	14.5	2,900	
14	108	220-2-10	7/24/2021	BJ	200	14.5	2,900	
15	89	220-2-10	7/24/2021	BJ	200	14.5	2,900	
16	160	220-2-10	7/24/2021	BJ	200	14.5	2,900	
17	13	220-2-10	7/24/2021	BJ	200	14.5	2,900	
18	86	220-2-10	7/24/2021	BJ	200	14.5	2,900	
19	56	220-2-10	7/24/2021	BJ	200	14.5	2,900	
20	25	220-2-10	7/24/2021	BJ	200	14.5	2,900	
21	36	220-2-10	7/24/2021	BJ	200	14.5	2,900	
22	44	220-2-10	7/24/2021	BJ	200	14.5	2,900	
23	39	220-2-10	7/28/2021	MM	200	14.5	2,900	
24	71	220-2-10	7/28/2021	MM	200	14.5	2,900	
25	32	220-2-10	7/28/2021	MM	200	14.5	2,900	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
26	87	220-2-10	7/28/2021	MM	200	14.5	2,900	
27	66	220-2-10	7/28/2021	MM	200	14.5	2,900	
28	79	220-2-10	7/28/2021	MM	130	14.5	1,885	
29	59	220-2-10	7/28/2021	MM	200	14.5	2,900	
30	48	220-2-10	7/28/2021	MM	200	14.5	2,900	
31	24	220-2-10	7/28/2021	MM	200	14.5	2,900	
32	45	220-2-10	7/28/2021	MM	200	14.5	2,900	
33	70	220-2-10	7/28/2021	MM	200	14.5	2,900	
34	68	220-2-10	7/28/2021	MM	200	14.5	2,900	
35	22	220-2-10	7/28/2021	MM	200	14.5	2,900	
36	132	220-2-10	7/28/2021	MM	200	14.5	2,900	
37	127	220-2-10	7/28/2021	MM	200	14.5	2,900	
38	122	220-2-10	7/28/2021	MM	200	14.5	2,900	
39	117	220-2-10	7/28/2021	MM	200	14.5	2,900	
40	116	220-2-10	7/28/2021	MM	200	14.5	2,900	
41	113	220-2-10	7/28/2021	MM	200	14.5	2,900	
42	106	220-2-10	7/31/2021	MM	200	14.5	2,900	
43	101	220-2-10	7/29/2021	MM	200	14.5	2,900	
44	81	220-2-10	7/29/2021	MM	200	14.5	2,900	
45	33	220-2-10	7/29/2021	MM	200	14.5	2,900	
46	88	220-2-10	7/29/2021	MM	200	14.5	2,900	
47	118	220-2-10	7/29/2021	MM	200	14.5	2,900	
48	112	220-2-10	7/29/2021	MM	200	14.5	2,900	
49	21	220-2-10	7/29/2021	MM	200	14.5	2,900	
50	103	220-2-10	7/29/2021	MM	200	14.5	2,900	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
51	124	220-2-10	7/29/2021	MM	200	14.5	2,900	
52	58	220-2-10	7/29/2021	MM	200	14.5	2,900	
53	105	220-2-10	7/29/2021	MM	200	14.5	2,900	
54	50	220-2-10	7/29/2021	MM	200	14.5	2,900	
55	54	220-2-10	7/29/2021	MM	200	14.5	2,900	
56	100	220-2-10	7/29/2021	MM	200	14.5	2,900	
57	57	220-2-10	7/29/2021	MM	200	14.5	2,900	
58	74	220-2-10	7/29/2021	MM	200	14.5	2,900	
59	67	220-2-10	7/29/2021	MM	200	14.5	2,900	
60	102	220-2-10	7/29/2021	MM	200	14.5	2,900	
61	45	220-2-10	7/29/2021	MM	200	14.5	2,900	
62	62	220-2-10	7/29/2021	MM	16	14.5	232	
63	62	220-2-10	7/29/2021	MM	23	14.5	334	
64	62	220-2-10	7/29/2021	MM	18	14.5	261	
65	62	220-2-10	7/29/2021	MM	15	14.5	218	
66	62	220-2-10	7/29/2021	MM	15	14.5	218	
67	62	220-2-10	7/29/2021	MM	10	14.5	145	
68	62	220-2-10	7/29/2021	MM	19	14.5	276	
69	62	220-2-10	7/29/2021	MM	19	14.5	276	
70	62	220-2-10	7/29/2021	MM	27	14.5	392	
71	62	220-2-10	7/29/2021	MM	24	14.5	348	
72	73	220-2-10	7/29/2021	MM	16	14.5	232	
73	73	220-2-10	7/29/2021	MM	18	14.5	261	
74	73	220-2-10	7/29/2021	MM	17	14.5	247	
75	73	220-2-10	7/29/2021	MM	18	14.5	261	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
76	73	220-2-10	7/29/2021	MM	19	14.5	276	
77	73	220-2-10	7/29/2021	MM	10	14.5	145	
78	73	220-2-10	7/29/2021	MM	15	14.5	218	
79	73	220-2-10	7/29/2021	MM	16	14.5	232	
80	73	220-2-10	7/29/2021	MM	13	14.5	189	
81	27	220-2-10	7/30/2021	MM	200	14.5	2,900	
82	75	220-2-10	7/30/2021	MM	200	14.5	2,900	
83	60	220-2-10	7/30/2021	MM	200	14.5	2,900	
84	91	220-2-10	7/30/2021	MM	200	14.5	2,900	
85	55	220-2-10	7/30/2021	MM	200	14.5	2,900	
86	49	220-2-10	7/30/2021	MM	200	14.5	2,900	
87	63	220-2-10	7/30/2021	MM	200	14.5	2,900	
88	51	220-2-10	7/30/2021	MM	200	14.5	2,900	
89	2	220-2-10	7/30/2021	MM	200	14.5	2,900	
90	73	220-2-10	7/30/2021	MM	48	14.5	696	
91	126	220-2-10	7/30/2021	MM	200	14.5	2,900	
92	7	220-2-10	7/30/2021	MM	200	14.5	2,900	
93	10	220-2-10	7/30/2021	MM	200	14.5	2,900	
94	16	220-2-10	7/30/2021	MM	200	14.5	2,900	
95	4	220-2-10	7/30/2021	MM	200	14.5	2,900	
96	64	220-2-10	7/30/2021	MM	200	14.5	2,900	
97	139	220-2-10	7/30/2021	MM	200	14.5	2,900	
98	3	220-2-10	7/30/2021	MM	200	14.5	2,900	
99	133	220-2-10	7/30/2021	MM	200	14.5	2,900	
100	11	220-2-10	7/30/2021	MM	200	14.5	2,900	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
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GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
101	114	220-2-10	7/30/2021	MM	200	14.5	2,900	
102	121	220-2-10	7/30/2021	MM	200	14.5	2,900	
103	17	220-2-10	7/30/2021	MM	200	14.5	2,900	
104	19	220-2-10	7/30/2021	MM	18	14.5	261	
105	19	220-2-10	7/30/2021	MM	15	14.5	218	
106	19	220-2-10	7/30/2021	MM	19	14.5	276	
107	19	220-2-10	7/30/2021	MM	18	14.5	261	
108	19	220-2-10	7/30/2021	MM	17	14.5	247	
109	19	220-2-10	7/30/2021	MM	16	14.5	232	
110	19	220-2-10	7/30/2021	MM	13	14.5	189	
111	19	220-2-10	7/30/2021	MM	17	14.5	247	
112	19	220-2-10	7/30/2021	MM	27	14.5	392	
113	19	220-2-10	7/30/2021	MM	12	14.5	174	
114	19	220-2-10	7/30/2021	MM	15	14.5	218	
115	8	220-2-10	7/30/2021	MM	13	14.5	189	
116	8	220-2-10	7/30/2021	MM	13	14.5	189	
117	8	220-2-10	7/30/2021	MM	10	14.5	145	
118	8	220-2-10	7/30/2021	MM	15	14.5	218	
119	8	220-2-10	7/30/2021	MM	13	14.5	189	
120	8	220-2-10	7/30/2021	MM	14	14.5	203	
121	8	220-2-10	7/30/2021	MM	8	14.5	116	
122	8	220-2-10	7/30/2021	MM	13	14.5	189	
123	8	220-2-10	7/30/2021	MM	14	14.5	203	
124	8	220-2-10	7/30/2021	MM	9	14.5	131	
125	8	220-2-10	7/30/2021	MM	13	14.5	189	

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GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
126	55	220-2-10	7/31/2021	MM	200	14.5	2,900	
127	158	220-2-10	7/31/2021	MM	200	14.5	2,900	
128	109	220-2-10	7/31/2021	MM	200	14.5	2,900	
129	14	220-2-10	7/31/2021	MM	200	14.5	2,900	
130	47	220-2-10	7/31/2021	MM	200	14.5	2,900	
131	84	220-2-10	7/31/2021	MM	200	14.5	2,900	
132	138	220-2-10	7/31/2021	MM	200	14.5	2,900	
133	159	220-2-10	7/31/2021	MM	200	14.5	2,900	
134	12	220-2-10	7/31/2021	MM	200	14.5	2,900	
135	15	220-2-10	7/31/2021	MM	220	14.5	3,190	
136	35	220-2-10	7/31/2021	MM	200	14.5	2,900	
137	137	220-2-10	7/31/2021	MM	200	14.5	2,900	
138	5	220-2-10	8/2/2021	MM	200	14.5	2,900	
139	115	220-2-10	8/2/2021	MM	200	14.5	2,900	
140	65	220-2-10	8/2/2021	MM	200	14.5	2,900	
141	129	220-2-10	8/2/2021	MM	200	14.5	2,900	
142	90	220-2-10	8/2/2021	MM	200	14.5	2,900	
143	40	220-2-10	8/2/2021	MM	200	14.5	2,900	
144	9	220-2-10	8/2/2021	MM	205	14.5	2,973	
145	28	220-2-10	8/2/2021	MM	200	14.5	2,900	
146	99	220-2-10	8/2/2021	MM	208	14.5	3,016	
147	99	220-2-10	8/2/2021	MM	42	14.5	609	
148	123	220-2-10	8/2/2021	MM	162	14.5	2,349	
149	123	220-2-10	8/2/2021	MM	38	14.5	551	
150	125	220-2-10	8/2/2021	MM	143	14.5	2,074	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
151	125	220-2-10	8/2/2021	MM	57	14.5	827	
152	77	220-2-10	8/2/2021	MM	147	14.5	2,132	
153	153	220-2-10	8/2/2021	MM	14	14.5	203	
154	154	220-2-10	8/2/2021	MM	11	14.5	160	
155	155	220-2-10	8/2/2021	MM	12	14.5	174	
156	156	220-2-10	8/2/2021	MM	7	14.5	102	
157	157	220-2-10	8/2/2021	MM	14	14.5	203	
158	158	220-2-10	8/2/2021	MM	13	14.5	189	
159	159	220-2-10	8/2/2021	MM	12	14.5	174	
160	160	220-2-10	8/2/2021	MM	178	14.5	2,581	
161	161	220-2-10	8/2/2021	MM	25	14.5	363	
162	162	220-2-10	8/2/2021	MM	149	14.5	2,161	
163	163	220-2-10	8/3/2021	MM	55	14.5	798	
164	164	220-2-10	8/3/2021	MM	118	14.5	1,711	
165	165	220-2-10	8/3/2021	MM	87	14.5	1,262	
166	166	220-2-10	8/3/2021	MM	90	14.5	1,305	
167	167	220-2-10	8/3/2021	MM	112	14.5	1,624	
168	168	220-2-10	8/3/2021	MM	61	14.5	885	
169	169	220-2-10	8/3/2021	MM	141	14.5	2,045	
170	170	220-2-10	8/3/2021	MM	27	14.5	392	
171	171	220-2-10	8/3/2021	MM	170	14.5	2,465	
172	172	220-2-10	8/3/2021	MM	172	14.5	2,494	
173	173	220-2-10	8/3/2021	MM	31	14.5	450	
174	174	220-2-10	8/3/2021	MM	144	14.5	2,088	
175	175	220-2-10	8/3/2021	MM	51	14.5	740	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
176	176	220-2-10	8/3/2021	MM	127	14.5	1,842	
177	177	220-2-10	8/3/2021	MM	79	14.5	1,146	
178	178	220-2-10	8/3/2021	MM	109	14.5	1,581	
179	18	220-2-10	8/3/2021	MM	94	14.5	1,363	
180	46	220-2-10	8/3/2021	MM	89	14.5	1,291	
181	46	220-2-10	8/3/2021	MM	109	14.5	1,581	
182	76	220-2-10	8/3/2021	MM	77	14.5	1,117	
183	76	220-2-10	8/3/2021	MM	177	14.5	2,567	
184	80	220-2-10	8/3/2021	MM	19	14.5	276	
185	80	220-2-10	8/3/2021	MM	196	14.5	2,842	
186	126	220-2-10	8/3/2021	MM	181	14.5	2,625	
187	126	220-2-10	8/3/2021	MM	19	14.5	276	
188	119	220-2-10	8/3/2021	MM	164	14.5	2,378	
189	119	220-2-10	8/3/2021	MM	42	14.5	609	
190	69	220-2-10	8/3/2021	MM	126	14.5	1,827	
191	69	220-2-10	8/3/2021	MM	73	14.5	1,059	
192	1	220-2-10	8/3/2021	MM	82	14.5	1,189	
193	1	220-2-10	8/4/2021	MM	121	14.5	1,755	
194	95	220-2-10	8/4/2021	MM	18	14.5	261	
195	95	220-2-10	8/4/2021	MM	123	14.5	1,784	
196	95	220-2-10	8/4/2021	MM	59	14.5	856	
197	87	220-2-10	8/4/2021	MM	49	14.5	711	
198	87	220-2-10	8/4/2021	MM	93	14.5	1,349	
199	87	220-2-10	8/4/2021	MM	55	14.5	798	
200	107	220-2-10	8/4/2021	MM	22	14.5	319	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOCOMPOSITE DEPLOYMENT LOG

Panel No.	Roll No.	Material Type	Date Placed	QA Monitor	Panel Dimensions			Comments
					Length, ft	Width, ft	Area, sf	
201	107	220-2-10	8/4/2021	MM	63	14.5	914	
202	107	220-2-10	8/4/2021	MM	52	14.5	754	
203	107	220-2-10	8/4/2021	MM	29	14.5	421	
204	29	220-2-10	8/4/2021	MM	170	14.5	2,465	
205	29	220-2-10	8/4/2021	MM	30	14.5	435	
206	93	220-2-10	8/4/2021	MM	141	14.5	2,045	
207	93	220-2-10	8/4/2021	MM	59	14.5	856	
208	83	220-2-10	8/4/2021	MM	109	14.5	1,581	
209	83	220-2-10	8/4/2021	MM	91	14.5	1,320	
210	152	221-2-10	8/4/2021	MM	58	14.5	841	
211	152	221-2-10	8/4/2021	MM	140	14.5	2,030	
212	92	221-2-10	8/4/2021	MM	131	14.5	1,900	
213	92	221-2-10	8/4/2021	MM	68	14.5	986	
214	147	221-2-10	8/4/2021	MM	50	14.5	725	
215	147	221-2-10	8/4/2021	MM	107	14.5	1,552	
216	147	221-2-10	8/4/2021	MM	43	14.5	624	
217	154	221-2-10	8/4/2021	MM	55	14.5	798	
218	154	221-2-10	8/4/2021	MM	81	14.5	1,175	
219	154	221-2-10	8/4/2021	MM	60	14.5	870	
220	107	222-2-10	8/4/2021	MM	13	14.5	189	
221	141	222-2-10	8/4/2021	MM	60	14.5	870	
222	141	222-2-10	8/4/2021	MM	47	14.5	682	
223	141	222-2-10	8/4/2021	MM	34	14.5	493	

DOUBLE-SIDED GEOCOMPOSITE TRANSMISSIVITY RESULTS

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TESTING, RESEARCH, CONSULTING AND FIELD SERVICES
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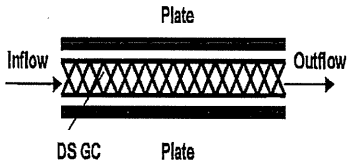
GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010001
TRI Log #: 61125

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Hydraulic Transmissivity (ASTM D 4716)													
Direction Tested: Machine Direction													
Normal Load (psf): 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)		653	650	635	669	671	672						
Time (s)		20.35	20.37	20.38	20.41	20.37	20.34						
0.25 Flow Rate (GPM/ft width)		0.51	0.50	0.49	0.52	0.52	0.52				0.51	0.01	
Transmissivity (m^2/s)		1.05E-03	1.04E-03	1.02E-03	1.07E-03	1.07E-03	1.07E-03				1.05E-03	2.14E-05	9E10-5
Test Temp (C)			20.3			20.5							
Temp. Corr. Factor			0.997			0.992							
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	3.47	1.50	0.79	2.22	2.20						2.04	0.99	1.0 min
A - MD Average Peel Strength (g/in)	1575	681	359	1008	999						924	452	
B - MD Average Peel Strength (ppi)	5.22	0.88	0.96	1.32	2.61						2.20	1.83	1.0 min
B - MD Average Peel Strength (g/in)	2370	400	434	599	1185						998	829	
Note: A and B represent a randomly assigned top and bottom of the sample													
Thickness (ASTM D 5199)					GEONET COMPONENT								
Thickness (mils)	234	230	239	235	236	234	238	240	234	238	236	3	200 min
											230	<< min	
Density (ASTM D 1505)					GEONET COMPONENT								
Density (g/cm3)	0.943	0.943	0.943								0.943	0.000	0.94 min
Carbon Black Content (ASTM D 4218)					GEONET COMPONENT								
% Carbon Black	2.30	2.38									2.34	0.06	2.0 min
Tensile Properties (ASTM D 7179, 12 ipm strain rate)					GEONET COMPONENT								
MD Max. Strength (ppi)	63	58	66	68	67						64	4	45 min
MD Elong. @ Max. Strength (%)	20	18	19	18	18						18	1	

MD Machine Direction



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TRI ENVIRONMENTAL

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010001
TRI Log #: 61125

GEOTEXTILE - SIDE A

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.60	4.90	4.25	5.24	3.92	4.87	4.54	4.64	5.00	4.97	4.69	0.39	
Mass/Unit Area (oz/sq.yd)	10.70	11.40	9.89	12.19	9.12	11.33	10.56	10.79	11.63	11.56	10.92	0.91	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	380	336	345	385	485	388	373	358	336	480	387	54	260 min
TD - Tensile Strength (lbs)	298	334	324	327	341	311	353	301	319	329	324	17	260 min
MD - Elong. @ Max. Load (%)	66	67	67	73	69	68	72	73	70	65	69	3	50 min
TD - Elong. @ Max. Load (%)	95	93	89	87	99	100	95	80	90	105	93	7	50 min
CBR Puncture Strength (ASTM D 6241)													
Puncture Resistance (lbs)	980	984	941	956	1023	977	973	1103	1090	1139	1016	69	725 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.136	0.124	0.147	0.122	0.140						0.134	0.011	
Sieve No.	100	100	100	100	100						100		100 min
Permittivity (ASTM D 4491,Method C)													
Thickness (mil)	121	140	112	133	124	115	111	114	139	122	123	11	
Thickness (mm)	3.07	3.56	2.84	3.38	3.15	2.92	2.82	2.90	3.53	3.10	3.13	0.28	
Permittivity (Sec-1)	1.16	0.96	1.48	0.86	1.22	1.27	1.42	1.25	1.04	1.08	1.17	0.20	1.0 min
Permittivity (GPM/ft2)	86.8	71.8	110.7	64.3	91.3	95.0	106.2	93.5	77.8	80.8	87.8	14.6	
Flow rate (LPM/m2)	3535	2926	4511	2621	3718	3871	4328	3810	3170	3292	3578	595	
Permittivity (cm/sec)	0.357	0.341	0.421	0.291	0.384	0.371	0.400	0.362	0.367	0.335	0.363	0.036	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010001
TRI Log #: 61125

GEOTEXTILE - SIDE B

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	5.23	4.94	4.11	4.26	4.96	4.76	4.44	4.58	4.86	4.98	**4.71**	0.36	
Mass/Unit Area (oz/sq.yd)	12.16	11.49	9.56	9.91	11.54	11.07	10.33	10.65	11.30	11.58	**10.96**	0.83	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	318	376	366	398	415	410	370	308	376	457	**379**	45	260 min
TD - Tensile Strength (lbs)	272	260	344	305	322	320	259	338	341	277	**308**	32	260 min
MD - Elong. @ Max. Load (%)	55	73	70	71	68	66	70	71	76	67	**69**	6	50 min
TD - Elong. @ Max. Load (%)	95	83	92	85	99	99	83	82	89	95	**90**	7	50 min
CBR Puncture Strength (ASTM D 6241)													
Puncture Resistance (lbs)	1068	1067	1035	967	832	1101	933	1029	985	956	**997**	80	725 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.133	0.139	0.139	0.137	0.120						**0.134**	0.008	
Sieve No.	100	100	100	100	100						**100**		100 min
Permittivity (ASTM D 4491,Method C)													
Thickness (mil)	121	129	123	137	138	141	130	131	129	112	**129**	9	
Thickness (mm)	3.07	3.28	3.12	3.48	3.51	3.58	3.30	3.33	3.28	2.84	**3.28**	0.22	
Permittivity (Sec-1)	1.12	1.17	1.24	1.06	0.85	0.96	1.15	1.00	1.10	1.32	**1.10**	0.14	1.0 min
Permittivity (GPM/ft2)	83.8	87.5	92.8	79.3	63.6	71.8	86.0	74.8	82.3	98.7	**82.1**	10.3	
Flow rate (LPM/m2)	3413	3566	3779	3231	2591	2926	3505	3048	3352	4023	**3343**	418	
Permittivity (cm/sec)	0.344	0.363	0.387	0.329	0.298	0.344	0.360	0.333	0.360	0.376	**0.357**	0.028	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010035
TRI Log #: 61125

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	2.18	3.54	3.89	2.29	2.35						2.85	0.80	1.0 min
A - MD Average Peel Strength (g/in)	990	1607	1766	1040	1067						1294	364	
B - MD Average Peel Strength (ppi)	4.84	2.49	4.34	1.07	1.96						2.94	1.60	1.0 min
B - MD Average Peel Strength (g/in)	2197	1130	1970	486	890						1335	726	
Note: A and B represent a randomly assigned top and bottom of the sample													
Thickness (ASTM D 5199)					GEONET COMPONENT								
Thickness (mils)	234	234	245	253	244	246	241	245	239	240	242	6	200 min
											234	<< min	
Density (ASTM D 1505)					GEONET COMPONENT								
Density (g/cm3)	0.943	0.943	0.943								0.943	0.000	0.94 min
Tensile Properties (ASTM D 7179, 12 ipm strain rate)					GEONET COMPONENT								
MD Max. Strength (ppi)	67	81	80	70	74						74	6	45 min
MD Elong. @ Max. Strength (%)	21	17	19	21	18						19	2	

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skapa TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010035
TRI Log #: 61125

GEOTEXTILE - SIDE A

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.80	4.96	4.59	4.52	4.97	4.57	4.65	4.29	4.90	5.08	4.73	0.25	
Mass/Unit Area (oz/sq.yd)	11.16	11.54	10.68	10.51	11.56	10.63	10.82	9.98	11.40	11.82	11.01	0.58	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	395	345	397	357	438	350	393	266	308	387	364	50	260 min
TD - Tensile Strength (lbs)	321	306	329	323	308	331	343	314	319	290	318	15	260 min
MD - Elong. @ Max. Load (%)	60	71	71	67	71	61	73	63	65	59	66	5	50 min
TD - Elong. @ Max. Load (%)	108	92	82	83	97	100	91	84	83	103	92	9	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010035
TRI Log #: 61125

GEOTEXTILE - SIDE B

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.21	4.37	4.34	4.73	5.36	5.02	4.77	4.56	4.07	4.14	4.56	0.41	
Mass/Unit Area (oz/sq.yd)	9.79	10.16	10.09	11.00	12.47	11.68	11.10	10.61	9.47	9.63	10.60	0.96	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	414	376	341	268	398	377	345	327	341	428	382	47	260 min
TD - Tensile Strength (lbs)	282	328	323	324	277	258	304	362	360	315	315	38	260 min
MD - Elong. @ Max. Load (%)	63	70	67	61	63	59	67	69	67	67	65	4	50 min
TD - Elong. @ Max. Load (%)	100	83	87	90	103	97	88	80	88	107	92	9	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010070
TRI Log #: 61125

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	3.24	2.42	1.94	1.03	3.32						2.39	0.95	1.0 min
A - MD Average Peel Strength (g/in)	1471	1099	881	468	1507						1085	433	
B - MD Average Peel Strength (ppi)	4.08	1.44	3.50	0.73	1.30						2.21	1.48	1.0 min
B - MD Average Peel Strength (g/in)	1852	654	1589	329	590						1003	673	
Note: A and B represent a randomly assigned top and bottom of the sample													
Thickness (ASTM D 5199)					GEONET COMPONENT								
Thickness (mils)	229	229	230	227	226	231	231	230	231	230	229	2	200 min
											226	<< min	
Density (ASTM D 1505)					GEONET COMPONENT								
Density (g/cm3)	0.943	0.943	0.944								0.943	0.001	0.94 min
Tensile Properties (ASTM D 7179, 12 ipm strain rate)					GEONET COMPONENT								
MD Max. Strength (ppi)	60	63	57	63	60						61	2	45 min
MD Elong. @ Max. Strength (%)	25	25	24	21	25						24	2	

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010070
TRI Log #: 61125

GEOTEXTILE - SIDE A

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.82	4.48	4.58	4.48	4.78	5.38	4.82	4.42	4.02	4.70	4.65	0.35	
Mass/Unit Area (oz/sq.yd)	11.21	10.42	10.65	10.42	11.12	12.51	11.21	10.28	9.35	10.93	10.81	0.82	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	393	348	313	336	398	395	357	335	325	402	360	34	260 min
TD - Tensile Strength (lbs)	310	357	293	306	313	302	297	362	241	290	307	34	260 min
MD - Elong. @ Max. Load (%)	65	71	71	67	71	65	73	73	68	63	69	4	50 min
TD - Elong. @ Max. Load (%)	97	91	87	87	95	99	87	91	87	103	92	6	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010070
TRI Log #: 61125

GEOTEXTILE - SIDE B

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.90	4.92	4.10	4.20	5.63	4.82	4.34	4.18	4.79	4.90	**4.68**	0.47	
Mass/Unit Area (oz/sq.yd)	11.40	11.44	9.54	9.77	13.10	11.21	10.09	9.72	11.14	11.40	**10.88**	1.10	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	421	359	360	351	408	364	360	371	363	383	**374**	23	260 min
TD - Tensile Strength (lbs)	331	301	325	352	329	278	353	314	299	324	**321**	23	260 min
MD - Elong. @ Max. Load (%)	65	73	67	68	69	67	73	79	67	62	**69**	5	50 min
TD - Elong. @ Max. Load (%)	100	91	87	89	99	91	94	83	85	103	**92**	7	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010104
TRI Log #: 61125

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	2.80	2.20	3.78	1.02	3.75						2.71	1.16	1.0 min
A - MD Average Peel Strength (g/in)	1271	999	1716	463	1703						1230	525	
B - MD Average Peel Strength (ppi)	2.49	4.11	1.87	0.88	5.04						2.88	1.68	1.0 min
B - MD Average Peel Strength (g/in)	1130	1866	849	401	2288						1307	764	
Note: A and B represent a randomly assigned top and bottom of the sample													
Thickness (ASTM D 5199)					GEONET COMPONENT								
Thickness (mils)	241	240	243	242	243	244	245	245	245	247	243	2	200 min
											240	<< min	
Density (ASTM D 1505)					GEONET COMPONENT								
Density (g/cm3)	0.942	0.943	0.943								0.943	0.001	0.94 min
Tensile Properties (ASTM D 7179, 12 ipm strain rate)					GEONET COMPONENT								
MD Max. Strength (ppi)	69	77	74	72	68						72	4	45 min
MD Elong. @ Max. Strength (%)	23	20	23	22	25						22	2	

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010104
TRI Log #: 61125

GEOTEXTILE - SIDE A

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	4.76	4.38	4.72	4.33	4.00	4.86	4.07	4.02	4.56	4.62	4.43	0.32	
Mass/Unit Area (oz/sq.yd)	11.07	10.19	10.98	10.07	9.30	11.30	9.47	9.35	10.61	10.75	10.31	0.75	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	409	377	339	346	382	388	329	351	376	335	363	27	260 min
TD - Tensile Strength (lbs)	274	302	325	299	289	318	322	338	306	283	306	20	260 min
MD - Elong. @ Max. Load (%)	62	68	71	71	69	66	67	69	74	62	68	4	50 min
TD - Elong. @ Max. Load (%)	99	90	89	79	93	107	93	87	88	97	92	8	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010104
TRI Log #: 61125

GEOTEXTILE - SIDE B

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	5.02	4.65	4.74	4.61	4.90	5.25	4.47	4.59	3.95	4.53	4.67	0.35	
Mass/Unit Area (oz/sq.yd)	11.68	10.82	11.03	10.72	11.40	12.21	10.40	10.68	9.19	10.54	10.86	0.82	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	464	340	312	386	338	378	346	381	363	406	371	43	260 min
TD - Tensile Strength (lbs)	306	339	360	288	271	314	336	314	298	326	315	26	260 min
MD - Elong. @ Max. Load (%)	71	63	69	75	65	66	65	71	72	65	68	4	50 min
TD - Elong. @ Max. Load (%)	101	91	81	87	97	107	93	79	83	100	92	9	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010139
TRI Log #: 81125

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Peel Strength (ASTM D 7005)													
A - MD Average Peel Strength (ppi)	1.55	1.50	4.00	1.14	2.94						2.23	1.21	1.0 min
A - MD Average Peel Strength (g/in)	704	679	1816	518	1335						1010	548	
B - MD Average Peel Strength (ppi)	1.06	2.29	5.25	0.77	1.79						2.23	1.79	1.0 min
B - MD Average Peel Strength (g/in)	481	1040	2384	347	813						1013	813	
Note: A and B represent a randomly assigned top and bottom of the sample													
Thickness (ASTM D 5199)					GEONET COMPONENT								
Thickness (mils)	230	229	235	234	240	240	235	234	233	233	234	4	200 min
											229	<< min	
Density (ASTM D 1505)					GEONET COMPONENT								
Density (g/cm3)	0.943	0.943	0.943								0.943	0.000	0.94 min
Tensile Properties (ASTM D 7179, 12 ipm strain rate)					GEONET COMPONENT								
MD Max. Strength (ppi)	60	69	70	66	64						66	4	45 min
MD Elong. @ Max. Strength (%)	22	21	18	22	25						21	2	

MD Machine Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010139
TRI Log #: 61125

GEOTEXTILE - SIDE A

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	5.43	5.04	4.63	4.52	4.65	5.25	4.48	4.33	5.02	4.92	**4.83**	0.36	
Mass/Unit Area (oz/sq.yd)	12.63	11.72	10.77	10.51	10.82	12.21	10.42	10.07	11.68	11.44	**11.23**	0.84	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	487	342	296	368	409	435	408	355	364	326	**379**	56	260 min
TD - Tensile Strength (lbs)	345	346	340	343	310	347	374	311	366	263	**335**	32	260 min
MD - Elong. @ Max. Load (%)	67	70	65	67	69	66	77	70	65	69	**69**	3	50 min
TD - Elong. @ Max. Load (%)	110	92	86	87	97	94	90	87	87	109	**94**	9	50 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS
TRI Client: Southwest Liner Systems
Project: Lea Land Landfill Unit IIA

Material: Skaps TN220-2-10 Double Sided Geocomposite
Sample Identification: 0102731010139
TRI Log #: 61125

GEOTEXTILE - SIDE B

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter Circle - Mass (g)	5.17	4.78	4.77	5.34	5.18	5.82	4.48	3.90	4.45	5.17	**4.91**	0.55	
Mass/Unit Area (oz/sq.yd)	12.03	11.12	11.10	12.42	12.05	13.54	10.42	9.07	10.35	12.03	**11.41**	1.27	10 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	406	356	352	356	342	456	352	351	329	356	**366**	38	260 min
TD - Tensile Strength (lbs)	299	318	309	358	314	351	294	301	288	322	**316**	23	260 min
MD - Elong. @ Max. Load (%)	64	68	67	64	58	63	69	74	64	66	**66**	4	50 min
TD - Elong. @ Max. Load (%)	99	88	83	86	95	103	84	89	88	108	**92**	8	50 min

MD Machine Direction TD Transverse Direction

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GEONET INFORMATION

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET INVENTORY

Roll Number	Resin Lot Number	Date	Roll Dimensions		Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft			
102731020001	TILX 586584	12/14/2020	300	15	Yes	Yes	
102731020002	TILX 586584	12/14/2020	300	15	-	Yes	
102731020003	TILX 586584	12/14/2020	300	15	-	Yes	
102731020004	TILX 586584	12/14/2020	300	15	-	Yes	
102731020005	TILX 586584	12/14/2020	300	15	-	Yes	
102731020006	TILX 586584	12/14/2020	300	15	-	Yes	
102731020007	TILX 586584	12/14/2020	300	15	-	Yes	
102731020008	TILX 586584	12/14/2020	300	15	-	Yes	
102731020009	TILX 586584	12/14/2020	300	15	-	Yes	
102731020010	TILX 586584	12/14/2020	300	15	-	Yes	
102731020011	TILX 586584	12/14/2020	300	15	-	Yes	
102731020012	TILX 586584	12/14/2020	300	15	-	Yes	
102731020013	TILX 586584	12/14/2020	300	15	-	Yes	
102731020014	TILX 586584	12/14/2020	300	15	-	Yes	
102731020015	TILX 586584	12/14/2020	300	15	-	Yes	
102731020016	TILX 586584	12/14/2020	300	15	-	Yes	
102731020017	TILX 586584	12/14/2020	300	15	-	Yes	
102731020018	TILX 586584	12/14/2020	300	15	-	Yes	
102731020019	TILX 586584	12/14/2020	300	15	-	Yes	
102731020020	TILX 586584	12/14/2020	300	15	-	Yes	
102731020021	TILX 586584	12/14/2020	300	15	-	Yes	
102731020022	TILX 586584	12/14/2020	300	15	-	Yes	
102731020023	TILX 586584	12/14/2020	300	15	-	Yes	
102731020024	TILX 586584	12/14/2020	300	15	Yes	Yes	
102731020025	TILX 586584	12/14/2020	300	15	-	Yes	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET INVENTORY

Roll Number	Resin Lot Number	Date	Roll Dimensions		Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft			
102731020026	TILX 586584	12/14/2020	300	15	-	Yes	
102731020027	TILX 586584	12/14/2020	300	15	-	Yes	
102731020028	TILX 586584	12/14/2020	300	15	-	Yes	
102731020029	TILX 586584	12/14/2020	300	15	-	Yes	
102731020030	TILX 586584	12/14/2020	300	15	-	Yes	
102731020031	TILX 586584	12/14/2020	300	15	-	Yes	
102731020032	TILX 586584	12/14/2020	300	15	-	Yes	
102731020033	TILX 586584	12/14/2020	300	15	-	Yes	
102731020034	TILX 586584	12/14/2020	300	15	-	Yes	
102731020035	TILX 586584	12/14/2020	300	15	-	Yes	
102731020036	TILX 586584	12/14/2020	300	15	-	Yes	
102731020037	TILX 586584	12/14/2020	300	15	-	Yes	
102731020038	TILX 586584	12/14/2020	300	15	-	Yes	
102731020039	TILX 586584	12/14/2020	300	15	-	Yes	
102731020040	TILX 586584	12/14/2020	300	15	-	Yes	
102731020041	TILX 586584	12/14/2020	300	15	-	Yes	
102731020042	TILX 586584	12/14/2020	300	15	-	Yes	
102731020043	TILX 586584	12/14/2020	300	15	-	Yes	
102731020044	TILX 586584	12/14/2020	300	15	-	Yes	
102731020045	TILX 586584	12/14/2020	300	15	Yes	Yes	
102731020046	TILX 586584	12/14/2020	300	15	-	Yes	
102731020047	TILX 586584	12/14/2020	300	15	-	Yes	
102731020048	TILX 586584	12/14/2020	300	15	-	Yes	
102731020049	TILX 586584	12/14/2020	300	15	-	Yes	
102731020050	TILX 586584	12/14/2020	300	15	-	Yes	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET INVENTORY

Roll Number	Resin Lot Number	Date	Roll Dimensions		Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft			
102731020051	TILX 586584	12/14/2020	300	15	-	Yes	
102731020052	TILX 586584	12/14/2020	300	15	-	Yes	
102731020053	TILX 586584	12/14/2020	300	15	-	Yes	
102731020054	TILX 586584	12/14/2020	300	15	-	Yes	
102731020055	TILX 586584	12/14/2020	300	15	-	Yes	
102731020056	TILX 586584	12/14/2020	300	15	-	Yes	
102731020057	TILX 586584	12/14/2020	300	15	-	Yes	
102731020058	TILX 586584	12/14/2020	300	15	-	Yes	
102731020059	TILX 586584	12/14/2020	300	15	-	Yes	
102731020060	TILX 586584	12/14/2020	300	15	-	Yes	
102731020061	TILX 586584	12/14/2020	300	15	-	Yes	
102731020062	TILX 586584	12/14/2020	300	15	-	Yes	
102731020063	TILX 586584	12/14/2020	300	15	-	Yes	
102731020064	TILX 586584	12/14/2020	300	15	-	Yes	
102731020065	TILX 586584	12/14/2020	300	15	-	Yes	
102731020066	TILX 586584	12/14/2020	300	15	-	Yes	
102731020067	TILX 586584	12/14/2020	300	15	-	Yes	
102731020068	TILX 586584	12/14/2020	300	15	Yes	Yes	
102731020069	TILX 586584	12/14/2020	300	15	-	Yes	
102731020070	TILX 586584	12/14/2020	300	15	-	Yes	
102731020071	TILX 586584	12/14/2020	300	15	-	Yes	
102731020072	TILX 586584	12/14/2020	300	15	-	Yes	
102731020073	TILX 586584	12/14/2020	300	15	-	Yes	
102731020074	TILX 586584	12/14/2020	300	15	-	Yes	
102731020075	TILX 586584	12/14/2020	300	15	-	Yes	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET INVENTORY

Roll Number	Resin Lot Number	Date	Roll Dimensions		Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft			
102731020076	TILX 586584	12/14/2020	300	15	-	Yes	
102731020077	TILX 586584	12/14/2020	300	15	-	Yes	
102731020078	TILX 586584	12/14/2020	300	15	-	Yes	
102731020079	TILX 586584	12/14/2020	300	15	-	Yes	
102731020080	TILX 586584	12/14/2020	300	15	-	Yes	
102731020081	TILX 586584	12/14/2020	300	15	-	Yes	
102731020082	TILX 586584	12/14/2020	300	15	-	Yes	
102731020083	TILX 586584	12/14/2020	300	15	-	Yes	
102731020084	TILX 586584	12/14/2020	300	15	-	Yes	
102731020085	TILX 586584	12/14/2020	300	15	-	Yes	
102731020086	TILX 586584	12/14/2020	300	15	-	Yes	
102731020087	TILX 586584	12/14/2020	300	15	-	Yes	
102731020088	TILX 586584	12/14/2020	300	15	-	Yes	
102731020089	TILX 586584	12/14/2020	300	15	-	Yes	
102731020090	TILX 586584	12/14/2020	300	15	-	Yes	
102731020091	TILX 586584	12/14/2020	300	15	Yes	Yes	
102731020092	TILX 586584	12/14/2020	300	15	-	Yes	
102731020093	TILX 586584	12/14/2020	300	15	-	Yes	
102731020094	TILX 586584	12/14/2020	300	15	-	Yes	
102731020095	TILX 586584	12/14/2020	300	15	-	Yes	
102731020096	TILX 586584	12/14/2020	300	15	-	Yes	
102731020097	TILX 586584	12/14/2020	300	15	-	Yes	
102731020098	TILX 586584	12/14/2020	300	15	-	Yes	
102731020099	TILX 586584	12/14/2020	300	15	-	Yes	
102731020100	TILX 586584	12/14/2020	300	15	-	Yes	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET INVENTORY

Roll Number	Resin Lot Number	Date	Roll Dimensions		Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft			
102731020101	TILX 586584	12/14/2020	300	15	-	Yes	
102731020102	TILX 586584	12/14/2020	300	15	-	Yes	
102731020103	TILX 586584	12/14/2020	300	15	-	Yes	
102731020104	TILX 586584	12/14/2020	300	15	-	Yes	
102731020105	TILX 586584	12/14/2020	300	15	-	Yes	
102731020106	TILX 586584	12/14/2020	300	15	-	Yes	
102731020107	TILX 586584	12/14/2020	300	15	-	Yes	
102731020108	TILX 586584	12/14/2020	300	15	-	Yes	
102731020109	TILX 586584	12/14/2020	300	15	-	Yes	
102731020110	TILX 586584	12/14/2020	300	15	-	Yes	
102731020111	TILX 586584	12/14/2020	300	15	-	Yes	
102731020112	TILX 586584	12/14/2020	300	15	-	Yes	

December 14, 2020
Southwest Liner Systems Inc.
P.O. Box 1972
Bernalillo, NM, 87004

Ref. : Lea Land LF Unit IIA, NM
Customer P.O. # SW2101
Product : TN 220

We hereby certify that the TN 220 drainage geonet, 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				
Thickness	ASTM D 5199	mil	200	MAV[3]
Carbon Black	ASTM D 4218	%	2.0	MAV
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[1]	ASTM D 4716	m^2/sec	2.0×10^{-3}	MAV

Notes:
1. *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. *Minium average value*

Sincerely,
Rajesh Patel
Rajesh Patel
QA Manager

APPROVED 5 QA

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet					
	Resin Lot Number	Density (gm/cc)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020001	TILX 586584	0.9566	219	2.38	57	3.26×10^{-3}
102731020002	TILX 586584	0.9566				
102731020003	TILX 586584	0.9566				
102731020004	TILX 586584	0.9566				
102731020005	TILX 586584	0.9566				
102731020006	TILX 586584	0.9566				
102731020007	TILX 586584	0.9566				
102731020008	TILX 586584	0.9566				
102731020009	TILX 586584	0.9566				
102731020010	TILX 586584	0.9566				
102731020011	TILX 586584	0.9566				
102731020012	TILX 586584	0.9566				
102731020013	TILX 586584	0.9566				
102731020014	TILX 586584	0.9566				
102731020015	TILX 586584	0.9566	225	2.27	52	
102731020016	TILX 586584	0.9566				
102731020017	TILX 586584	0.9566				
102731020018	TILX 586584	0.9566				
102731020019	TILX 586584	0.9566				
102731020020	TILX 586584	0.9566				
102731020021	TILX 586584	0.9566				
102731020022	TILX 586584	0.9566				
102731020023	TILX 586584	0.9566				
102731020024	TILX 586584	0.9566				
102731020025	TILX 586584	0.9566				
102731020026	TILX 586584	0.9566				
102731020027	TILX 586584	0.9566				
102731020028	TILX 586584	0.9566				
102731020029	TILX 586584	0.9566				
102731020030	TILX 586584	0.9566	217	2.45	58	
102731020031	TILX 586584	0.9566				
102731020032	TILX 586584	0.9566				
102731020033	TILX 586584	0.9566				
102731020034	TILX 586584	0.9566				
102731020035	TILX 586584	0.9566				

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet					
	Resin Lot Number	Density (gm/cc)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020036	TILX 586584	0.9566				
102731020037	TILX 586584	0.9566				
102731020038	TILX 586584	0.9566				
102731020039	TILX 586584	0.9566				
102731020040	TILX 586584	0.9566				
102731020041	TILX 586584	0.9566				
102731020042	TILX 586584	0.9566				
102731020043	TILX 586584	0.9566				
102731020044	TILX 586584	0.9566				
102731020045	TILX 586584	0.9566	227	2.76	54	
102731020046	TILX 586584	0.9566				
102731020047	TILX 586584	0.9566				
102731020048	TILX 586584	0.9566				
102731020049	TILX 586584	0.9566				
102731020050	TILX 586584	0.9566				
102731020051	TILX 586584	0.9566				
102731020052	TILX 586584	0.9566				
102731020053	TILX 586584	0.9566				
102731020054	TILX 586584	0.9566				
102731020055	TILX 586584	0.9566				
102731020056	TILX 586584	0.9566				
102731020057	TILX 586584	0.9566				
102731020058	TILX 586584	0.9566				
102731020059	TILX 586584	0.9566				
102731020060	TILX 586584	0.9566	222	2.55	59	
102731020061	TILX 586584	0.9566				
102731020062	TILX 586584	0.9566				
102731020063	TILX 586584	0.9566				
102731020064	TILX 586584	0.9566				
102731020065	TILX 586584	0.9566				
102731020066	TILX 586584	0.9566				
102731020067	TILX 586584	0.9566				
102731020068	TILX 586584	0.9566				
102731020069	TILX 586584	0.9566				
102731020070	TILX 586584	0.9566				

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Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet					
	Resin Lot Number	Density (gm/cc)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020071	TILX 586584	0.9566				
102731020072	TILX 586584	0.9566				
102731020073	TILX 586584	0.9566				
102731020074	TILX 586584	0.9566				
102731020075	TILX 586584	0.9566	223	2.61	53	2.68×10^{-4}
102731020076	TILX 586584	0.9566				
102731020077	TILX 586584	0.9566				
102731020078	TILX 586584	0.9566				
102731020079	TILX 586584	0.9566				
102731020080	TILX 586584	0.9566				
102731020081	TILX 586584	0.9566				
102731020082	TILX 586584	0.9566				
102731020083	TILX 586584	0.9566				
102731020084	TILX 586584	0.9566				
102731020085	TILX 586584	0.9566				
102731020086	TILX 586584	0.9566				
102731020087	TILX 586584	0.9566				
102731020088	TILX 586584	0.9566				
102731020089	TILX 586584	0.9566				
102731020090	TILX 586584	0.9566	215	2.74	55	
102731020091	TILX 586584	0.9566				
102731020092	TILX 586584	0.9566				
102731020093	TILX 586584	0.9566				
102731020094	TILX 586584	0.9566				
102731020095	TILX 586584	0.9566				
102731020096	TILX 586584	0.9566				
102731020097	TILX 586584	0.9566				
102731020098	TILX 586584	0.9566				
102731020099	TILX 586584	0.9566				
102731020100	TILX 586584	0.9566				
102731020101	TILX 586584	0.9566				
102731020102	TILX 586584	0.9566				
102731020103	TILX 586584	0.9566				
102731020104	TILX 586584	0.9566				
102731020105	TILX 586584	0.9566	226	2.54	52	

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet					
	Resin Lot Number	Density (gm/cc)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020106	TILX 586584	0.9566				
102731020107	TILX 586584	0.9566				
102731020108	TILX 586584	0.9566				
102731020109	TILX 586584	0.9566				
102731020110	TILX 586584	0.9566				
102731020111	TILX 586584	0.9566				
102731020112	TILX 586584	0.9566				

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Southwest Liner Systems Inc.
Project Name : Lea Land LF Unit IIA, NM
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 220

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
Osterman and Company	TILX 586584	Density	ASTM D1505	gm/cc	0.9550	0.9519
		Melt flow Index	ASTM D1238[(a)]	gm/10 min	0.18	0.20

(a) Condition 190/2.16
* Data from SKAPS Quality Control

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

February 2, 2021
Southwest Liner Systems Inc.
P.O. Box 1972
Bernalillo, NM, 87004

Ref. : Lea Land LF Unit IIA, NM
Customer P.O. # SW2101
Product : TN 220

We hereby certify that the TN 220 drainage geonet, 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				
Mass per Unit Area	ASTM D 5261	lbs/ft^2	0.16	MAV[3]
Thickness	ASTM D 5199	mil	200	MAV
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[1]	ASTM D 4716	m^2/sec	2.0×10^{-3}	MAV

Notes:
1. *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. *Minium average value*

Sincerely,
Rajesh Patel
Rajesh Patel
QA Manager

APPROVED 5 QA

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet						
	Resin Lot Number	Density (gm/cc)	Mass Per Unit Area (lb/ft^2)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020001	TILX 586584	0.9566	0.184	219	2.38	57	3.26×10^{-a}
102731020002	TILX 586584	0.9566					
102731020003	TILX 586584	0.9566					
102731020004	TILX 586584	0.9566					
102731020005	TILX 586584	0.9566					
102731020006	TILX 586584	0.9566					
102731020007	TILX 586584	0.9566					
102731020008	TILX 586584	0.9566					
102731020009	TILX 586584	0.9566					
102731020010	TILX 586584	0.9566					
102731020011	TILX 586584	0.9566					
102731020012	TILX 586584	0.9566					
102731020013	TILX 586584	0.9566					
102731020014	TILX 586584	0.9566					
102731020015	TILX 586584	0.9567	0.183	225	2.27	52	
102731020016	TILX 586584	0.9567					
102731020017	TILX 586584	0.9567					
102731020018	TILX 586584	0.9567					
102731020019	TILX 586584	0.9567					
102731020020	TILX 586584	0.9567	0.176	220	2.32	51	
102731020021	TILX 586584	0.9567					
102731020022	TILX 586584	0.9567					
102731020023	TILX 586584	0.9567					
102731020024	TILX 586584	0.9567					
102731020025	TILX 586584	0.9567					
102731020026	TILX 586584	0.9567					
102731020027	TILX 586584	0.9567					
102731020028	TILX 586584	0.9567					
102731020029	TILX 586584	0.9567					
102731020030	TILX 586584	0.9564	0.179	217	2.45	58	
102731020031	TILX 586584	0.9564					
102731020032	TILX 586584	0.9564					
102731020033	TILX 586584	0.9564					
102731020034	TILX 586584	0.9564					
102731020035	TILX 586584	0.9564					

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet						
	Resin Lot Number	Density (gm/cc)	Mass Per Unit Area (lb/ft^2)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020036	TILX 586584	0.9564					
102731020037	TILX 586584	0.9564					
102731020038	TILX 586584	0.9564					
102731020039	TILX 586584	0.9564					
102731020040	TILX 586584	0.9564					
102731020041	TILX 586584	0.9564					
102731020042	TILX 586584	0.9564					
102731020043	TILX 586584	0.9564					
102731020044	TILX 586584	0.9564					
102731020045	TILX 586584	0.9574	0.175	227	2.76	54	
102731020046	TILX 586584	0.9574					
102731020047	TILX 586584	0.9574					
102731020048	TILX 586584	0.9574					
102731020049	TILX 586584	0.9574					
102731020050	TILX 586584	0.9574					
102731020051	TILX 586584	0.9574					
102731020052	TILX 586584	0.9574					
102731020053	TILX 586584	0.9574					
102731020054	TILX 586584	0.9574					
102731020055	TILX 586584	0.9574					
102731020056	TILX 586584	0.9574					
102731020057	TILX 586584	0.9574					
102731020058	TILX 586584	0.9574					
102731020059	TILX 586584	0.9574					
102731020060	TILX 586584	0.9571	0.177	222	2.55	59	
102731020061	TILX 586584	0.9571					
102731020062	TILX 586584	0.9571					
102731020063	TILX 586584	0.9571					
102731020064	TILX 586584	0.9571					
102731020065	TILX 586584	0.9571					
102731020066	TILX 586584	0.9571					
102731020067	TILX 586584	0.9571					
102731020068	TILX 586584	0.9571					
102731020069	TILX 586584	0.9571					
102731020070	TILX 586584	0.9571	0.174	224	2.67	54	

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet						
	Resin Lot Number	Density (gm/cc)	Mass Per Unit Area (lb/ft^2)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020071	TILX 586584	0.9571					
102731020072	TILX 586584	0.9571					
102731020073	TILX 586584	0.9571					
102731020074	TILX 586584	0.9571					
102731020075	TILX 586584	0.9565	0.180	223	2.61	53	2.68×10^{-8}
102731020076	TILX 586584	0.9565					
102731020077	TILX 586584	0.9565					
102731020078	TILX 586584	0.9565					
102731020079	TILX 586584	0.9565					
102731020080	TILX 586584	0.9565					
102731020081	TILX 586584	0.9565					
102731020082	TILX 586584	0.9565					
102731020083	TILX 586584	0.9565					
102731020084	TILX 586584	0.9565					
102731020085	TILX 586584	0.9565					
102731020086	TILX 586584	0.9565					
102731020087	TILX 586584	0.9565					
102731020088	TILX 586584	0.9565					
102731020089	TILX 586584	0.9565					
102731020090	TILX 586584	0.9569	0.181	215	2.74	55	
102731020091	TILX 586584	0.9569					
102731020092	TILX 586584	0.9569					
102731020093	TILX 586584	0.9569					
102731020094	TILX 586584	0.9569					
102731020095	TILX 586584	0.9569					
102731020096	TILX 586584	0.9569					
102731020097	TILX 586584	0.9569					
102731020098	TILX 586584	0.9569					
102731020099	TILX 586584	0.9569					
102731020100	TILX 586584	0.9569					
102731020101	TILX 586584	0.9569					
102731020102	TILX 586584	0.9569					
102731020103	TILX 586584	0.9569					
102731020104	TILX 586584	0.9569					
102731020105	TILX 586584	0.9572	0.182	226	2.54	52	

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

Product: TN 220
Project : Lea Land LF Unit IIA, NM

We hereby certify the following test results for the above referenced product/project :

Geonet Roll Number	Geonet						
	Resin Lot Number	Density (gm/cc)	Mass Per Unit Area (lb/ft^2)	Thickness (mils)	Carbon Black (%)	Tensile Strength MD (lb/in)	Transmissivity (m^2/sec)
102731020106	TILX 586584	0.9572					
102731020107	TILX 586584	0.9572					
102731020108	TILX 586584	0.9572					
102731020109	TILX 586584	0.9572					
102731020110	TILX 586584	0.9572	0.178	216	2.36	56	
102731020111	TILX 586584	0.9572					
102731020112	TILX 586584	0.9572					

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

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POLYETHYLENE RESIN CERTIFICATION

Customer Name : Southwest Liner Systems Inc.
Project Name : Lea Land LF Unit IIA, NM
Geocomposite Manufacturer : SKAPS Industries
Geocomposite Production Plant : Commerce, GA
Geocomposite Brand Name : TN 220

We hereby certify the following test results for the above referenced product/project:

Resin Manufacturer	Resin Lot Number	Property	Test Method	Units	Resin Manufacturer Value	Tested Value*
Osterman and Company	TILX 586584	Density	ASTM D1505	gm/cc	0.9550	0.9519
		Melt flow Index	ASTM D1238[(a)]	gm/10 min	0.18	0.20

(a) Condition 190/2.16
* Data from SKAPS Quality Control

K-60

571 Industrial Parkway, Commerce, GA 30529 * Ph : 706-336-7000 * Fax : 706-336-7007 * Email : contact@skaps.com

GEONET DEPLOYMENT LOG

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
1	1020023	7/12/2021	MM	300	14.5	4,350	
2	1020003	7/12/2021	MM	300	14.5	4,350	
3	1020017	7/12/2021	MM	300	14.5	4,350	
4	1020024	7/12/2021	MM	300	14.5	4,350	
5	1020027	7/12/2021	MM	300	14.5	4,350	
6	1020004	7/12/2021	MM	125	14.5	1,813	
7	1020004	7/12/2021	MM	125	14.5	1,813	
8	1020004	7/12/2021	MM	50	14.5	725	
9	1020008	7/12/2021	MM	75	14.5	1,088	
10	1020008	7/12/2021	MM	122	14.5	1,769	
11	1020008	7/12/2021	MM	100	14.5	1,450	
12	1020077	7/12/2021	MM	20	14.5	290	
13	20018	7/15/2021	MM	300	14.5	4,350	
14	20012	7/15/2021	MM	300	14.5	4,350	
15	20003	7/15/2021	MM	300	14.5	4,350	
16	20079	7/15/2021	MM	300	14.5	4,350	
17	20076	7/15/2021	MM	300	14.5	4,350	
18	20071	7/15/2021	MM	300	14.5	4,350	
19	20077	7/15/2021	MM	125	14.5	1,813	
20	20077	7/15/2021	MM	125	14.5	1,813	
21	20005	7/15/2021	MM	125	14.5	1,813	
22	20005	7/15/2021	MM	123	14.5	1,784	
23	20005	7/15/2021	MM	52	14.5	754	
24	20010	7/15/2021	MM	73	14.5	1,059	
25	20010	7/15/2021	MM	125	14.5	1,813	
26	20073	7/15/2021	MM	300	14.5	4,350	

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UNIT IIA CONSTRUCTION
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GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
27	20014	7/15/2021	MM	300	15	4,500	
28	20058	7/15/2021	MM	300	15	4,500	
29	20007	7/15/2021	MM	300	15	4,500	
30	20021	7/15/2021	MM	300	15	4,500	
31	20011	7/15/2021	MM	300	15	4,500	
32	20010	7/15/2021	MM	101	15	1,515	
33	20095	7/15/2021	MM	25	15	375	
34	20095	7/15/2021	MM	125	15	1,875	
35	20095	7/15/2021	MM	125	15	1,875	
36	20095	7/15/2021	MM	25	15	375	
37	20013	7/15/2021	MM	125	15	1,875	
38	20013	7/15/2021	MM	125	15	1,875	
39	20013	7/15/2021	MM	50	15	750	
40	N/A (A)	7/15/2021	MM	75	15	1,125	
41	20020	7/15/2021	MM	300	15	4,500	
42	20016	7/15/2021	MM	300	15	4,500	
43	20015	7/15/2021	MM	300	15	4,500	
44	20081	7/15/2021	MM	300	15	4,500	
45	20078	7/15/2021	MM	300	15	4,500	
46	20001	7/15/2021	MM	300	15	4,500	
47	N/A (B)	7/15/2021	MM	125	15	1,875	
48	N/A (C)	7/15/2021	MM	125	15	1,875	
49	20031	7/15/2021	MM	125	15	1,875	
50	20031	7/15/2021	MM	125	15	1,875	
51	20031	7/15/2021	MM	50	15	750	
52	20069	7/15/2021	MM	75	15	1,125	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
53	20069	7/15/2021	MM	125	15	1,875	
54	20026	7/15/2021	MM	300	15	4,500	
55	20019	7/15/2021	MM	300	15	4,500	
56	20022	7/15/2021	MM	300	15	4,500	
57	20060	7/15/2021	MM	300	15	4,500	
58	20025	7/15/2021	MM	300	15	4,500	
59	20069	7/15/2021	MM	125	15	1,875	
60	20059	7/15/2021	MM	25	15	375	
61	20059	7/15/2021	MM	125	15	1,875	
62	20059	7/15/2021	MM	125	15	1,875	
63	20059	7/15/2021	MM	50	15	750	
64	20036	7/15/2021	MM	70	15	1,050	
65	20036	7/15/2021	MM	120	15	1,800	
66	N/A	7/19/2021	MM	125	15	1,875	
67	20044	7/20/2021	MM	125	15	1,875	
68	20050	7/20/2021	MM	125	15	1,875	
69	20074	7/20/2021	MM	125	15	1,875	
70	20009	7/20/2021	MM	125	15	1,875	
71	20056	7/20/2021	MM	125	15	1,875	
72	N/A	7/20/2021	MM	80	15	1,200	
73	20047	7/20/2021	MM	55	15	825	
74	20047	7/20/2021	MM	125	15	1,875	
75	20047	7/20/2021	MM	125	15	1,875	
76	20037	7/20/2021	MM	10	15	150	
77	20037	7/20/2021	MM	125	15	1,875	
78	20037	7/20/2021	MM	125	15	1,875	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
79	20037	7/20/2021	MM	47	15	705	
80	20052	7/20/2021	MM	78	15	1,170	
81	20062	7/20/2021	MM	300	15	4,500	
82	20057	7/20/2021	MM	300	15	4,500	
83	20006	7/20/2021	MM	300	15	4,500	
84	20067	7/20/2021	MM	300	15	4,500	
85	20064	7/20/2021	MM	300	15	4,500	
86	20072	7/20/2021	MM	300	15	4,500	
87	20052	7/20/2021	MM	125	15	1,875	
88	20052	7/20/2021	MM	97	15	1,455	
89	20101	7/20/2021	MM	22	15	330	
90	20101	7/20/2021	MM	125	15	1,875	
91	20101	7/20/2021	MM	125	15	1,875	
92	20101	7/20/2021	MM	33	15	495	
93	20093	7/20/2021	MM	89	15	1,335	
94	20093	7/20/2021	MM	125	15	1,875	
95	20043	7/20/2021	MM	300	15	4,500	
96	20065	7/20/2021	MM	300	15	4,500	
97	20080	7/20/2021	MM	300	15	4,500	
98	20035	7/20/2021	MM	300	15	4,500	
99	20075	7/20/2021	MM	300	15	4,500	
100	20045	7/20/2021	MM	300	15	4,500	
101	20028	7/20/2021	MM	300	15	4,500	
102	20048	7/20/2021	MM	300	15	4,500	
103	20029	7/20/2021	MM	300	15	4,500	
104	20090	7/20/2021	MM	300	15	4,500	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
105	20085	7/20/2021	MM	300	15	4,500	
106	20093	7/20/2021	MM	91	15	1,365	
107	20099	7/20/2021	MM	36	15	540	
108	20099	7/20/2021	MM	125	15	1,875	
109	20099	7/20/2021	MM	125	15	1,875	
110	20099	7/20/2021	MM	14	15	210	
111	20106	7/20/2021	MM	111	15	1,665	
112	20106	7/20/2021	MM	125	15	1,875	
113	20106	7/20/2021	MM	87	15	1,305	
114	20106	7/20/2021	MM	36	15	540	
115	20105	7/20/2021	MM	125	15	1,875	
116	20105	7/20/2021	MM	125	15	1,875	
117	20105	7/20/2021	MM	36	15	540	
118	20082	7/20/2021	MM	89	15	1,335	
119	20082	7/20/2021	MM	125	15	1,875	
120	20082	7/20/2021	MM	186	15	2,790	
121	0092	7/23/2021	MM	220	15	3,300	
122	0092	7/23/2021	MM	73	15	1,095	
123	100	7/23/2021	MM	134	15	2,010	
124	100	7/23/2021	MM	165	15	2,475	
125	103	7/23/2021	MM	41	15	615	
126	103	7/23/2021	MM	206	15	3,090	
127	103	7/23/2021	MM	56	15	840	
128	0087	7/23/2021	MM	150	15	2,250	
129	0087	7/23/2021	MM	150	15	2,250	
130	0083	7/23/2021	MM	56	15	840	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
131	0083	7/23/2021	MM	206	15	3,090	
132	0083	7/23/2021	MM	41	15	615	
133	0088	7/23/2021	MM	166	15	2,490	
134	0088	7/23/2021	MM	134	15	2,010	
135	0097	7/23/2021	MM	72	15	1,080	
136	0097	7/23/2021	MM	200	15	3,000	
137	0097	7/23/2021	MM	26	15	390	
138	0091	7/23/2021	MM	196	15	2,940	
139	0091	7/23/2021	MM	104	15	1,560	
140	0089	7/23/2021	MM	110	15	1,650	
141	0089	7/23/2021	MM	190	15	2,850	
142	0084	7/23/2021	MM	26	15	390	
143	0084	7/23/2021	MM	219	15	3,285	
144	0084	7/23/2021	MM	50	15	750	
145	0102	7/23/2021	MM	164	15	2,460	
146	0102	7/23/2021	MM	134	15	2,010	
147	0096	7/23/2021	MM	97	15	1,455	
148	0096	7/23/2021	MM	203	15	3,045	
149	0098	7/23/2021	MM	18	15	270	
150	0098	7/23/2021	MM	178	15	2,670	
151	0098	7/23/2021	MM	104	15	1,560	
152	0086	7/23/2021	MM	48	15	720	
153	0086	7/23/2021	MM	135	15	2,025	
154	0086	7/23/2021	MM	117	15	1,755	
155	0094	7/23/2021	MM	75	15	1,125	
156	0094	7/23/2021	MM	28	15	420	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
157	0094	7/23/2021	MM	33	15	495	
158	0104	7/23/2021	MM	37	15	555	
159	0104	7/23/2021	MM	45	15	675	
160	0104	7/23/2021	MM	17	15	255	
161	0104	7/23/2021	MM	188	15	2,820	
162	0104	7/23/2021	MM	15	15	225	
163	0041	7/23/2021	MM	155	15	2,325	
164	0041	7/23/2021	MM	145	15	2,175	
165	0066	7/23/2021	MM	40	15	600	
166	0066	7/23/2021	MM	185	15	2,775	
167	0066	7/23/2021	MM	75	15	1,125	
168	0054	7/23/2021	MM	110	15	1,650	
169	0054	7/23/2021	MM	147	15	2,205	
170	0054	7/23/2021	MM	43	15	645	
171	0061	7/23/2021	MM	113	15	1,695	
172	0061	7/23/2021	MM	143	15	2,145	
173	0061	7/23/2021	MM	44	15	660	
174	0039	7/23/2021	MM	110	15	1,650	
175	0039	7/23/2021	MM	120	15	1,800	
176	0039	7/23/2021	MM	70	15	1,050	
177	0030	7/23/2021	MM	39	15	585	
178	0030	7/23/2021	MM	104	15	1,560	
179	0030	7/23/2021	MM	94	15	1,410	
180	0030	7/23/2021	MM	63	15	945	
181	0042	7/23/2021	MM	14	15	210	
182	0042	7/23/2021	MM	62	15	930	

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEONET DEPLOYMENT LOG

Panel No.	Roll No.	Date Placed	QA Monitor	Panel Dimensions			Comments
				Length, ft	Width, ft	Area, sf	
183	0042	7/23/2021	MM	54	15		
184	0042	7/23/2021	MM	42	15		
185	0042	7/23/2021	MM	27	15		

APPENDIX L

LEACHATE COLLECTION SYSTEM AGGREGATE AND GEOTEXTILE INFORMATION

Includes pages L-1 through L-8

CONTENTS

LCS Aggregate Gradation Curve	L-1
Geotextile (10 oz/sy) Information	L-3

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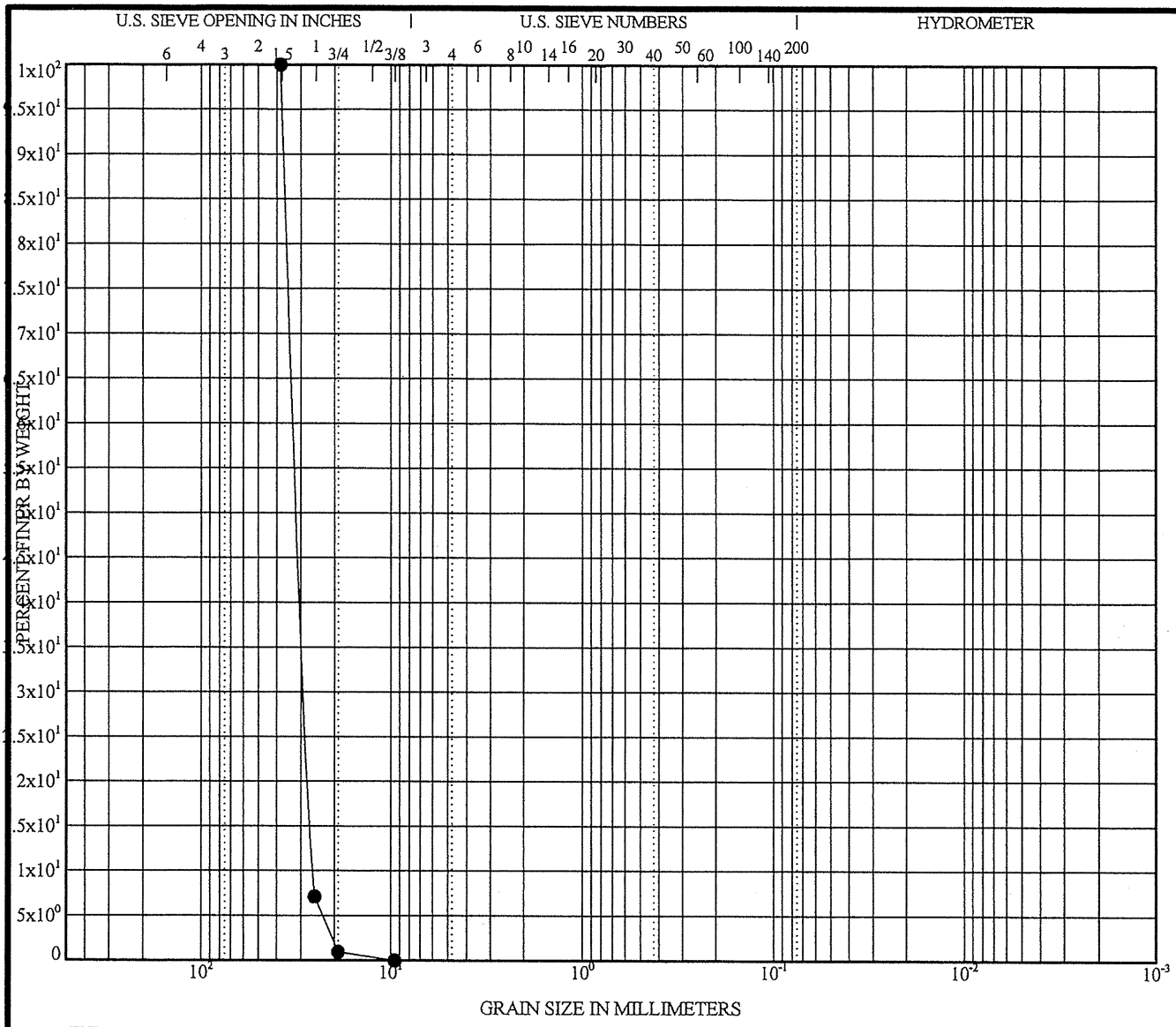
LCS AGGREGATE GRADATION CURVE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	**Sieve 0.0**	**Leachate Rock LR-1**				**0.96**	**1.24**

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**Sieve 0.0**	**38.1**	**31.996**	**28.069**	**25.722**				

US GRAIN SIZE LEA LAND UNIT 11A.GPJ 3/1/21

-

Telephone:
Fax:

GRAIN SIZE DISTRIBUTION

Project: Lea Land Unit 11A

Number: 6041-001-17-00

GEOTEXTILE (10 OZ/SY)
QUALITY CONTROL DATA

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOTEXTILE INVENTORY

Item No.	Roll No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731020001	TILX 586584	4/2/2021	300	14.5	10 oz/sy	Yes	Yes	-
0102731020002	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020003	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020004	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020005	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020006	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020007	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020008	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020009	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020010	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020011	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020012	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020013	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020014	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020015	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020016	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020017	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020018	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020019	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020020	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020021	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020022	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020023	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020024	TILX 586584	4/2/2021	300	14.5	10 oz/sy	Yes	Yes	-
0102731020025	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020026	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020027	TILX 586584	4/2/2021	300	14.5	10 oz/sy		Yes	-
0102731020028	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020029	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020030	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020031	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020032	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020033	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020034	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020035	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020036	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020037	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020038	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020039	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020040	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020041	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020042	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020043	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-

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LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOTEXTILE INVENTORY

Item No.	Roll No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731020044	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020045	TILX 586584	4/3/2021	300	14.5	10 oz/sy	Yes	Yes	-
0102731020046	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020047	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020048	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020049	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020050	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020051	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020052	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020053	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020054	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020055	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020056	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020057	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020058	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020059	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020060	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020061	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020062	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020063	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020064	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020065	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020066	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020067	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020068	TILX 586584	4/3/2021	300	14.5	10 oz/sy	Yes	Yes	-
0102731020069	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020070	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020071	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020072	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020073	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020074	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020075	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020076	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020077	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020078	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020079	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020080	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020081	TILX 586584	4/3/2021	300	14.5	10 oz/sy		Yes	-
0102731020082	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020083	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020084	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020085	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020086	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-

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Received by OCD: 9/8/2022 10:14:59 AM

LEA LAND LANDFILL
UNIT IIA CONSTRUCTION
6041-001-17-00
GEOTEXTILE INVENTORY

Item No.	Roll No.	Date	Roll Dimensions		Thickness	Conformance Sample (Yes/No)	MQC Certificate (Yes/No)	Comments
			Length, ft	Width, ft				
0102731020087	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020088	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020089	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020090	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020091	TILX 586584	4/4/2021	300	14.5	10 oz/sy	Yes	Yes	-
0102731020092	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020093	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020094	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020095	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020096	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020097	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020098	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020099	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020100	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020101	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020102	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020103	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020104	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020105	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-
0102731020106	TILX 586584	4/4/2021	300	14.5	10 oz/sy		Yes	-

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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

December 4, 2020
Southwest Liner Systems Inc.
P.O. Box 1972
Bernalillo, NM 87004
PO : SW2101

Dear Sir/Madam:

This is to certify that SKAPS GE110 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 GE110 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 GE110 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)	10.00 (339)
Grab Tensile	ASTM D 4632	lbs (kN)	260 (1.16)
Grab Elongation	ASTM D 4632	%	50
Trapezoidal Tear	ASTM D 4533	lbs (kN)	100 (0.44)
CBR Puncture	ASTM D 6241	lbs (kN)	725 (3.22)
Permittivity*	ASTM D 4491	sec^{-1}	1.00
Water Flow*	ASTM D 4491	gpm/ft^2 ($l/min/m^2$)	75 (3056)
AOS*	ASTM D 4751	US Sieve (mm)	100 (0.15)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:
* At the time of manufacturing. Handling may change these properties.

KOUROSH SABZEVARI
QUALITY CONTROL MANAGER

www.skaps.com

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Product : GE110-180

ROLL #	WEIGHT	MD TENSILE	MD ELONG	XMD TENSILE	XMD ELONG	MD TRAP	XMD TRAP	CBR PUNCTURE	AOS	WATER FLOW	PERMITTIVITY
ASTM METHOD	D5261	D4632	D4632	D4632	D4632	D4533	D4533	D6241	D4751	D4491	D4491
UNITS	oz/sq yd	lbs.	%	lbs	%	lbs.	lbs	lbs.	US Sieve	gpm/ft^2	sec^{-1}
TARGET	10.00	260	50	260	50	100	100	725	100	75	1.00
65029.1	10.12	265	72	273	86	112	121	755	100	76	1.02
65029.2	10.12	265	72	273	86	112	121	755	100	76	1.02
65029.3	10.12	265	72	273	86	112	121	755	100	76	1.02

*All values are MARV.

APPENDIX M

WCG RÉSUMÉS

Includes pages M-1 through M-6

JONATHAN V. QUEEN, P.E.

Project Director

Mr. Queen has over 17 years of experience in environmental and solid waste projects. He has been the assistant and lead Professional of Record (POR) for the liner and final cover construction at waste disposal facilities. In addition, he has experience in project management for municipal solid waste construction, design, and permitting projects.

Project Experience

Butler County Landfill, Butler County, Nebraska
- POR for construction plan development of Cell 15A-17A, April 2019
- POR for construction plan development of Cell 15 and 16, September 2017

East Oak RDF, Oklahoma City, Oklahoma
- POR for 56-acre expansion of the limits of waste and airspace capacity increase of 7,000,000 CY

LP Gill Landfill, Jackson, Nebraska
- POR for construction of Phase V Cell 1 and Overliner, December 2020

Oklahoma Landfill, Oklahoma City, Oklahoma
- POR for construction plan development of Phase V/Fill Sector 2, July 2020
- POR for construction plan development of Phase V/Fill Sector 1, October 2018
- POR for construction plan development of Phase III/Cell 1/Fill Sector 3B, August 2015
- POR for 34-acre and 39-acre expansion of the limits of waste and airspace capacity increase of 3,690,000 CY and 8,850,000 CY

Osage Landfill, Bartlesville, Oklahoma
- POR for construction plan development for Sector 1C, July 2019.
- POR for construction plan development for Sector 2C, March 2018

Nobles County Landfill, Worthington, Minnesota
- POR for construction plan development of Phase VI South, May 2019
- POR for construction of Phase VI South, November 2019

Seabreeze Environmental Landfill, Angleton, Texas
- POR for construction of Cell 12, August 2020
- POR for construction plan development of Cell 12, April 2020

Southeast OKC Landfill, Oklahoma City, Oklahoma
- POR for construction plan development of Sector 5B, December 2019
- POR for construction plan development of Sector 5A6A, January 2015
- POR for 82-acre expansion of the limits of waste and airspace capacity increase of 20,500,000 CY

Travis County Landfill, Austin, Texas
- POR for construction of Cell 10A, March 2021
- POR for construction of Cell 10 South, August 2021
- POR for construction of Final Cover, November 2021

Education

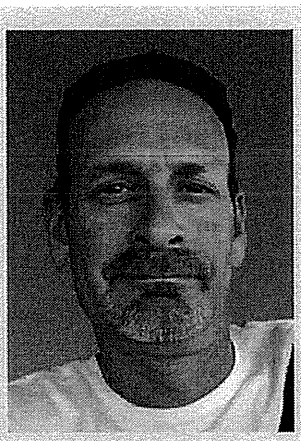
B.S., Civil Engineering, Oklahoma University, 2004

Related Certifications

Professional Engineer

Texas PE No.: 104766
Oklahoma PE No.: 24456
Nebraska PE No.: E-16733
Colorado PE No.: PE.0053197
Kansas PE No.: 26076
Minnesota PE No.: 56492
Mississippi PE No.:30146
New Mexico PE No.: 25844
Arizona PE No.: 71733
Iowa PE No.: P26111
South Carolina PE No.: 38696
Virginia PE No.: 402063222
North Carolina No.: 51678

Weaver Consultants Group



Bill Johnson

Senior CQA Technician

EDUCATION

Glendale High, Springfield, MO, graduated 1985

MILITARY SERVICE

US Army
- Field Artillery, 1985 to 1989
- Special Operations, 1989 to 1992

CERTIFICATIONS & LICENSES

OSHA 40-Hr HAZWOPER

OSHA 10-Hr Construction

APNGA Portable Nuclear Gauge Safety

Class D Drivers License, Utah

Professional Summary

Mr. Johnson has over 11 years of professional experience in construction quality assurance (CQA) activities for geosynthetics and geomembrane liner installations, soils testing and documentation, and environmental compliance. He is experienced in the roles of CQA technician, superintendent, and project manager for the construction and installation of geomembrane installations. Additionally, Mr. Johnson has 7 years of liner installation and quality control experience working for various liner installation contractors.

Mr. Johnson has a solid foundation in understanding and evaluating various liner installation applications, soil characteristics, and environmental due diligence. Mr. Johnson has performed geosynthetics and geomembrane installations in numerous states, including Colorado, Utah, Georgia, Nevada, Washington, Illinois, and Ohio, and in Alberta, Canada.

Mr. Johnson has strengths in communicating with contractors and clients, and takes great pride in all projects he works on.

Project Experience

Provided onsite CQA observation and testing services for the installation of 68 million square feet of high-density polyethylene (HDPE) liner and 52 million square feet of geosynthetic clay liner (GCL).

Provided onsite field CQA observation and testing services for geomembrane installations for various environmental applications, including landfills, oil fields, oil refineries, and frac ponds, and for various rooftop applications. Performed sample collection of geomembrane, soils, and gravels for a third-party lab testing. Prepared CQA documentation for the placement of geocomposite and geomembrane materials.

Supervised and operated various tools used in geomembrane installations, including extruders, hot wedge machines, grinders, leisters, and impact drills. Performed earthwork operations through use of various heavy equipment, including excavators, bobcats or skidsteers, backhoes, and frontloaders.

Performed both field and laboratory construction materials testing, including soils testing and documentation. Identified environmental aspects related to protection and preservation of groundwater from various contaminants.

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MIKE MENDENHALL
FIELD CQA TECHNICIAN

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Fields of Expertise

Landfill Construction Quality Assurance (CQA), Ground and Storm Water Sampling, and Leachate Monitoring.

Education

Associate Degree in Civil Engineering Technologies

Certifications

- OSHA 10hr
- Portable Nuclear Gauge Safety & U.S D.O.T. Hazmat
- Asbestos Inspector
- First Aid/CPR/AED

Professional Summary

Mr. Mendenhall is an Engineering Technician with Weaver Consultants Group. He has participated on numerous projects in the solid waste industry and has previous experience in the fields of civil and electrical engineering. Mr. Mendenhall's primary expertise is performing CQA of landfill liner and cover systems, and assisting engineers and project managers.

Select Project Experience

Landfill Liner and Cover CQA – Mr. Mendenhall provided construction quality assurance during the installation of clay liner, geomembrane liner, and cover systems at multiple sites in Southern Illinois, Iowa, and Texas. Mr. Mendenhall completed geosynthetic inventories, collected samples of geosynthetics for conformance testing and destructive testing during installation.

Borrow Site Conformance – Mr. Mendenhall collected samples of clay borrow areas for conformance with projects CQA requirements. Mr. Mendenhall also evaluated soil for compliance with the established clay liner soil types.

Ground and Storm Water Monitoring – Mr. Mendenhall performed groundwater monitoring on multiple sites throughout Illinois. These tasks included collecting samples in accordance with state and site regulations and recording precise groundwater levels. Mr. Mendenhall also performed storm water monitoring on multiple sites throughout Illinois and Missouri. These tasks included collecting samples in accordance with state and site regulations.

Landfill Gas Collection and Control System CQA – Mr. Mendenhall provided construction quality assurance during the installation of landfill gas extraction wells and piping at sites in Missouri.

Air Quality Testing – Mr. Mendenhall performed ambient air quality testing at a landfill site in Southern Illinois. This task included taking air quality measurement as well as preparing reports of the findings.

Civil Construction – Mr. Mendenhall performed topographic surveys and collected data from soil temperature and moisture probes, prepared concrete cylinders, slump and air testing of concrete, and laboratory testing of soil and concrete.

Weaver Consultants Group

Keshav Parikh, E.I.T.

Staff Engineer

EDUCATION

BE, Environmental Engineering, L.D. College of Engineering (GTU), 2016

MS, Environmental Engineering Sciences, University of Florida, 2018

REGISTRATIONS

Engineer in Training, California Board

CERTIFICATIONS

OSHA 40-Hr HAZWOPER

OSHA 10-Hr Construction

APNGA USDOT HAZMAT Safety

APNGA Portable Nuclear Gauge Safety

Professional Summary

Mr. Parikh is an engineer with nearly 2 years of professional experience in the field of environmental and geotechnical engineering, providing both field and office support for projects ranging from geosynthetics construction quality assurance (CQA), environmental compliance, and proposal writing. Mr. Parikh has a solid foundation on understanding and evaluating soil characteristics and environmental due diligence.

Select Project Experience

Provided field CQA/quality check for a new cell construction at an existing landfill.

Provided compliance support to calculate future landfill gas generation for flare sizing by evaluating and analyzing historical landfill gas data.

Provided CQA/quality control for a landfill gas collection and control system improvements project, including caisson drilling and horizontal collector installation.

Prepared and analyzed waste input data to comprehensively summarize annual compliance reporting for a landfill.

Assisted in preparing an annual compliance report for a landfill by calculating and evaluating comprehensive flow gas meter readings provided by the landfill.

Performed and conducted various laboratory tests to determine soil characteristics and distinguish them based on pH, hydrometer readings, solubility, proctor, unconfined compressive strength and loss on ignition.

Provided lab support and conducted laboratory experiments at University of Florida to determine and distinguish arsenic and other heavy metals content in washed and unwashed construction and demolition debris gathered from a Materials Recovery Facility (MRF) using Inductively Coupled Plasma - Atomic Emission Spectrophotometry (ICP-AES) and Autoblock and Microwave digestion following Environmental Protection Agency (EPA) Method 3050B to generate a report on benefits of pre-washing construction and demolition debris fines for the MRF.

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District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 141582

CONDITIONS

Operator:	OGRID:
LEA LAND, LLC 1300 W Main St Oklahoma City, OK 73106	195376
	Action Number: 141582
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
bjones	None	9/8/2022