

Manitoba Conservation
Department of Environment and Climate
14 Fultz Blvd
Winnipeg, MB
R3Y 0L6

October 16, 2023

Attention: Mehak Bajwa, P.Eng, M.Eng

Subject: File No. 3851
Cell 17 Construction Waste Connections of Canada - Prairie Green Integrated
Waste Management Facility (IWMF)

Dear Ms. Bajwa:

The purpose of this letter is to request approval from Manitoba Conservation and Climate to begin waste placement in the completed Cell 17 of Prairie Green Integrated Waste Management Facility. The Facility is owned and operated by Waste Connections of Canada under Environment Act License No. 2177E R5.

The Quality Assurance/Quality Control report is attached for your review. Waste Connections of Canada retained Trek Geotechnical to perform these functions during construction, and to prepare the final report for submission. If you have any questions regarding this report please do not hesitate to contact me at any time.

Sincerely,



Barry Blue
District Manager



Quality Engineering | Valued Relationships

Waste Connections of Canada Inc.
Prairie Green IWMF Cell No.17
Composite Liner Construction Monitoring Program

Prepared for:

Waste Connections of Canada Inc.
Prairie Green Landfill
Rosser, MB
Attention: Barry Blue

Project Number:

1000 089 08

Date:

October 17, 2023
Final Report



Quality Engineering | Valued Relationships

October 17, 2023

Our File No. 1000-089-03

Barry Blue, District Manager
Waste Connections of Canada Inc.
Prairie Green Landfill
Rosser, MB

**RE: Composite Liner Construction Monitoring Report for
IWMF Cell No.17 Construction**

TREK Geotechnical Inc. is pleased to submit our report for the Quality Assurance inspection and testing services for Cell No.17.

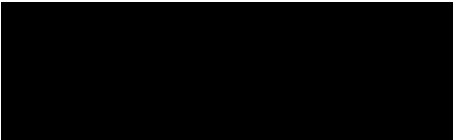
This report indicates that the HDPE Geomembrane Liner is continuous underlying Cell 17 and meets the requirements of Licence No. 2177E R5.

Please contact the undersigned if you have any questions. Thank you for the opportunity to serve you on this assignment.

Sincerely,

TREK Geotechnical Inc.

Per:



Nelson John Ferreira, Ph.D., P. Eng.
Geotechnical Engineer, Principal
Tel: 204.975.9433 ext. 103

cc: Angela Fidler-Kliewer C. Tech. (TREK Geotechnical)

Revision History

Revision No.	Author	Issue Date	Description
0	AFK	October 13, 2023	Draft Report
1	AFK	October 17, 2023	Final Report

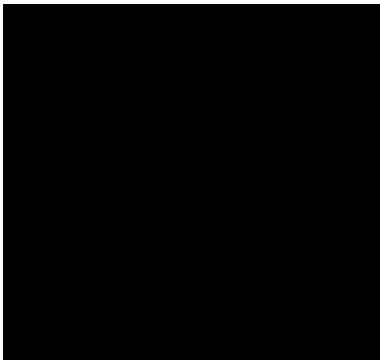
Authorization Signatures

Prepared By:



Angela Fidler-Kliewer C. Tech.
Manager of Laboratory and Field Services

Reviewed By:



Nelson Ferreira, Ph.D., P.Eng.
Senior Geotechnical Engineer



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1.0 Introduction

1.1 Background

The Prairie Green Integrated Waste Management Facility (Prairie Green) is located approximately 1.6 km north of PTH 101 in the Rural Municipality of Rosser, Township 12, Range 2 East of the Principal Meridian, and north of Winnipeg, Manitoba. Waste Connections of Canada Inc. (WCC) is the facility owner and operates the facility.

This report summarizes the Quality Assurance (QA) inspections and testing services associated with the construction of the composite (GCL/geosynthetic) liner and leachate collection system in Cell No.17. Construction Quality Assurance was conducted in accordance with the Contract Documents and Project Specifications as provided by WSP Golder (November 2022, Ref. No. 19133296 and 22561512). The construction of Cell No.17 commenced on January 16, 2023, was paused for 2 months, and was completed on September 23, 2023.

Landfill cell construction requirements are outlined in the Prairie Green Manitoba Conservation and Water Stewardship Licence number 2177 E R5. This Composite Liner Construction Monitoring Program report is being submitted in accordance with requirement 43 in the Licence.

1.2 Companies Involved in the Construction of Cell No.17

The following sections summarize the roles and responsibilities of the companies involved, on behalf of Waste Connections of Canada Inc. (WCC) in the design, construction, supervision, review, coordination and quality assurance services associated with the construction of Cell No.17.

WSP Golder. (Designer):

- Cell No.17 design, excluding geotechnical design; and
- Construction documents, project specifications and tender preparation and review.
- Contractor submission reviews, consultation regarding repairs and laboratory testing.

Secure Energy. (Prime Contractor) with Western Tank and Lining (Sub-Contractor):

- The prime contractor for the construction of Cell No.17 was Secure Energy Ltd. (Secure) from Winnipeg, Manitoba. They performed the earthworks, including excavation, and placement of the compacted clay and re-compaction of the clay subgrade;



- WTL Environmental Containment Ltd (WTL) was responsible for the installation of the Geosynthetic Clay Liner (GCL), 1.5 mm (60 mil) thick High Density Polyethylene (HDPE) membrane, 7 mm (275 mil) thick Geocomposite and the non-woven Geotextile cushion;
- Secure installed all elements of the leachate collection system;
- Secure installed the sand drainage layer which consisted of a 300 mm thick sand layer placed above the leachate collection system; and cell floor;
- Secure also carried out quality control surveying of the constructed compacted clay lifts and base grade elevations.

Secure completed on site works with the equipment listed below.

Equipment Make and Model	On Site Tasks
Hitachi 470 Excavator	Excavation
CAT DE Dozer	Compacted clay backfill placement
CAT 30TN Rock Truck	Excavations
Volvo 30TN Rock Truck	Excavations, compacted clay backfill placement
Volvo 30TN Rock Trucks (2)	Compacted clay backfill placement
CAT D6 LGP Dozer	Excavations, compacted clay backfill placement, Leveling loose compacted clay backfill lifts, final clay subgrade grading, Leachate collection, blanket and sand drainage spreading and grading
CAT D6Dozer	Final clay subgrade grading
84" Volvo Packer	Proof rolling and clay backfill compaction
835 Versatile Tractor with Sheepsfoot Roller and/or Disker	Drying out clay backfill and clay backfill compaction

TREK Geotechnical Inc. (Contract Administration and Engineering Services):

- Overall review of the construction of Cell No.17;
- Field density testing on clay backfill subgrade and berm construction to confirm compliance with the design and the project's Environmental Standards.
- QA inspection, testing and approval of the Geosynthetic Clay Liner and the 1.5 mm (60 mil) HDPE membrane liner materials, including review of manufacturer's quality control and materials testing data, field liner sheet installation, non-destructive seam testing, destructive sampling and testing of field seams, repairs and vacuum box testing;
- QA inspection, testing and approval of the leachate collection system and ancillary works;
- Laboratory and field testing, and evaluation of test results, which are presented in this report;
- Verification of specification conformance for the compacted clay backfill, leachate collection stone, sand drainage layer, record surveying services including as-built HDPE liner and leachate collection system locations, quantity measurements and contractor payment certification;
- Geotechnical review and approval of QA inspection and testing results completed on natural materials and quality control procedures for earthworks, including construction of the recompacted clay base and berms;
- QA inspection of the Geosynthetic Clay liner and the 1.5 mm (60 mil) HDPE membrane liner materials;
- Gradation and Constant Head testing following ASTM standards on the sand drainage layer, sub-liner sample stone and leachate collection blanket;
- Laboratory testing of Clay backfill material, Drainage Sand, Leachate Collection Stone; and
- Review of test results on earthworks and liner construction to confirm accordance with project specifications.

2.0 Cell No.17 Excavation

Stripping of the topsoil and general excavation of Cell No.17 commenced on January 23, 2023.

2.1 Topsoil

The topsoil in Cell No.17 was stripped and stockpiled West of the future West haul road location. In general, the topsoil thickness was about 0.15 m.

2.2 Upper Clay

A layer of weathered (upper) clay was present below the topsoil. The weathered clay is silty, brown and contains silt inclusions and rootlets. This soil stratum was approximately 0.4 m to 0.6 m thick and variable in composition throughout the excavation. The upper clay was removed and stockpiled using an excavator and later used to construct the South and West Perimeter Berm.

2.3 Silt Layer

A distinct light brown silt layer was encountered at a depth of between 0.6 m and 0.8 m below ground surface with its thickness varying between 0.9 m and 1.5 m. The silt layer was sub-cut, transported to and placed along the West Screen Berm.

2.4 Lower Clay

A grey-brown, highly plastic clay was encountered below the silt and extended to the base of the excavation. This soil was selected for use in the South and West Perimeter Berm.

Construction of the West and South Berm commenced in May 2023 and was completed in September 2023. It was constructed primarily of the upper and lower clay material from the excavation of Cell No.17.

The clay was placed in loose lifts of about 200 mm to 250 mm thick and compacted using a pull behind sheeps foot roller and single drum ride along padfoot compactor. Quality control testing was performed on each lift during the construction of the berm by field density testing according to ASTM-D2922. The results of the final acceptance testing of the permanent berm are discussed in Section 8.1 of this report and are presented in Appendix A-2.

3.0 Recompacted Clay Base Construction Procedures

3.1 Recompacted Clay Base

Cell No.17 was excavated to the design base grades. TREK Geotechnical Inc. (TREK) provided survey control and verification (refer to Table 1).

Standard Proctor test results (samples L23-137-01, L23-137-02, L23-137-03 and L23-277) were performed on the clay backfill along with field density testing which is included in Appendix A-1 and A-2.

Prior to compacting the clay subgrade, moisture conditioning was undertaken using a CAT D6 dozer with a pull behind disk to dry the soil. Specifications required the clay subgrade achieve a density of at least 95% of its Standard Proctor maximum dry density (SPMDD). Field density testing was performed on the clay subgrade. The field density testing results are discussed in Section 8.1 and included in Appendix A-2. All final field density tests met the project specification.

3.2 Survey Control

The Contractor carried out quality control surveying for all of the earthwork activities. TREK provided quality assurance surveying through various checks using control points on the subgrade and top of the sand drainage layer to verify that the grades and thicknesses were consistent with the Contract Drawings and Specifications. TREK also verified excavated material quantities claimed by the contractor using the survey data. The final base elevations of Cell No.17 are presented in Table 1 in the Appendices.

3.3 Final Grading and Preparation of Top of Recompacted Clay Base

Once the compaction of the base of the cell was completed, it was graded as per the contract drawings (+/- 30 mm of design grade). The top of the recompacted clay subgrade was then inspected for angular stones and deleterious material which may cause damage to the GCL and HDPE membrane liners. The angular stones/deleterious materials were removed, and the small holes were filled with clay. The surface of the recompacted clay base was rolled using a smooth drum roller prior to being covered with the GCL and 1.5 mm (60 mil) high density polyethylene (HDPE) membrane liners.

4.0 Soil Testing Procedures and Results

4.1 Field Density Testing

The project specifications require that construction using clay materials (the Permanent West and South Berm and base of the cell) be compacted to a minimum of 95% of the Standard Proctor maximum dry density (SPMDD with no specified requirement for water content. Field density tests (ASTM D2922 and D3017) were performed, using a Troxler 3430 nuclear density gauge.

For the Permanent West and South Berm, a total of 188 field density tests were performed which included thirteen re-tests. Moisture corrections (oven dry-backs) were completed on each field density test and the corrected percent proctor value was reported. Field density test results ranged between 95% to greater than 100% of the SPMDD, while moisture contents ranged between 16.2% and 38.3%, as summarized in Field Density Test Reports presented in Appendix A-2. The field density test results meet the specifications for compaction.

For the subgrade at the base of the cell, a total of 43 field density tests were performed with an additional three re-tests. Field density test results ranged between 97% to greater than 100% of the SPMDD, with moisture contents ranging between 17.5% and 37.3%, as summarized in Field Density Test Reports presented in Appendix A-2. These results meet the project field specifications for compaction.

4.2 Clay Laboratory Testing

4.2.1 Standard Proctor Tests

Standard Proctor tests (ASTM D698) were performed on both the upper and lower clay material from the site to determine the required target density levels for construction. During placement of approximately 17,000 m³ of compacted clay for Cell No.17, four Standard Proctor were performed by

TREK. The Standard Proctor test results are presented in Appendix A-1.

5.0 Geosynthetic Clay Liner (GCL) Installation

The following section summarizes the installation of the GCL system. All materials utilized, as well as the installation process, met specifications within the Contract Documents and the Project Drawings, and were inspected as per the Construction Quality Assurance Plan. The Contract Documents were received and reviewed by all parties prior the beginning of the construction of Cell No.17.

5.1 Cell Base

Prior to the secondary and primary GCL deployment, the subgrade was inspected by the Geosynthetics Installer (WTL), the Contractor and the CQA Inspector and was formally accepted by the Geosynthetics Installer. Copies of the soil surface acceptance certificates are presented in Appendix B-3.

5.2 GCL Liner Materials

The geosynthetic clay liner (GCL) used on this project consisted of Bentoliner provided by Solmax Geosynthetic LLC. A total of 200 rolls of GCL were delivered and inventoried on site, comprising of 4.27 m wide and 45.72 m long panels. The GCL was installed on the prepared subgrade, along the leachate collection trenches, and in the sump and covered by HDPE membrane under the leachate extraction pipes. TREK monitored the installation of the liners including overlaps, tears, defects and subsequent repairs to the material. A list of the GCL material delivered to site is presented in Appendix B-1.

5.3 GCL Panel Deployment

Panel deployment for the secondary and primary liner was carried out between July 13, 2023 and August 9, 2023. Approximately 33,252 m² of GCL material was placed.

Placement of the GCL was accomplished using an ATV and manual labour. A minimum overlap of 300 mm was maintained between adjoining panels. Powdered bentonite was placed and spread manually in the overlap.

During deployment of the secondary and primary GCL panels, TREK personnel carried out the following inspection and testing:

- measurements of the panel length;
- confirmation of panel overlap and bentonite placement in the seams;
- visual observations of overall material quality; and
- assignment of a unique identification number for each panel placed.

Upon completion of the GCL installation, the works were inspected by the Geosynthetics Installer (WTL) and the liner CQA Inspector (TREK), prior to HDPE geomembrane liner installation.

6.0 HDPE Membrane Liner Installation

The following section summarizes the installation of the HDPE membrane liner system. All materials utilized, as well as the installation process, met specifications within the Technical Specification Manual and the Project Drawings, and were inspected as per the Construction Quality Assurance Plan.

6.1 Membrane Liner Materials

The membrane (liner) material used on this contract consisted of 1.5 mm thick, smooth and textured high-density polyethylene (HDPE) installed by WTL. The textured material was used only on the West and South Berm Slopes of Cell No.17.

A total of 28 rolls of 6.8 m wide and 158.5 m long panels of smooth membrane were delivered and 11 rolls of 6.8 m wide and 174.6 m long panels of textured membrane were delivered and inventoried on site for this project. The HDPE liner materials were manufactured and supplied by Solmax Geosynthetic LLC. The Inventory Summary Logs for the 1.5 mm thick membrane is provided in Appendix B-1. The manufacturer's Quality Control (QC) documentation for the membrane materials was provided by Solmax Geosynthetic LLC and indicates that all membrane used in Cell No.17 is in compliance with the project specifications.

6.2 HDPE Liner Panel Deployment

Panel deployment for the primary and secondary liner was carried out between July 13, 2023 and August 18, 2023. Repair operations on Cell No.17 took place until August 18, 2023. Approximately 21,799 m² of primary and 2,143 m² of secondary HDPE liner material was placed.

During deployment of the secondary and primary HDPE liner panels, TREK personnel carried out the following inspection and testing:

- measurements of the panel thickness;
- confirmation of panel overlap;
- visual observations of overall sheet quality; and
- assignment of a unique identification number for each panel placed.

Placement of the HDPE membrane was accomplished using an ATV and manual labour. A minimum overlap of 150 mm was maintained between adjoining panels. The average panel thickness was determined by averaging the measurements made along each of the leading, two sides and trailing edges utilizing a Starret Micrometer.

Panel numbers were assigned according to the order in which they were installed. Deployment of the secondary and primary HDPE liner consisted of panels S1 to S48 and P1 to P138 and D1 to D4, respectively. The arrangement and designation of the various panels for the HDPE liner are presented on Drawing 2. The deployment Inspection Logs are provided in Appendix B-5.

Upon completion of the HDPE liner installation, the works were inspected by WTL and TREK personnel.

6.3 Trial Seams

The welding equipment used by WTL included double hot wedge fusion welders (production welding along panel seams and cap repairs) and hand-held extrusion fillet welders (for detailing, liner repairs, and reconstruction of failed fusion and/or extrusion seam lengths).

TREK personnel monitored trial seams during daily start-up, and at approximately every five hours during continuous operation of each welding apparatus. Six sample coupons were cut from each test sample for tensile strength testing as follows:

- Four coupons were tested in the peel mode in accordance with ASTM D 4437, and
- Two coupons were tested in the shear mode in accordance with ASTM D 4437.

A summary of the daily trial seaming for the equipment used during each workday is provided in Appendix B-6. All trial seams test results met the project specifications.

6.4 Production Seams

The HDPE liner seaming process proceeded in conjunction with the panel deployment. The majority of the seams were welded using a double hot wedge fusion welder. Repairs and short seams were made using a hand-held extrusion welding apparatus. All seams (including repairs) welds were observed and documented by TREK personnel. A summary of the panel fusion and extrusion seaming are provided in Appendix B-5. The results of the non-destructive testing on the seams by the air pressure testing method, are provided in Appendix B-8.

6.5 Non-Destructive Testing

All non-destructive seam testing was performed by WTL personnel and observed by TREK personnel on a full-time basis. Two types of non-destructive testing were used on this project:

- Air pressure tests on fusion seams; and
- Vacuum box tests on extrusion seams, patches and beads.

Air pressure testing comprised of the following procedure:

- Sealing off the air channel between the inside and outside tracks of the double fusion weld;
- Inserting a pressure gauge into the air channel;
- Using a portable compressor or pump to pressurize the air channel to a minimum pressure of 210 kPa (30 psi);
- Inspecting the seam along its entire length to confirm that entire seam was pressurized;
- Observing the pressure gauge over a five-minute period. The test is considered a pass (successful) if the pressure drop is less than 21 kPa (3 psi) over this period; and
- Making an incision into the air channel, at the end of the test seam to release the pressurized air.

Vacuum box testing comprised of the following procedure:

- Applying a soapy water solution to the area to be tested;
- Placing a rigid-walled box over the area to be tested. The box was constructed with a clear Plexi-glass top and/or sides with a neoprene gasket around the bottom of the box to facilitate a seal between the box and the HDPE liner;
- Applying a vacuum of 21 kPa to 35 kPa (3 psi to 5 psi) to the inside of the box for a minimum of ten seconds using a portable vacuum pump; and
- Observing for air bubbles, which, if they occur, are indicative of defects or discontinuities of the welding procedure.

All repaired areas were re-tested and met the acceptance criteria.

Results of the non-destructive testing are provided in Appendix B-8 for the air pressure testing, and in Appendix B-11 for the vacuum box testing. All non-destructive testing completed on both fusion and extrusion seaming comply with project specifications.

6.6 Destructive Testing

Destructive test samples of panel fusion welded seams were taken at an average of approximately one for every 250 m length in accordance with project specifications. Extrusion destructive samples were taken randomly or in areas of concern. TREK personnel selected all test locations.

For each destructive sample, ten coupons were cut from the seam and tested in the field by TREK. Waste Connections of Canada retained the remaining part of sample as an archive sample. The destructive coupons that were tested in the field consisted of five coupons tested for peel adhesion strength (peel test mode ASTM D4437) as well as Film Tear Bond (FTB) and five tested for seam strength at yield (shear test mode ASTM D4437)

The specified acceptance criteria for destructive tests are as follows:

- Fusion and extrusion seam under peel mode:
 - Failure by FTB, NSF Standard 54, Definition 2.17;
 - Yield strength for the seam is not to be less than 78 psi;
 - No greater than 10% of the seam width peels (separates) at any point; and
 - For extrusion seams, the separation that occurs from the edge of the sheet is not to be greater than 3.0 mm (0.12 inch).
- Fusion and extrusion seam under shear mode:
 - Failure by FTB, NSF Standard 54, Definition 2.17; and
 - Yield strength for the seam is not to be less than 120 psi.

According to project specifications, four out of five coupons were required to meet or exceed the acceptance criteria for peel and shear strength failure modes.

A total of 27 fusion destructive tests (DSF designation) and two extrusion tests (DSX designation) were conducted of the HDPE liner. The destructive testing results are provided in Appendix B-7. All destructive tests met or exceeded the acceptance criteria for peel and shear strength.

6.7 Repair of Installation Defects

All defects observed on the HDPE liner were assigned a unique identification number and marked by TREK personnel for repair. The defects were repaired by either fusion or extrusion welding methods. The repairs were then tested (non-destructive) by WTL personnel by either the air pressure or vacuum

box test method depending on the nature of the repair. Once a noted defect was repaired and tested, it was documented as a “pass” and no other testing was required.

Defect repair locations are shown on Drawing 2 for the HDPE cell liner. The documentation (repairs made and non-destructive testing) of defects and repairs to the seams and panels are included in Appendices B-9 and B-10 for the HDPE liner within the cell.

6.8 Drainage Geocomposite Materials and Installation

The installed Geocomposite consists of a HDPE geonet encapsulated in geotextile manufactured by Solmax Geosynthetic LLC. The approximate quantity of Geocomposite placed in the sump of Cell No.17 was 31,758 m², using 4.57 m wide and 61 m long rolls. The Geocomposite inventory list can be found in Appendix B-1. The Manufacturer’s Quality Control documentation for the materials that was provided by Solmax indicates that all Geocomposite used in Cell No.17 complies with the project specifications. The Geocomposite Quality Control documentation can be found in Appendix B-2.

Prior to placing the Geocomposite, the HDPE membrane liner was swept clean of soil and debris. The Geocomposite was placed by WTL personnel and during installation of the Geocomposite, adjacent panels were connected with cable ties spaced every 1.5m. The Geocomposite was continuously sewn using the flat (prayer) seam, with a minimum 150 mm overlap, taking care not to damage the geonet within the Geocomposite or the underlying HDPE membranes.

6.9 Sand Drainage Layer

The Sand Drainage Layer specifications are as follows:

- The sand drainage layer to consist of uniform coarse or medium sand meeting the following requirements:

Medium Sand

- Sand to be free of organic matter (i.e. Roots, leaves, wood, etc.);
- Permeability at least 10^{-3} cm/s or greater at 90% Standard Proctor Maximum Dry Density, as determined by ASTM D2434 test method;
- Minimum porosity of 0.35; and
- Meet the following gradation:

Gradation Sieve Opening Size	% Passing (by Weight)
1 mm	60 %
0.075 mm (No. 200)	10 %

Material for the sand drainage layer was supplied by Heidelberg Materials. The sand was hauled into the cell by a temporary haul road, made of the sand drainage layer with a minimum thickness of approximately 1.5 m over the geocomposite layer. The sand was dumped and spread using one CAT D6 LGP bulldozer to the minimum required thickness of 300 mm. In some areas of the cell a heavier dozer (61.6 kPa) was used to spread the sand to 300 mm thickness. TREK personnel monitored the transportation and spreading operations for the placement of the sand for compliance with the project specifications.

Nine sand samples were obtained for gradation analyses and hydraulic conductivity testing. The test results, presented in Appendix A-4, indicate that the gradation of the sand is slightly out of spec on the 1mm sieve, but was accepted by the design engineers (WSP) as it met the hydraulic conductivity specification.

As previously noted, hydraulic conductivity testing (Rigid Wall Constant Head Method) was completed on four samples following ASTM D2438-68 procedures. The results of the laboratory hydraulic conductivity test are in Appendix A-3. The tested specimen exhibited a hydraulic conductivity greater than the specified maximum of 1×10^{-3} cm/s.

7.0 Cell No.17 Leachate Collection Trenches and Sump Construction

Excavation of the sump and the leachate collection trenches was carried out by Secure. Excavation of the leachate collection trench for Cell No.17 progressed from the South limit of the central collection trench, North to the Cell No.17 permanent sump. An anchor trench was cut on the South side of the sump for embedment of the geosynthetic clay liner (GCL) and secondary HDPE membrane.

Along the leachate collection trenches, the GCL was placed on the prepared subgrade. There was no indication of seepage during the excavation for the sump in Cell No.17. The GCL was placed on the approved subgrade and the secondary HDPE (60 mil) membrane covered the GCL. In the sump, the ends of the GCL and secondary HDPE membrane were placed in the anchor trench. Subsequently, the sub-liner granular blanket (comprised of 19 mm clean stone) and the HDPE sampler pipe (refer to Section 11.3) were placed on a geotextile. The geotextile, which was placed under the granular blanket, overlapped to completely encapsulate the granular blanket.

7.1 Sub-liner Sampler Collection System Installation for Cell No.17

Secure excavated the trench for the sub-liner sampling pipe, which is located in the Permanent South Berm in Cell No.17. The sub-liner sampling pipe, consisting of 219 mm O.D. SDR 17 HDPE continued up the slope of the berm within the trench and terminated beyond the South crest of the berm. A sub-liner granular blanket, comprised of 19 mm clean stone, was placed in the base of the sump and extended up the 4H:1V slope, approximately 6.0 m, to the bentonite seal. A protective sand layer extended from the bentonite seal to approximately 2 m from the top of the berm, where another 500 mm bentonite seal was placed. Also, one additional 500 mm long bentonite seal was placed in the specified location indicated on the design drawings.

7.2 Leachate Collection Pipe

The leachate collection pipes in the Cell No.17 trench consist of 219 mm O.D. SDR 17 HDPE. The collection pipe for Cell No. 17 was perforated for the entire length of the trench up to the Permanent South Berm and then was solid (non-perforated) up the slope of the berm. TREK personnel observed the pipe fusion process, and verified the pipe orientation, pipe type, perforation size, and location in the trench. The granular leachate collection blanket was placed in both trenches, surrounding the pipes.

7.3 Leachate Extraction Pipes for Cell No.17

The leachate extraction piping consisted of 559 mm O.D. SDR 17 HDPE, which was assembled on-site. Perforated end caps were butt-fused to the bottom ends of each of the two leachate extraction pipes. The horizontal perforated section was fusion welded to a prefabricated bend at an angle to accommodate the 4H:1V slope. The angled sections were then butt-fused to the non-perforated sections, which were terminated with a HDPE blind flange. A geocushion rub sheet was placed on the slope in the location of the leachate extraction pipes and extended to the top of the Permanent South Berm slope. The pipes were placed on the HDPE rub sheet and the preassembled pipes were lowered from the top of the berm to the sump. The granular leachate collection blanket was placed over the pipe in the sump. TREK supervised installation and verified the location of the piping.

7.4 Granular Leachate Collection Blanket

The Granular Leachate Collection Blanket specifications are shown below:

Gradation Sieve Opening Size	% Passing (by Weight)
50 mm	100%
37.5 mm	90 – 100%
19.5 mm	0 – 10 %
12.5 mm	0 – 5 %

- The granular material is to comprise of sound, hard durable dolomite and/or dolomitic limestone and will be free of organic matter (i.e. roots, leaves, wood, etc.) soft, thin elongated or laminated particles, or other deleterious substances, concrete, metals and construction debris; and
- The crushed dolomitic limestone shall not contain greater than 40 % calcite (CaCO₃) as measured by gasometric and/or x-ray diffraction analysis. The granular must not contain organic material (e.g. roots, leaves, wood, etc.) and/or debris such as metal, plastic and concrete.

The aggregate supplied for the granular leachate collection blanket was manufactured from crushed and screened quarry rock and supplied by Heidelberg Materials. Three gradation tests were performed on the leachate granular. The results of the gradation and Bulk X-Ray diffraction analysis testing indicated that the sampled material was acceptable for the intended use as leachate granular and met the specifications. The test results are summarized in Table 2.

The leachate collection blanket installation entailed controlled transport of the material over the sand drainage layer and carefully spreading the materials. Trucks transported the aggregate into the cell on a temporary haul road that was made of the sand drainage layer and maintained at a minimum thickness of 1.0 m over the geotextile cushion layer. In general, Secure constructed one main haul road from the South, heading North. After the haul road was completed, the aggregate was placed with a CAT 349 excavator at the beginning of the trench and when the trench was wide enough, the stone was spread using a CAT D6 LGP dozer. TREK personnel monitored the truck transport and spreading operations for the placement of the minimum required thickness of 300 mm.

7.5 Geotextile Cushion Materials and Installation

The geotextile cushion consists of a non-woven, needle punched polyester TE-E17 (542 g/m² weight) manufactured by SKAPS Industries. The approximate quantity of geotextile cushion placed in the sump of Cell No.17 was 1,040 m², using 4.57 m wide and 91.5 m long rolls. The Manufacturer's Quality Control documentation for the geotextile materials that was provided by WTL indicates that all geotextile cushion material used in Cell No.17 complies with the project specifications. The geotextile cushion Quality Control documentation can be found in Appendix B-2.

Prior to placing the geotextile cushion, the HDPE membrane liner was swept clean of soil and debris. The cushion was placed by WTL personnel. During installation of the cushion in the sump, adjacent panels were sewn using a flat (prayer) seam with a minimum 50 mm overlap, taking care not to damage the underlying HDPE membranes.

7.6 Separator Geotextile Materials and Installation

The separator geotextile consists of a non-woven needle punched polyester TE-E8 (271 g/m² or approximately 8 oz/yd²). Approximately 3,143 m² of geotextile separator material was placed over the granular leachate collection blanket using 4.57 m wide and 183 m long rolls. The manufacturer's Quality Control documentation provided by WTL indicates that the geotextile separator used complies with the project specifications. The Quality Control documentation can be found in Appendix B-2.

The installation of the separator geotextile over the Cell No.17 granular leachate collection blanket in the trench and sump and was inspected by TREK personnel. The leachate collection blanket was graded with a CAT 339 Excavator and a CAT D6 LGP dozer and the separator geotextile was placed over the gravel and continuously sewn using a flat (prayer) seam with a minimum 50 mm overlap.

8.0 Summary

TREK personnel provided full time Construction Quality Assurance, resident inspection and Construction Assurance services. The following activities and components were observed, monitored, inspected and/or reviewed for approval and conformance with specifications:

- Subgrade preparation and berm construction;
- Geosynthetic clay liner installation, placement and seaming procedures;
- Secondary and primary 1.5 mm (60 mil) HDPE membrane installation, placement, seaming, non-destructive and destructive seam testing and repairs;
- Leachate collection system construction, including seaming operations of the geotextile cushion and separator material, and observations of trench excavation operations; and
- South and West perimeter drainage ditches

Based on the results of the field monitoring, observations, inspections and testing, the Cell No.17 recompacted clay base, the geosynthetic clay liner, the 1.5 mm HDPE membrane liner, the leachate drainage layer components, the composite liner system and associated leachate collection system were constructed/installed in accordance with the project specifications and to current accepted industry standards.

9.0 Closure

The geotechnical information provided in this report is in accordance with current engineering principles and practices (Standard of Practice). The information and findings of this report were based on the tests, measurements, and observations made by TREK during construction and are only applicable to those elements. TREK is not responsible for conformance of any elements that were not observed or tested.

All information provided in this report is subject to our standard terms and conditions for engineering services, a copy of which is provided to each of our clients with the original scope of work, or a mutually executed standard engineering services agreement. If these conditions are not attached, and you are not already in possession of such terms and conditions, contact our office and you will be promptly provided with a copy.

This report has been prepared by TREK Geotechnical Inc. (the Consultant) for the exclusive use of Waste Connections of Canada Inc. (the Client) and their agents for the work product presented in the report. Any findings or recommendations provided in this report are not to be used or relied upon by any third parties, except as agreed to in writing by the Client and Consultant prior to use.

Tables

Table 1
Cell 17 Survey Control Points

POINT	NORTHING	EASTING	Design Base Excavation	As-built Base Excavation	Design Drainage Sand (m)	As-built Drainage Sand (m)	Drainage Sand Thickness (m)
1	12620.000	11364.000	236.000	235.975	N/A	N/A	N/A
2	12620.000	11375.170	233.200	233.221	233.500	233.535	0.314
3	12620.000	11386.220	230.500	230.523	230.800	230.835	0.312
4	12590.000	11364.000	236.000	235.976	N/A	N/A	N/A
5	12590.000	11375.170	233.200	233.203	233.500	233.520	0.317
6	12590.000	11386.220	230.500	230.502	230.800	230.811	0.309
7	12560.000	11364.000	236.000	236.022	N/A	N/A	N/A
8	12560.000	11375.170	233.240	233.244	233.540	233.560	0.316
9	12560.000	11386.220	230.500	230.505	230.800	230.821	0.316
10	12530.000	11364.000	236.000	236.012	N/A	N/A	N/A
11	12530.000	11375.170	233.250	233.261	233.550	233.571	0.310
12	12530.000	11386.220	230.500	230.522	230.800	230.830	0.308
13	12500.000	11364.000	236.000	236.022	N/A	N/A	N/A
14	12500.000	11375.170	233.260	233.278	233.560	233.582	0.304
15	12500.000	11386.220	230.500	230.524	230.800	230.839	0.315
16	12470.000	11364.000	236.000	236.019	N/A	N/A	N/A
17	12470.000	11375.170	233.270	233.285	233.570	233.587	0.302
18	12470.000	11386.220	230.500	230.525	230.800	230.835	0.310
19	12440.000	11364.000	236.000	236.015	N/A	N/A	N/A
20	12440.000	11375.170	233.280	233.285	233.580	233.600	0.315
21	12440.000	11386.220	230.500	230.522	230.800	230.835	0.313
22	12410.000	11364.000	236.000	236.025	N/A	N/A	N/A
23	12410.000	11375.170	233.300	233.318	233.600	233.642	0.324
24	12410.000	11386.220	230.500	230.525	230.800	230.837	0.312
25	12380.000	11364.000	236.000	235.983	236.300	N/A	N/A
26	12380.000	11375.170	233.300	233.320	233.600	233.635	0.315
27	12380.000	11386.220	230.500	230.492	230.800	230.805	0.313
28	12364.010	11364.440	236.000	235.977	236.300	N/A	N/A
29	12366.980	11375.180	233.300	233.315	233.600	233.628	0.313
30	12370.000	11386.540	230.500	230.516	230.800	230.825	0.309
31	12347.920	11383.330	236.000	235.980	236.300	N/A	N/A
32	12358.650	11384.947	233.300	233.316	233.600	233.660	0.344
33	12347.920	11400.000	236.000	236.027	236.300	N/A	N/A
34	12358.650	11400.000	233.300	233.318	233.600	233.629	0.311
35	12347.920	11420.000	236.000	235.994	236.300	N/A	N/A
36	12358.650	11420.000	233.300	233.32	233.600	233.631	0.311
37	12347.920	11440.000	236.000	235.997	236.300	N/A	N/A
38	12358.650	11440.000	233.300	233.315	233.600	233.620	0.305
39	12347.920	11460.000	236.000	236.023	N/A	N/A	N/A
40	12358.650	11460.000	233.300	233.322	233.600	233.649	0.327

** survey based on local GPS datum

Table 1
Cell 17 Survey Control Points

POINT	NORTHING	EASTING	Design	As-built Base	Design	As-built	Drainage Sand
			Base	Excavation	Drainage Sand	Drainage Sand	Thickness
			Excavation		(m)	(m)	(m)
41	12620.000	11429.110	229.430	229.425	229.730	N/A	N/A
42	12620.000	11400.000	230.170	230.185	230.470	230.486	0.301
43	12620.000	11428.430	229.600	229.600	229.900	N/A	N/A
44	12620.000	11429.110	229.430	229.458	N/A	N/A	N/A
45	12620.000	11429.780	229.600	229.572	229.900	N/A	N/A
46	12620.000	11460.000	230.200	230.225	230.500	230.529	0.304
47	12590.000	11400.000	230.170	230.195	230.470	230.498	0.303
48	12590.000	11427.610	229.600	229.603	229.900	N/A	N/A
49	12590.000	11429.110	229.280	229.309	N/A	N/A	N/A
50	12590.000	11430.600	229.600	229.630	229.900	N/A	N/A
51	12590.000	11460.000	230.200	230.226	230.500	230.530	0.304
52	12560.000	11400.000	230.170	230.182	230.470	230.485	0.303
53	12560.000	11426.800	229.600	229.615	229.900	N/A	N/A
54	12560.000	11429.110	229.020	229.048	N/A	N/A	N/A
55	12560.000	11431.420	229.600	229.627	229.900	N/A	N/A
56	12560.000	11460.000	230.200	230.228	230.500	230.531	0.303
57	12530.000	11400.000	230.170	230.189	230.470	230.495	0.306
58	12530.000	11425.980	229.600	229.612	229.900	N/A	N/A
59	12530.000	11429.110	228.820	228.849	229.120	N/A	N/A
60	12530.000	11432.240	229.600	229.609	229.900	N/A	N/A
61	12530.000	11460.000	230.200	230.214	230.500	230.520	0.306
62	12500.000	11400.000	230.170	230.188	230.470	230.491	0.303
63	12500.000	11425.170	229.600	229.625	229.900	N/A	N/A
64	12500.000	11429.110	228.610	228.620	228.910	N/A	N/A
65	12500.000	11433.060	229.600	229.605	229.900	N/A	N/A
66	12500.000	11460.000	230.200	230.228	230.500	230.530	0.302
67	12470.000	11400.000	230.170	230.188	230.470	230.490	0.302
68	12470.000	11424.350	229.600	229.628	229.900	N/A	N/A
69	12470.000	11429.110	228.410	228.428	228.710	N/A	N/A
70	12470.000	11433.880	229.600	229.630	229.900	N/A	N/A
71	12470.000	11460.000	230.200	230.209	230.500	230.515	0.306
72	12440.000	11400.000	230.170	230.187	230.470	230.491	0.304
73	12440.000	11423.130	229.700	229.725	230.000	N/A	N/A
74	12440.000	11429.110	228.210	228.220	228.510	N/A	N/A
75	12440.000	11435.090	229.700	229.709	230.000	N/A	N/A
76	12440.000	11460.000	230.200	230.207	230.500	230.512	0.305
77	12410.000	11400.000	230.170	230.184	230.470	230.490	0.306
78	12410.000	11422.320	229.700	229.727	230.000	N/A	N/A
79	12410.000	11429.110	228.000	228.021	228.300	N/A	N/A
80	12410.000	11435.910	229.700	229.720	230.000	N/A	N/A
81	12410.000	11460.000	230.200	230.223	230.500	230.230	0.007
82	12371.860	11400.000	230.170	230.189	230.470	230.499	0.310
83	12371.860	11460.000	230.200	230.220	230.500	230.526	0.306

** survey based on local GPS datum

Table 1
Cell 17 Survey Control Points

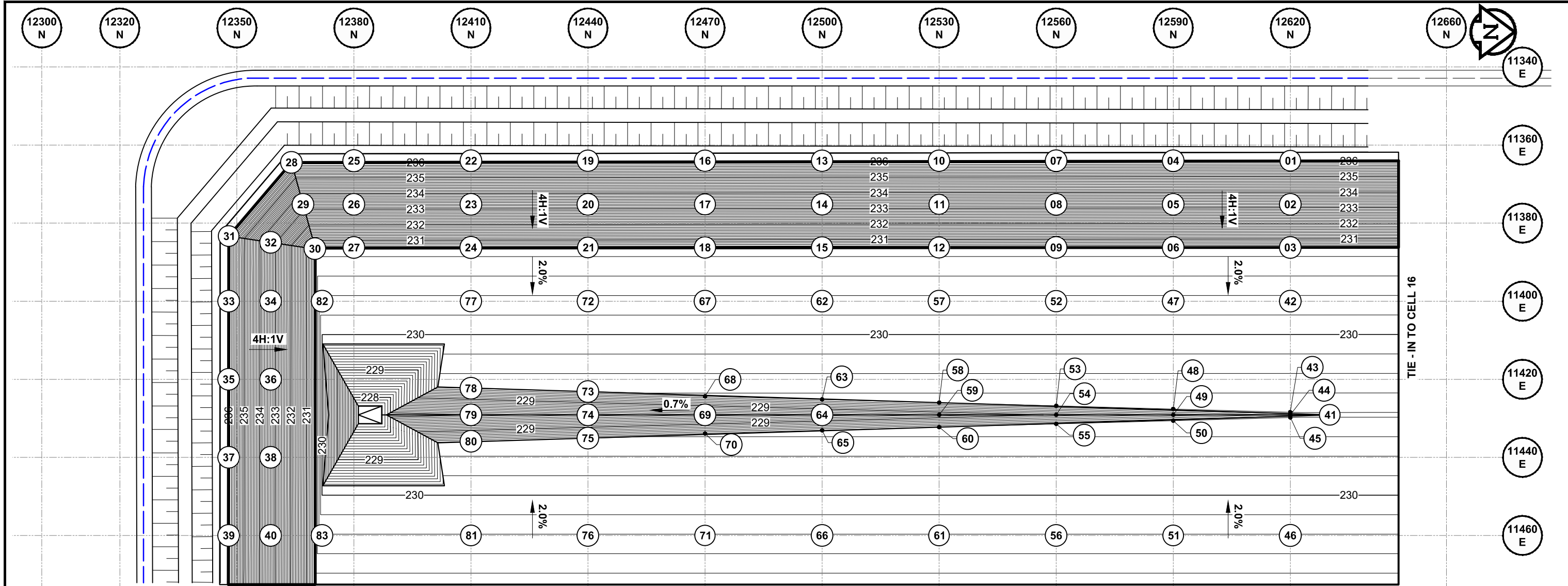
SUMP

POINT	NORTHING	EASTING	Design Base Excavation	As-built Base Excavation
A	12372.050	11447.270	229.950	229.934
B	12403.210	11447.270	229.950	229.945
C	12403.210	11410.960	229.950	229.953
D	12372.050	11410.960	229.950	229.620
E	12381.130	11431.360	227.680	227.707
F	12387.130	11431.360	227.680	227.699
G	12387.130	11426.860	227.680	227.695
H	12381.130	11426.860	227.680	227.690
I	12401.520	11436.270	229.730	229.732
J	12401.520	11421.960	229.730	229.720
K	12373.530	11429.110	229.590	229.585
L	12388.340	11429.120	227.850	227.856
M	12381.130	11429.110	227.380	227.385

** survey based on local GPS datum

Figures

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POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)	POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)	POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)	POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)	POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)
01	12620.00	11364.00	236.00	18	12470.00	11386.22	230.50	35	12347.92	11420.00	236.00	52	12560.00	11400.00	230.17	69	12470.00	11429.11	228.41
02	12620.00	11375.17	233.20	19	12440.00	11364.00	236.00	36	12358.65	11420.00	233.30	53	12560.00	11426.80	229.60	70	12470.00	11433.88	229.60
03	12620.00	11386.22	230.50	20	12440.00	11375.17	233.28	37	12347.92	11440.00	236.00	54	12560.00	11429.11	229.02	71	12470.00	11460.00	230.20
04	12590.00	11364.00	236.00	21	12440.00	11386.22	230.50	38	12358.65	11440.00	233.30	55	12560.00	11431.42	229.60	72	12440.00	11400.00	230.17
05	12590.00	11375.17	233.20	22	12410.00	11364.00	236.00	39	12347.92	11460.00	236.00	56	12560.00	11460.00	230.20	73	12440.00	11423.13	229.70
06	12590.00	11386.22	230.50	23	12410.00	11375.17	233.30	40	12358.65	11460.00	233.30	57	12530.00	11400.00	230.17	74	12440.00	11429.11	228.21
07	12560.00	11364.00	236.00	24	12410.00	11386.22	230.50	41	12620.00	11429.11	229.43	58	12530.00	11425.98	229.60	75	12440.00	11435.09	229.70
08	12560.00	11375.17	233.24	25	12380.00	11364.00	236.00	42	12620.00	11400.00	230.17	59	12530.00	11429.11	228.82	76	12440.00	11460.00	230.20
09	12560.00	11386.22	230.50	26	12380.00	11375.17	233.30	43	12620.00	11428.43	229.60	60	12530.00	11432.24	229.60	77	12410.00	11400.00	230.17
10	12530.00	11364.00	236.00	27	12380.00	11386.22	230.50	44	12620.00	11429.11	229.43	61	12530.00	11460.00	230.20	78	12410.00	11422.32	229.70
11	12530.00	11375.17	233.25	28	12364.01	11364.44	236.00	45	12620.00	11429.78	229.60	62	12500.00	11400.00	230.17	79	12410.00	11429.11	228.00
12	12530.00	11386.22	230.50	29	12366.98	11375.18	233.30	46	12620.00	11460.00	230.20	63	12500.00	11425.17	229.60	80	12410.00	11435.91	229.70
13	12500.00	11364.00	236.00	30	12370.00	11386.54	230.50	47	12590.00	11400.00	230.17	64	12500.00	11429.11	228.61	81	12410.00	11460.00	230.20
14	12500.00	11375.17	233.26	31	12347.92	11383.33	236.00	48	12590.00	11427.61	229.60	65	12500.00	11433.06	229.60	82	12371.86	11400.00	230.17
15	12500.00	11386.22	230.50	32	12358.65	11384.947	233.30	49	12590.00	11429.11	229.28	66	12500.00	11460.00	230.20	83	12371.86	11460.00	230.20
16	12470.00	11364.00	236.00	33	12347.92	11400.00	236.00	50	12590.00	11430.60	229.60	67	12470.00	11400.00	230.17				
17	12470.00	11375.17	233.27	34	12358.65	11400.00	233.30	51	12590.00	11460.00	230.20	68	12470.00	11424.35	229.60				

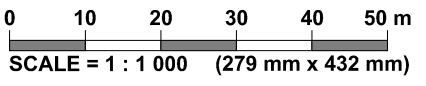
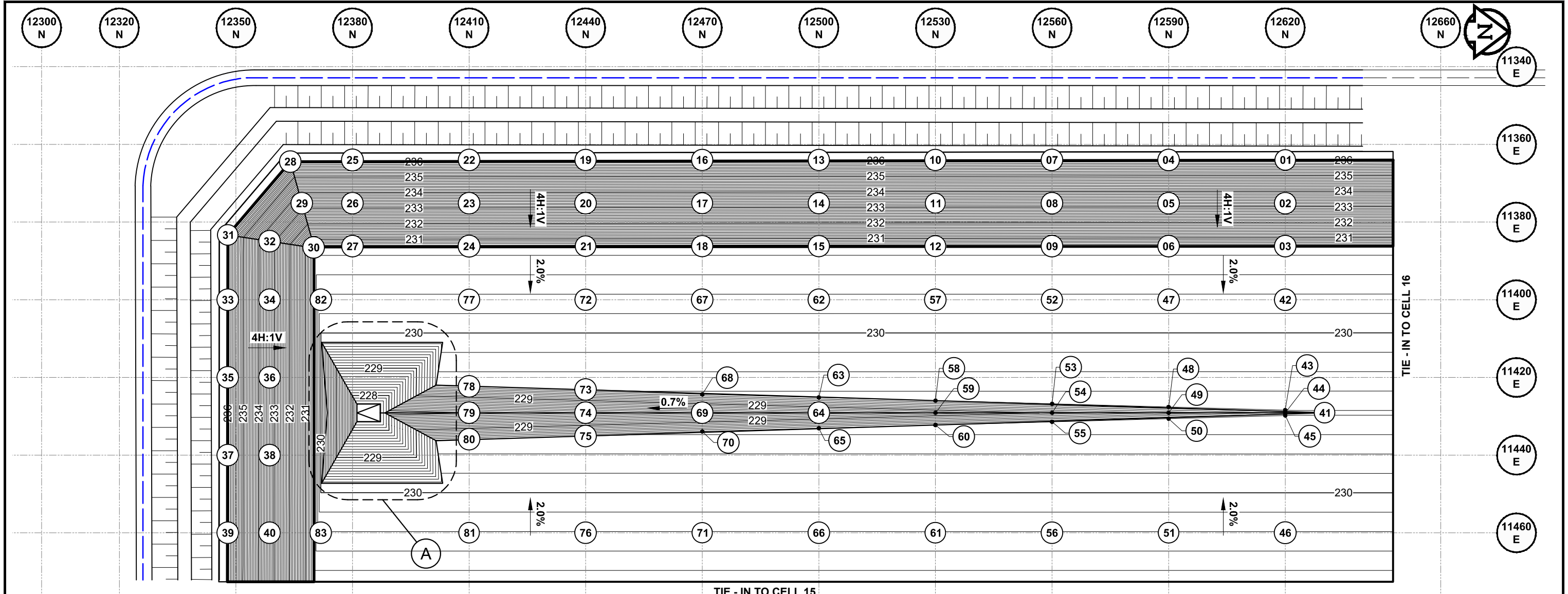


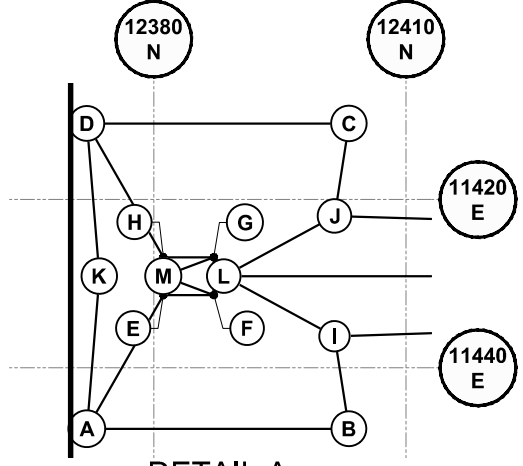
Figure 01A
Cell 17 Survey Certification Points

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TIE - IN TO CELL 15

TIE - IN TO CELL 16



DETAIL A
SCALE: 1 : 900

BASE OF EXCAVATION			
POINT	NORTHING (m)	EASTING (m)	ELEVATION (m)
A	12372.05	11447.27	229.95
B	12403.21	11447.27	229.95
C	12403.21	11410.96	229.95
D	12372.05	11410.96	229.95
E	12381.13	11431.36	227.68
F	12387.13	11431.36	227.68
G	12387.13	11426.86	227.68
H	12381.13	11426.86	227.68
I	12401.52	11436.27	229.73
J	12401.52	11421.96	229.73
K	12373.53	11429.11	229.59
L	12388.34	11429.12	227.85
M	12381.13	11429.11	227.38

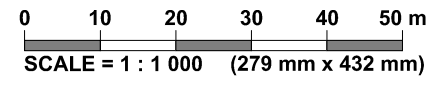
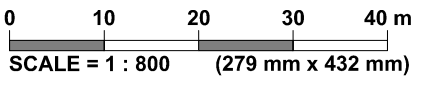
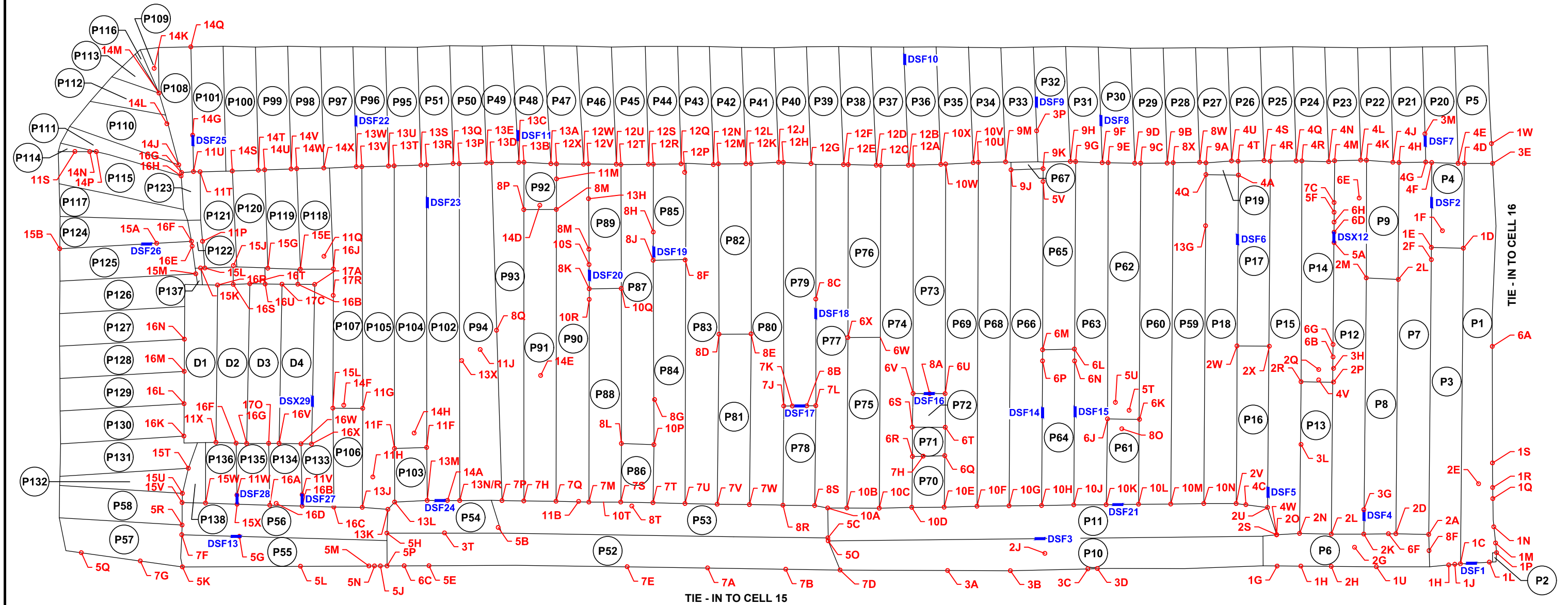


Figure 01B
Cell 17 Survey Certification Points

Z:\Projects\1000 Soils Lab\Lab Projects\1000 Lab Projects\1000-089-08 Cell 17 COA\3 Survey and Dwg\3.4 CAD\3.4.3 Working Folder\Fig 02 2023-10-12 Cell 17 Geomembrane Panel Layout 0_D 1000-089-08.dwg, 2023-10-12 4:01:35 PM



— 4C UNIQUE DEFECT IDENTIFICATION NUMBER
— DSF4 6U DESTRUCTIVE LOCATION AND DESIGNATION
— FUSION SEAM

P01 PANEL DESIGNATION NUMBER

NOTES:

1. PANEL LOCATIONS ARE BASED ON SURVEY COMPLETED BY TREK GEOTECHNICAL.
2. THE DRAWING IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.

Figure 02
Cell 17 Geomembrane Panel Layout

Appendix A-1

Summary of Clay Backfill Laboratory Results

Standard Proctor



www.trekgeotechnical.ca
 1712 St. James Street
 Winnipeg, MB R3H 0L3
 Tel: 204.975.9433 Fax: 204.975.9435

Standard Proctor Compaction Test ASTM D698-12 (2021)



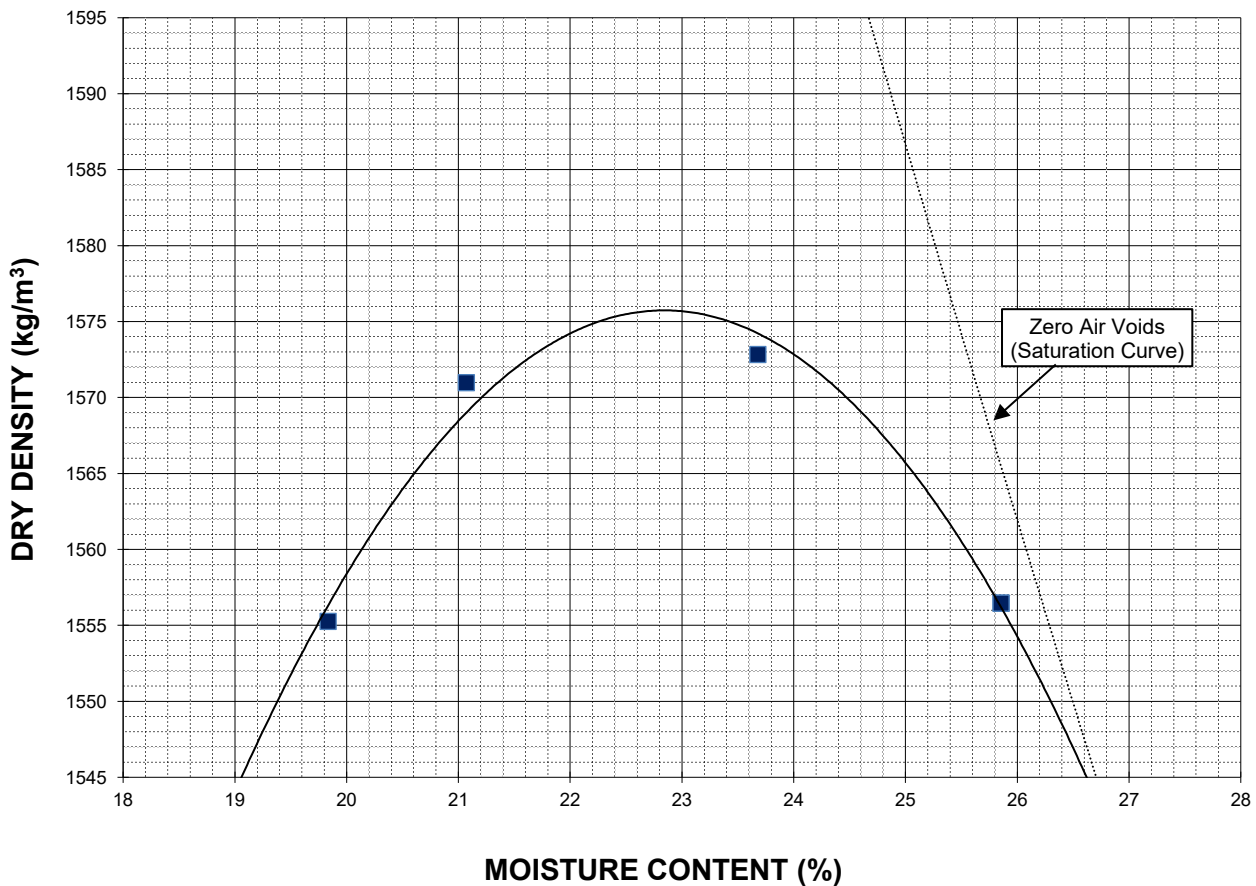
Project No. 1000-089-08
Client Waste Connections
Project Cell 17

Sample # L23-137-01
Source South Stockpile
Material Clay

Sample Date 03-May-23
Test Date 05-May-23
Technician DS

Maximum Dry Density (kg/m³)	1576
Optimum Moisture (%)	22.8

Trial Number	1	2	3	4	
Wet Density (kg/m³)	1864	1902	1945	1959	
Dry Density (kg/m³)	1555	1571	1573	1556	
Moisture Content (%)	19.8	21.1	23.7	25.9	



Note: Additional information recorded/measured for this test is available upon request.



www.trekgeotechnical.ca
1712 St. James Street
Winnipeg, MB R3H 0L3
Tel: 204.975.9433 Fax: 204.975.9435

Standard Proctor Compaction Test

ASTM D698-12 (2021)

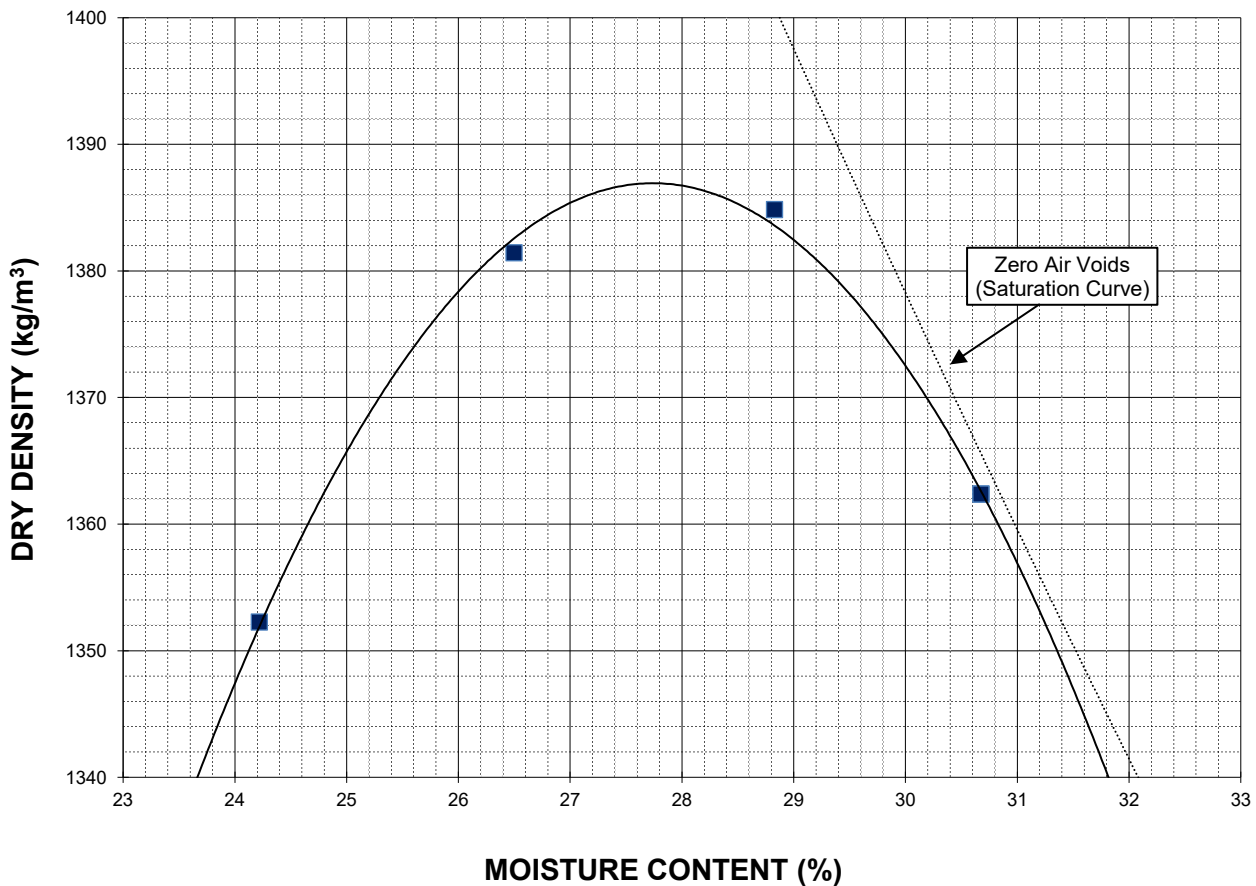


Project No. 1000-089-08
Client Waste Connections
Project Cell 17

Sample # L23-137-02
Source North Stockpile
Material Clay
Sample Date 03-May-23
Test Date 05-May-23
Technician DS

Maximum Dry Density (kg/m³)	1387
Optimum Moisture (%)	27.7

Trial Number	1	2	3	4	
Wet Density (kg/m³)	1680	1748	1784	1780	
Dry Density (kg/m³)	1352	1381	1385	1362	
Moisture Content (%)	24.2	26.5	28.8	30.7	



Note: Additional information recorded/measured for this test is available upon request.



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Standard Proctor Compaction Test

ASTM D698-12 (2021)

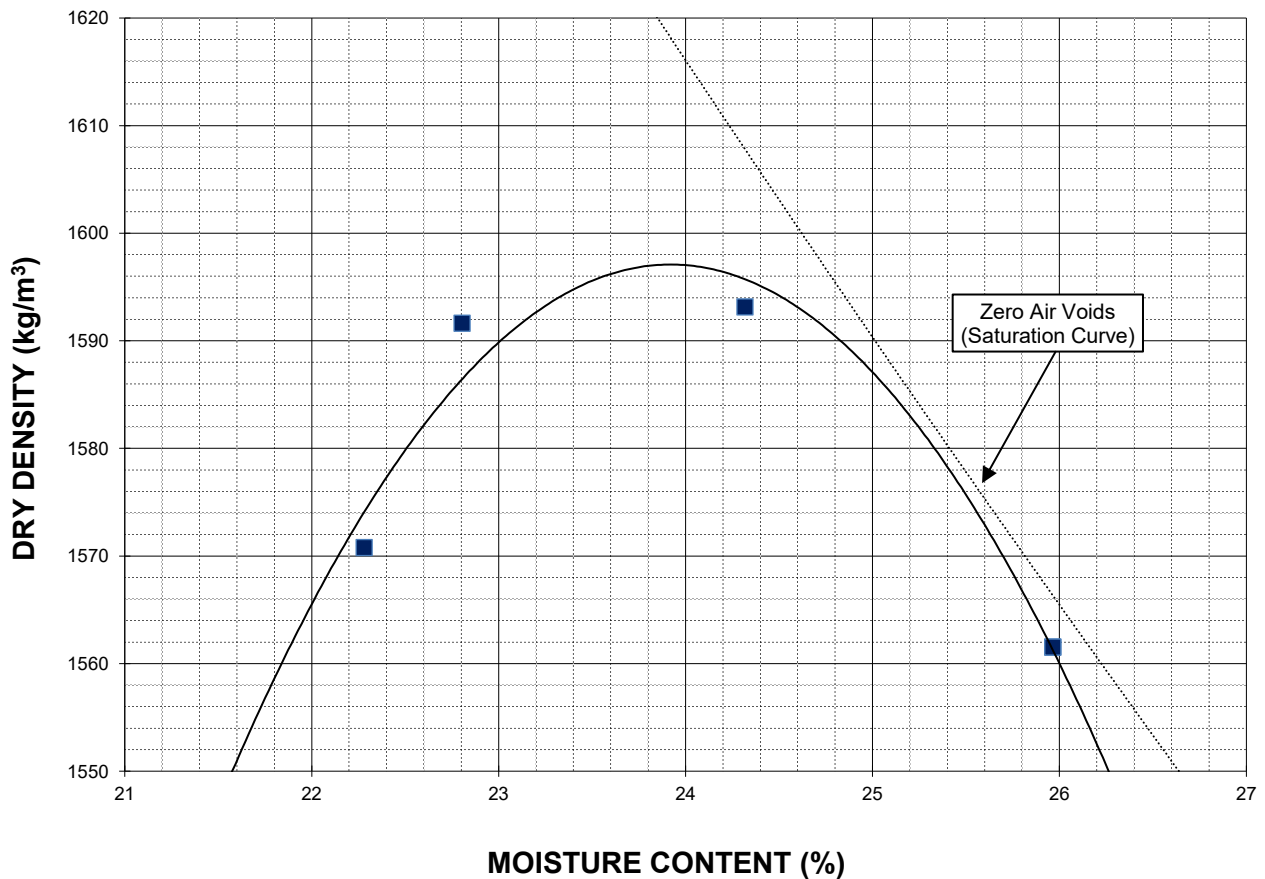


Project No. 1000-089-08
Client Waste Connections
Project Cell 17

Sample # L23-137-03
Source South Stockpile
Material Clay
Sample Date 03-May-23
Test Date 05-May-23
Technician DS

Maximum Dry Density (kg/m³)	1597
Optimum Moisture (%)	23.9

Trial Number	1	2	3	4	
Wet Density (kg/m ³)	1921	1955	1981	1967	
Dry Density (kg/m ³)	1571	1592	1593	1562	
Moisture Content (%)	22.3	22.8	24.3	26.0	



Note: Additional information recorded/measured for this test is available upon request.



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Standard Proctor Compaction Test
ASTM D698-12 (2021)

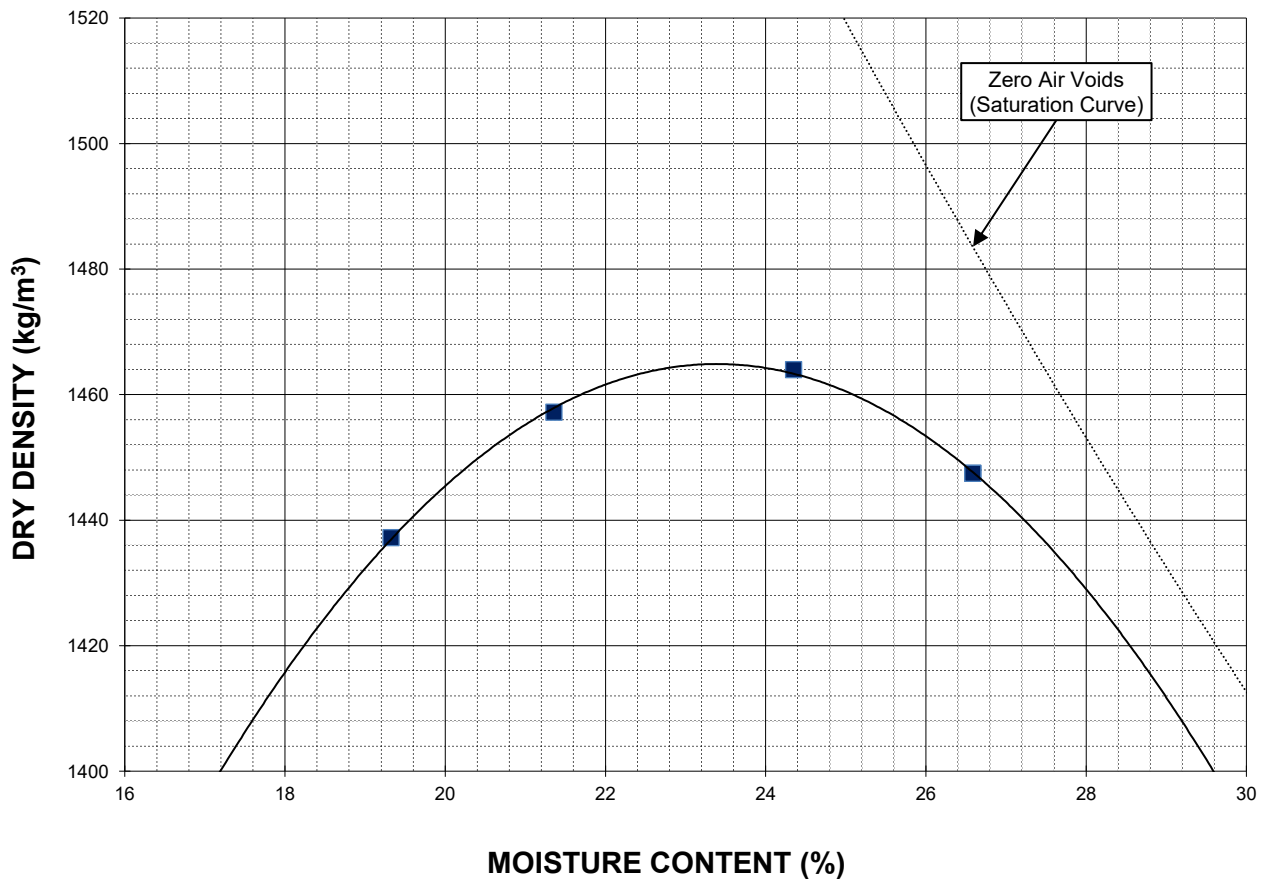


Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17 CQA

Sample # L23-277
Source On-Site
Material Clay
Sample Date 04-Jul-23
Test Date 06-Jul-23
Technician AD

Maximum Dry Density (kg/m³)	1465
Optimum Moisture (%)	23.4

Trial Number	1	2	3	4
Wet Density (kg/m³)	1715	1768	1820	1832
Dry Density (kg/m³)	1437	1457	1464	1447
Moisture Content (%)	19.3	21.4	24.4	26.6



Note: Additional information recorded/measured for this test is available upon request.

Appendix A-2

Field Density Test Reports

- **Recompacted Subgrade**
- **West and South Perimeter Berm**



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 2004
Client	Waste Connections of Canada	Gauge Ser:	69160	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	Insitu	
		Maximum Dry Density	1387	
Date Tested	10-Jul-23	Optimum Moisture %	27.7	
Time Tested	14:00	Proctor Sample Number	L23-137-02	
Technician	AB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
CL1	N 12542, E 11418	100	1760	1402	1279	25.5%	37.6%	92.2%
CL2	N 12539, E 11398	100	1695	1483	1443	14.3%	17.5%	100+%
CL3	N 12564, E 11395	100	1759	1385	1281	27.0%	37.3%	92.3%
CL4	N 12561, E 11419	100	1716	1392	1280	23.3%	34.1%	92.3%
CL5	N 12591, E 11415	100	1748	1373	1359	27.3%	28.6%	98.0%
CL6	N 12591, E 11398	100	1707	1416	1319	20.6%	29.4%	95.1%
CL7	N 12536, E 11445	100	1691	1421	1311	19.0%	28.9%	94.6%
CL8	N 12535, E 11460	100	1681	1398	1308	20.2%	28.5%	94.3%
CL9	N 12561, E 11444	100	1767	1418	1353	24.6%	30.6%	97.6%
CL10	N 12560, E 11457	100	1773	1432	1302	23.8%	36.2%	93.9%
CL11	N 12592, E 11459	100	1779	1462	1385	21.7%	28.4%	99.9%
CL12	N 12592, E 11440	100	1835	1460	1396	25.7%	31.4%	100+%

Notes: Tests completed on reworked existing clay floor subgrade.



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 676	DS: 1962
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	Insitu	
		Maximum Dry Density	1387	
Date Tested	11-Jul-23	Optimum Moisture %	27.7	
Time Tested	9:30	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
CL13	N 12615, E 11425	100	1680	1394	1209	20.5%	39.0%	87.1%
CL14	N 12608, E 11390	100	1758	1386	1262	26.8%	39.3%	91.0%
CL15	N 12625, E 11398	100	1798	1433	1347	25.5%	33.5%	97.1%
CL16	N 12622, E 11434	100	1821	1456	1398	25.1%	30.3%	100+%
CL17	N 12613, E 11460	100	1845	1454	1420	26.9%	29.9%	100+%
CL18	N 12586, E 11461	100	1919	1575	1486	21.8%	29.2%	100+%
CL19	CL10 retest	100	1820	1424	1358	27.8%	34.0%	97.9%
CL20	CL8 retest	100	1876	1542	1428	21.7%	31.4%	100+%
CL21	CL7 retest	100	1868	1498	1385	24.7%	34.8%	99.9%
CL22	CL1 retest	100	1883	1560	1483	20.7%	27.0%	100+%
CL23	CL4 retest	100	1870	1491	1440	25.4%	29.9%	100+%
CL24	CL3 retest	100	1873	1501	1426	24.8%	31.3%	100+%

Notes: Tests completed on reworked existing clay floor subgrade.



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 1962
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IWMF	Source	Insitu	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	12-Jul-23	Optimum Moisture %	27.7	
Time Tested	13:20	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
CL25	CL14 retest	100	1806	1429	1367	26.4%	32.1%	98.6%
CL26	CL13 retest	100	1741	1403	1338	24.1%	30.1%	96.5%
CL27	N 12513, E 11419	100	1877	1557	1510	20.6%	24.3%	100+%
CL28	N 12500, E 11390	100	1789	1445	1398	23.8%	28.0%	100+%
CL29	N 12475, E 11388	100	1808	1434	1377	26.1%	31.3%	99.2%
CL30	N 12480, E 11422	100	1734	1401	1338	23.8%	29.6%	96.5%
CL31	N 12455, E 11422	100	1792	1432	1330	25.1%	34.7%	95.9%
CL32	N 12448, E 11388	100	1747	1471	1400	18.8%	24.8%	100+%
CL33	N 12422, E 11389	100	1868	1484	1409	25.9%	32.6%	100+%
CL34	N 12424, E 11418	100	1850	1509	1447	22.6%	27.9%	100+%
CL35	N 12402, E 11409	100	1713	1409	1248	21.6%	37.3%	90.0%
CL36	N 12384, E 11389	100	1818	1430	1358	27.1%	33.8%	97.9%
CL37	N 12386, E 11450	100	1837	1457	1372	26.1%	33.9%	98.9%
CL38	N 12412, E 11443	100	1733	1434	1337	20.9%	29.6%	96.4%
CL39	N 12416, E 11459	100	1824	1432	1328	27.4%	37.3%	95.7%

Notes: Tests completed on reworked existing clay floor subgrade.



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 1962
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	Insitu	
		Maximum Dry Density	1387	
Date Tested	12-Jul-23	Optimum Moisture %	27.7	
Time Tested	13:20	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
CL40	N 12439, E 11462	100	1822	1446	1366	26.0%	33.4%	98.5%
CL41	N 12440, E 11437	100	1800	1420	1320	26.8%	36.4%	95.2%
CL42	N 12466, E 11435	100	1813	1451	1332	24.9%	36.2%	96.0%
CL43	N 12470, E 11464	100	1812	1424	1354	27.2%	33.9%	97.6%
CL44	N 12496, E 11465	100	1897	1539	1437	23.3%	32.0%	100+%
CL45	N 12497, E 11435	100	1798	1492	1424	20.5%	26.3%	100+%

Notes: Tests completed on reworked existing clay floor subgrade.



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 650	DS: 2240
Client Waste Connections of Canada	Gauge Ser: 65870	
Project Cell 17		
Location Prairie Green IWMF	Material Clay	
Contractor Secure Energy	Source Insitu	
	Maximum Dry Density 1387	
Date Tested 13-Jul-23	Optimum Moisture % 27.7	
Time Tested 10:00	Proctor Sample Number L23-137-02	
Technician LB	Required Density % 95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m³)	Dry Density (kg/m³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
CL46	CL35 retest	100	1772	1436	1417	23.4%	25.0%	100+%

Notes: Tests completed on reworked existing clay floor subgrade.



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 658	DS: 1961
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IIWFMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	24-May-23	Optimum Moisture %	27.7	
Time Tested	11:30	Proctor Sample Number	L23-137-02	
Technician	KM/LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB1	Lift 1, N 12344, E 11412,	200	1795	1359	1247	32.1%	43.9%	89.9%
PB2	Lift 1, N 12352, E 11399	200	1694	1315	1214	28.8%	39.5%	87.5%
PB3	Lift1, N 12348, E 11367	250	1794	1345	1324	33.4%	35.5%	95.4%
PB4	Lift 1, N 12418, E 11353	250	1822	1360	1275	34.0%	42.9%	91.9%
PB5	Lift 1, N 12516, E 11360	250	1720	1355	1280	26.9%	34.4%	92.3%
PB6	Lift 1, N 12544, E 11354	250	1631	1322	1238	23.4%	31.8%	89.2%
PB7	Lift 1,N 12609, E 11362	200	1751	1309	1211	33.8%	44.5%	87.3%
PB8	PB7 retest	200	1680	1200	1265	40.0%	32.8%	91.2%

Notes: Tests completed on a 200 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 679	DS: 1953
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	26-May-23	Optimum Moisture %	27.7	
Time Tested	8:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB9	Lift 1, Retest of PB1	150	1749	1440	1338	21.5%	30.7%	96.4%
PB10	Lift 1, Retest of PB2	150	1763	1439	1317	22.5%	33.9%	94.9%
PB11	Lift 1, Retest of PB4	150	1883	1521	1427	23.8%	31.9%	100+%
PB12	Lift 1, Retest of PB5	150	1822	1360	1372	34.0%	32.8%	98.9%
PB13	Lift 1, Retest of PB6	150	1816	1370	1335	32.6%	36.0%	96.3%
PB14	Lift 1, Retest of PB8	150	1697	1383	1312	22.7%	29.4%	94.6%

Notes: Tests completed on a 200 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 1937
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IIWFMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	29-May-23	Optimum Moisture %	27.7	
Time Tested	8:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB15	Lift 1, N 12408 E 11354	150	1785	1458	1447	22.4%	23.3%	100+%
PB16	Lift 1, N 12439, E 11360	150	1937	1534	1436	26.3%	34.9%	100+%
PB17	Lift 1, N 12475 E 11367	150	1766	1394	1380	26.7%	28.0%	99.5%
PB18	Lift 1, N 12500, E 11361	150	1890	1571	1518	20.3%	24.5%	100+%
PB19	Lift 2, N 12346, E 11370	150	1718	1394	1310	23.2%	31.1%	94.5%
PB20	Lift 2, N 12438, E 11395	150	1754	1365	1327	28.5%	32.2%	95.7%
PB21	Lift 2, N12340, E 11417	150	1757	1331	1301	32.0%	35.0%	93.8%

Notes: Tests completed on a 200 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08 Client Waste Connections of Canada Project Cell 17 Location Prairie Green IIVMF Contractor Secure Energy Date Tested 30-May-23 Time Tested 8:30 Technician LB	Standard Count MS: 672 DS: 1971 Gauge Ser: 69159 Material Clay Source North Stockpile Maximum Dry Density 1387 Optimum Moisture % 27.7 Proctor Sample Number L23-137-02 Required Density % 95
--	--

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB22	Retest of PB 21	100	1749	1464	1405	19.5%	24.5%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 1951
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWFMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	01-Jun-23	Optimum Moisture %	27.7	
Time Tested	15:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB23	Lift 2, N 12397, E 11361	100	1713	1477	1395	16.0%	22.8%	100+%
PB24	Lift 2, N 12424, E 11348	100	1732	1346	1197	28.7%	44.7%	86.3%
PB25	Lift 2, N 12464, E 11363,	100	1846	1519	1457	21.5%	26.7%	100+%
PB26	Lift 2, N 12492, E 11355	100	1860	1551	1462	19.9%	27.2%	100+%
PB27	Lift 2, N 12521, E 11359	100	1800	1384	1277	30.1%	41.0%	92.1%
PB28	Lift 2, N 12559, E 11367	100	1836	1417	1329	29.6%	38.2%	95.8%
PB29	Lift 2, N 12590, E 11355	100	1837	1436	1371	27.9%	34.0%	98.9%
PB30	Lift 2, N 12621, E 11363	100	1830	1476	1436	24.0%	27.4%	100+%
PB31	Lift 1, N 12523, E 11380	150	1819	1466	1338	24.1%	36.0%	96.4%
PB32	Lift 1, N 12490, E 11381	150	1805	1481	1360	21.9%	32.7%	98.1%
PB33	Lift 1, N 12419, E 11383	150	1888	1512	1460	24.9%	29.3%	100+%

Notes: Tests completed on a 150mm and 200mm thick lift of Clay backfill material



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Field Density Report ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 660 DS: 1957
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source South Stockpile
	Maximum Dry Density 1576
Date Tested 29-Jun-23	Optimum Moisture % 22.8
Time Tested 8:00	Proctor Sample Number L23-137-01
Technician LB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB139	Lift 6, N 12539, E 11360	100	1918	1557	1552	23.2%	23.5%	98.5%
PB140	Lift 6, N 12572, E 11361	100	1989	1607	1573	23.8%	26.4%	99.8%
PB142	Lift 7, N 12345, E 11378	100	1948	1602	1587	21.6%	22.8%	100+%
PB143	Lift 7, N 12343, E 11403	100	1978	1626	1592	21.6%	24.2%	100+%
PB144	Lift 7, N 12347, E 11431	100	1959	1578	1544	24.1%	26.8%	98.0%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 674	DS: 1953
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWFMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	02-Jun-23	Optimum Moisture %	27.7	
Time Tested	12:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB34	PB24 Retest	100	1835	1487	1447	23.4%	26.8%	100+%
PB35	PB27 Retest	100	1869	1523	1508	22.7%	24.0%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 674	DS: 1953
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IIWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	06-Jun-23	Optimum Moisture %	27.7	
Time Tested	8:00	Proctor Sample Number	L23-137-02	
Technician	DS	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB36	Lift 3, N 12348, E 11426	150	1839	1477	1457	24.5%	26.3%	100+%
PB37	Lift 3, N 12340, E 11397	150	1791	1389	1371	28.9%	30.6%	98.9%
PB38	Lift 3, N 12348, E 11426	150	1757	1415	1367	24.2%	28.6%	98.5%
PB39	Lift 3, N 12370, E 11359	150	1685	1372	1327	22.8%	27.0%	95.7%
PB40	Lift 3, N 12396, E 11370	150	1767	1342	1333	31.7%	32.6%	96.1%
PB41	Lift 3, N 12423, E 11355	150	1814	1380	1331	31.4%	36.3%	95.9%
PB42	Lift 3, N 12448, E 13566	150	1787	1353	1358	32.1%	31.6%	97.9%
PB43	Lift 3, N 12475, E 11354	150	1700	1421	1371	19.6%	24.0%	98.8%
PB44	Lift 3, N 12501, E 11363	150	1851	1491	1445	24.1%	28.1%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 675 DS: 1946
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IIWFM	Material Clay
Contractor Secure Energy	Source North Stockpile
	Maximum Dry Density 1387
Date Tested 12-Jun-23	Optimum Moisture % 27.7
Time Tested 14:05	Proctor Sample Number L23-137-02
Technician LB/AB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB45	Lift 3, N 12531, E 11361	100	1795	1520	1480	18.1%	21.2%	100+%
PB46	Lift 3, N 12564, E 11366	100	1812	1438	1320	26.0%	37.3%	95.2%
PB47	Lift 3, N 12600, E 11355	100	1765	1395	1331	26.5%	32.6%	96.0%
PB48	Lift 4, N 12340, E 11370	100	1663	1382	1340	20.3%	24.1%	96.6%
PB49	Lift 4, N 12350, E 11404	100	1758	1289	1175	36.4%	49.6%	84.7%
PB50	Lift 4, N 12373, E 11363	100	1730	1396	1350	23.9%	28.1%	97.4%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 670	DS: 1959
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWFMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	13-Jun-23	Optimum Moisture %	27.7	
Time Tested	13:00	Proctor Sample Number	L23-137-02	
Technician	LB/AB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB51	Lift 4, N 12338, E 11427	100	1894	1531	1403	23.7%	35.0%	100+%
PB52	Retest of PB49	100	1738	1415	1347	22.8%	29.0%	97.1%
PB53	Lift 4, N12352 E 11367	100	1757	1399	1317	25.6%	33.4%	95.0%
PB54	Retest of PB50	100	1723	1415	1331	21.8%	29.5%	96.0%
PB55	Lift 4, N 12461, E 11359	100	1715	1409	1351	21.7%	26.9%	97.4%
PB56	Lift 4, N 12500, E 11365	100	1771	1399	1366	26.6%	29.7%	98.5%
PB57	Lift 4, N 12428, E 11357	100	1849	1483	1337	24.7%	38.3%	96.4%
PB58	Lift 1, N 12612, E 11381	100	1793	1413	1326	26.9%	35.2%	95.6%
PB59	Lift 1, N12563, E 11381	100	1768	1512	1471	16.9%	20.2%	100+%
PB60	Lift 1, N 12489, E 11381	100	1731	1448	1368	19.5%	26.6%	98.6%
PB61	Lift 1 N 12445, E 11382	100	1689	1410	1365	19.8%	23.7%	98.4%
PB62	Lift 1, N 12402, E 11379	100	1751	1416	1349	23.7%	29.8%	97.3%
PB63	Lift 1, N 12362 E 11389	100	1740	1416	1359	22.9%	28.0%	98.0%
PB64	Lift 1, N 12365 E 11439	100	1895	1512	1482	25.3%	27.9%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 648	DS: 2218
Client	Waste Connections of Canada	Gauge Ser:	65870	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWFM	Source	South Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1576	
Date Tested	19-Jun-23	Optimum Moisture %	22.8	
Time Tested	8:00	Proctor Sample Number	L23-137-01	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m³)	Dry Density (kg/m³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB65	Lift 5, N 12341, E 11429	100	1936	1622	1588	19.4%	21.9%	100+%
PB66	Lift 5, N 12349, E 11394	100	1996	1717	1670	16.2%	19.5%	100+%
PB67	Lift 5, N 12339, E 11368	100	2005	1684	1675	19.1%	19.7%	100+%
PB68	Lift 5, N 12371, E 11361	100	1855	1569	1583	18.2%	17.2%	100+%
PB69	Lift 5, N 12410, E 11355	100	1871	1505	1458	24.3%	28.3%	92.5%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 648	DS: 2218
Client	Waste Connections of Canada	Gauge Ser:	65870	
Project	Cell 17			
Location	Prairie Green IIWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	19-Jun-23	Optimum Moisture %	27.7	
Time Tested	8:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB70	Lift 2, N 12382, E 11378	100	1722	1510	1482	14.0%	16.2%	100+%
PB71	Lift 2, N 12419, E 11377	100	1684	1433	1381	17.5%	21.9%	99.6%
PB72	Lift 2, N 12461, E 11378	100	1770	1480	1347	19.6%	31.4%	97.1%
PB73	Lift 2, N 12498, E11378	100	1698	1390	1341	22.2%	26.6%	96.7%
PB74	Lift 2, N 12543, E 11379	100	1760	1529	1341	15.1%	31.3%	96.7%
PB75	Lift 2, N 12583, E 11380	100	1677	1464	1418	14.5%	18.3%	100+%
PB76	Lift 2, N 12620, E 11378	100	1709	1465	1412	16.7%	21.1%	100+%
Notes:	Tests completed on a 150 thick lift of Clay backfill material							



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Field Density Report
 ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 674	DS: 1948
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IIWFMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	20-Jun-23	Optimum Moisture %	27.7	
Time Tested	8:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB77	Lift 2, N 12362, E 11390	100	1776	1511	1413	17.5%	25.7%	100+%
PB78	Lift 2, N 12364, E 11433	100	1877	1564	1558	20.0%	20.5%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 669	DS: 1949
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IIWFMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	21-Jun-23	Optimum Moisture %	27.7	
Time Tested	10:30	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB79	Lift 3, N 12385 E 11379	100	1782	1459	1383	22.1%	28.8%	99.7%
PB80	Lift 3, N 12420, E 11380	100	1722	1407	1328	22.4%	29.6%	95.8%
PB81	Lift 3, N 12453, E 11380	100	1776	1461	1345	21.6%	32.0%	97.0%
PB82	Lift 3, N 12496, E 11378	100	1797	1423	1335	26.3%	34.6%	96.2%
PB83	Lift 3, N 12532, E 11380	100	1840	1480	1382	24.3%	33.2%	99.6%
PB84	Lift 3, N 12561, E 11380	100	1870	1503	1423	24.4%	31.4%	100+%
PB85	Lift 3, N 12593, E 11377	100	1833	1476	1351	24.2%	35.6%	97.4%
PB86	Lift 3, N 12618, E 11377	100	1822	1460	1411	24.8%	29.2%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 663	DS: 1961
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	South Stockpile	
		Maximum Dry Density	1387	
Date Tested	22-Jun-23	Optimum Moisture %	27.7	
Time Tested	12:00	Proctor Sample Number	L23-137-02	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB87	Lift 5, N 12448, E 11361	100	1757	1454	1425	20.8%	23.3%	100+%
PB88	PB69 Retest	100	1699	1422	1383	19.5%	22.9%	99.7%
PB89	Lift 5, N 12500, E11364	100	1773	1440	1368	23.1%	29.6%	98.6%
PB90	Lift 4, N12543, E 11357	100	1870	1481	1425	26.3%	31.2%	100+%
PB91	Lift 4, N 12599, E 11363	100	1764	1459	1427	20.9%	23.6%	100+%
PB92	Lift 4, N 12606, E 11377	100	1765	1430	1346	23.4%	31.1%	97.0%
PB93	Lift 4, N 12564, E 11378	100	1805	1424	1321	26.8%	36.6%	95.3%
PB94	Lift 4, N 12529, E 11377	100	1845	1531	1458	20.5%	26.5%	100+%
PB95	Lift 4, N 12491, E 11377	100	1717	1411	1343	21.7%	27.9%	96.8%
PB96	Lift 4, N 12440, E 11379	100	1817	1467	1388	23.9%	30.9%	100+%
PB97	Lift 4, N 12404, E 11379	100	1816	1471	1398	23.5%	29.9%	100+%
PB98	Lift 3, N 12363, E 11388	100	1903	1571	1494	21.1%	27.4%	100+%
PB99	Lift 3, N 12362, E 11427	100	1693	1405	1339	20.5%	26.5%	96.5%
PB100	Lift 3, N 12362, E 11450	100	1765	1451	1424	21.6%	24.0%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 666	DS: 1972
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IWMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	23-Jun-23	Optimum Moisture %	27.7	
Time Tested	11:00	Proctor Sample Number	L23-137-02	
Technician	AB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB101	Lift 5, N 12376, E 11378	100	1796	1446	1340	24.2%	34.0%	96.6%
PB102	Lift 5, N 12416, E 11380	100	1773	1433	1327	23.7%	33.6%	95.7%
PB103	Lift 5, N 12456, E 11377	100	1803	1422	1381	26.8%	30.5%	99.6%
PB104	Lift 5, N 12529, E11378	100	1774	1537	1464	15.4%	21.2%	100+%
PB105	Lift 5, N 12592, E11377	100	1859	1460	1396	27.3%	33.2%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 670 DS: 1962
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source South Stockpile
	Maximum Dry Density 1576
Date Tested 24-Jun-23	Optimum Moisture % 22.8
Time Tested 12:00	Proctor Sample Number L23-137-02
Technician AB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB106	Lift 6, N 12346, E 11435	100	1956	1621	1534	20.7%	27.5%	97.3%
PB107	Lift 6, N 12339, E 11386	100	1918	1591	1543	20.6%	24.3%	97.9%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 670	DS: 1962
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1387	
Date Tested	24-Jun-23	Optimum Moisture %	27.7	
Time Tested	12:00	Proctor Sample Number	L23-137-02	
Technician	AB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB108	Lift 6, N 12372, E11377	100	1748	1390	1335	25.8%	31.0%	96.2%
PB109	Lift 6, N12412, E 11378	100	1878	1517	1343	23.8%	39.9%	96.8%
PB110	Lift 6, N 12492, E 11376	100	1715	1390	1320	23.4%	30.0%	95.1%
PB111	Lift 6, N 12566, E 11378	100	1830	1468	1405	24.7%	30.2%	100+%
PB112	Lift 6, N 12603, E 11377	100	1815	1437	1358	26.3%	33.6%	97.9%
PB113	Lift 4, N 12360, E 11453	100	1829	1510	1356	21.1%	34.9%	97.8%
PB114	Lift 4, N 12362, E 11414	100	1758	1417	1334	24.1%	31.7%	96.2%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report

ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 674 DS: 1955
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source North Stockpile
	Maximum Dry Density 1387
Date Tested 25-Jun-23	Optimum Moisture % 27.7
Time Tested 12:30	Proctor Sample Number L23-137-02
Technician AB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB115	Lift 7, N 12375, E11378	100	1825	1434	1374	27.3%	32.9%	99.0%
PB116	Lift 7, N12426, E 11377	100	1865	1507	1490	23.8%	25.1%	100+%
PB117	Lift 7, N 12489, E 11377	100	1839	1446	1395	27.2%	31.8%	100+%
PB118	Lift 7, N 12542, E 11376	100	1765	1407	1384	25.4%	27.5%	99.8%
PB119	Lift 7, N 12591, E 11376	100	1785	1463	1434	22.0%	24.5%	100+%
PB120	Lift 5, N 12361, E 11447	100	1849	1518	1463	21.8%	26.4%	100+%
PB121	Lift 5, N 12360, E 11406	100	1902	1568	1427	21.3%	33.3%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 672 DS: 1960
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source South Stockpile
	Maximum Dry Density 1576
Date Tested 26-Jun-23	Optimum Moisture % 22.8
Time Tested 11:00	Proctor Sample Number L23-137-02
Technician AB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB122	Lift 6, N 12379, E 11355	100	2001	1686	1635	18.7%	22.4%	100+%
PB123	Lift 6, N 12425, E 11368	100	1935	1654	1510	17.0%	28.2%	95.8%
PB124	Lift 6, N 12479, E 11355	100	2036	1732	1676	17.6%	21.5%	100+%
PB125	Lift 5, N12525, E 11363	100	1968	1619	1576	21.6%	24.8%	100+%
PB126	Lift 5, N 12573, E 11358	100	2000	1684	1604	18.8%	24.7%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 663	DS: 1961
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IWMF	Source	North Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1387	
Date Tested	26-Jun-23	Optimum Moisture %	27.7	
Time Tested	11:00	Proctor Sample Number	L23-137-02	
Technician	AB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB127	Lift 8, N 12603, E 11376	100	1699	1388	1357	22.4%	25.2%	97.8%
PB128	Lift 8, N 12554, E 11377	100	1786	1477	1383	20.9%	29.1%	99.7%
PB129	Lift 8, N 12495, E 11377	100	1747	1461	1417	19.6%	23.3%	100+%
PB130	Lift 8, N 12436, E 11379	100	1801	1481	1376	21.6%	30.9%	99.2%
PB131	Lift 8, N 12383, E 11376	100	1751	1424	1340	23.0%	30.7%	96.6%
PB132	Lift 6, N 12360, E 11398	100	1720	1398	1349	23.0%	27.5%	97.2%
PB133	Lift 6, N 12360, E 11440	100	1844	1457	1380	26.6%	33.6%	99.5%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 668 DS: 1958
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source North Stockpile
	Maximum Dry Density 1387
Date Tested 27-Jun-23	Optimum Moisture % 27.7
Time Tested 8:00	Proctor Sample Number L23-137-02
Technician AB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m³)	Dry Density (kg/m³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB134	Lift 9, N 12525, E 11376	100	1856	1520	1468	22.1%	26.5%	100+%
PB135	Lift 9, N 12537, E 11376	100	1755	1468	1370	19.6%	28.1%	98.8%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 660 DS: 1957
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source North Stockpile
	Maximum Dry Density 1387
Date Tested 29-Jun-23	Optimum Moisture % 27.7
Time Tested 8:00	Proctor Sample Number L23-137-02
Technician LB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB136	Lift 7, N 12396, E 11362	100	1839	1440	1378	27.7%	33.5%	99.4%
PB137	Lift 7, N 12449, E 11359	100	1821	1493	1446	22.0%	26.0%	100+%
PB138	Lift 7, N 12486, E 11361	100	1864	1489	1437	25.2%	29.7%	100+%
PB141	Lift 6, N 12626, E 11358	100	1886	1469	1391	28.4%	35.6%	100+%
PB145	Lift 6, N 12357, E 11379	100	1958	1666	1603	17.5%	22.1%	100+%
PB146	Lift 6, N 12359, E 11413	100	1869	1570	1469	19.0%	27.2%	100+%
PB147	Lift 6, N 12360, E 11440	100	1874	1502	1432	24.8%	30.9%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 660	DS: 1957
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17	Material	Clay	
Location	Prairie Green IWMF	Source	South Stockpile	
Contractor	Secure Energy	Maximum Dry Density	1576	
Date Tested	29-Jun-23	Optimum Moisture %	22.8	
Time Tested	8:00	Proctor Sample Number	L23-137-01	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB139	Lift 6, N 12539, E 11360	100	1918	1557	1552	23.2%	23.5%	98.5%
PB140	Lift 6, N 12572, E 11361	100	1989	1607	1573	23.8%	26.4%	99.8%
PB142	Lift 7, N 12345, E 11378	100	1948	1602	1587	21.6%	22.8%	100+%
PB143	Lift 7, N 12343, E 11403	100	1978	1626	1592	21.6%	24.2%	100+%
PB144	Lift 7, N 12347, E 11431	100	1959	1578	1544	24.1%	26.8%	98.0%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

<p>Project No. 1000-089-08</p> <p>Client Waste Connections of Canada</p> <p>Project Cell 17</p> <p>Location Prairie Green IWMF</p> <p>Contractor Secure Energy</p> <p>Date Tested 03-Jul-23</p> <p>Time Tested 8:00</p> <p>Technician LB</p>	<p>Standard Count MS: 671 DS: 1950</p> <p>Gauge Ser: 69159</p> <p>Material Clay</p> <p>Source North Stockpile</p> <p>Maximum Dry Density 1576</p> <p>Optimum Moisture % 22.8</p> <p>Proctor Sample Number L23-137-01</p> <p>Required Density % 95</p>
--	--

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB148	Lift 7, N 12521, E 11361	100	1968	1639	1606	20.1%	22.5%	100+%
PB149	Lift 7, N 12553, E 11362	100	1974	1626	1611	21.4%	22.6%	100+%
PB150	Lift 7, N 12582, E 11361	100	1972	1658	1620	18.9%	21.7%	100+%
PB151	Lift 7, N 12606, E 11360	100	1887	1606	1575	17.5%	19.8%	99.9%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report ASTM D6938-17A

Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17
Location Prairie Green IWMF
Contractor Secure Energy

Date Tested 04-Jul-23
Time Tested 8:00
Technician LB

Standard Count MS: 672 **DS:** 1959
Gauge Ser: 69159

Material Clay
Source North Stockpile
Maximum Dry Density 1387
Optimum Moisture % 27.7
Proctor Sample Number L23-137-02
Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB152	Lift 7, N 12357, E 11439	100	1921	1544	1427	24.4%	34.6%	100+%
PB153	Lift 7, N 12357, E 11404	100	1817	1491	1366	21.9%	33.1%	98.5%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 672	DS: 1959
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	South Stockpile	
		Maximum Dry Density	1576	
Date Tested	04-Jul-23	Optimum Moisture %	22.8	
Time Tested	8:00	Proctor Sample Number	L23-137-01	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB154	Lift 7, N 12621, E 11361	100	1871	1597	1546	17.2%	21.0%	98.1%
PB155	Lift 7, N 12584, E11362	100	1912	1662	1590	15.0%	20.3%	100+%
PB156	Lift 7, N 12538, E 11363	100	1903	1674	1606	13.7%	18.5%	100+%
PB157	Lift 8, N 12499, E 11362	100	1899	1626	1577	16.8%	20.4%	100+%
PB158	Lift 8, N 12472, E 11364	100	1911	1598	1572	19.6%	21.6%	99.7%
PB159	Lift 8, N 12421, E 11361	100	1898	1622	1580	17.0%	20.1%	100+%
PB160	Lift 8, N 12376, E 11362	100	1825	1594	1515	14.5%	20.5%	96.1%
Notes:	Tests completed on a 150 thick lift of Clay backfill material							



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 668	DS: 1971
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1465	
Date Tested	05-Jul-23	Optimum Moisture %	23.4	
Time Tested	9:00	Proctor Sample Number	L23-277	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB161	Lift 9, N 12376, E 11362	100	1874	1529	1410	22.6%	32.9%	96.3%
PB162	Lift 9, N 12430, E 11363	100	1883	1586	1471	18.7%	28.0%	100+%
PB163	Lift 9, N 12462, E 11363	100	1863	1576	1510	18.2%	23.4%	100+%
PB164	Lift 9, N 12496, E 11362	100	1888	1558	1519	21.2%	24.3%	100+%
PB165	Lift 8, N 12534, E 11364	100	1841	1546	1481	19.1%	24.3%	100+%
PB166	Lift 8, N 12568, E 11363	100	1762	1509	1440	16.8%	22.4%	98.3%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 670	DS: 1928
Client	Waste Connections of Canada	Gauge Ser:	69159	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1465	
Date Tested	06-Jul-23	Optimum Moisture %	23.4	
Time Tested	10:00	Proctor Sample Number	L23-277	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB167	Lift 10, N 12378, E 11362	100	1782	1512	1452	17.9%	22.7%	99.1%
PB168	Lift 10, N 12417, E 11362	100	1750	1517	1445	15.4%	21.1%	98.6%
PB169	Lift 10, N 12451, E 11362	100	1816	1538	1451	18.1%	25.1%	99.1%
PB170	Lift 10, N 12486, E 11363	100	1808	1602	1436	12.9%	25.9%	98.0%
PB171	Lift 10, N 12528, E 11362	100	1763	1533	1420	15.0%	24.2%	96.9%
PB172	Lift 9, N 12567, E 11363	100	1867	1571	1473	18.8%	26.7%	100+%
PB173	Lift 9, N 12601, E11361	100	1768	1512	1445	16.9%	22.4%	98.6%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 670 DS: 1928
Client Waste Connections of Canada	Gauge Ser: 69159
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source South Stockpile
	Maximum Dry Density 1576
Date Tested 06-Jul-23	Optimum Moisture % 22.8
Time Tested 10:00	Proctor Sample Number L23-137-01
Technician LB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB174	Lift 9, N 12347, E 11380	100	1947	1638	1573	18.9%	23.8%	99.8%
PB175	Lift 9, N 12346, E 11414	100	1905	1609	1507	18.4%	26.4%	95.6%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No. 1000-089-08	Standard Count MS: 671 DS: 2014
Client Waste Connections of Canada	Gauge Ser: 69160
Project Cell 17	
Location Prairie Green IWMF	Material Clay
Contractor Secure Energy	Source South Stockpile
	Maximum Dry Density 1576
Date Tested 10-Jul-23	Optimum Moisture % 22.8
Time Tested 9:30:00 am and 2:00 pm	Proctor Sample Number L23-137-01
Technician AB/LB	Required Density % 95

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB176	Lift 9, N 12347, E 11398	100	2002	1679	1624	19.2%	23.3%	100+%
PB177	Lift 9, N 12347, E 11424	100	1937	1620	1609	19.6%	20.4%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 671	DS: 2014
Client	Waste Connections of Canada	Gauge Ser:	69160	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	North Stockpile	
		Maximum Dry Density	1465	
Date Tested	10-Jul-23	Optimum Moisture %	23.4	
Time Tested	14:00	Proctor Sample Number	L23-277	
Technician	LB	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB178	Lift 10, N 12346, E 11398	100	1872	1593	1544	17.5%	21.2%	100+%
PB179	Lift 10, N 12345, E 11420	100	1826	1525	1482	19.7%	23.2%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material



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Field Density Report
ASTM D6938-17A

Project No.	1000-089-08	Standard Count	MS: 671	DS: 2014
Client	Waste Connections of Canada	Gauge Ser:	79227	
Project	Cell 17			
Location	Prairie Green IWMF	Material	Clay	
Contractor	Secure Energy	Source	N	
		Maximum Dry Density	1465	
Date Tested	13-Sep-23	Optimum Moisture %	23.4	
Time Tested	9:00	Proctor Sample Number	L23-277	
Technician	TN	Required Density %	95	

Test Number	Test Location	Probe Depth (mm)	Wet Density (kg/m ³)	Dry Density (kg/m ³)		Moisture Content		Percent Proctor
				Field	Corrected	Field	Dry-Back	
PB180	Final Lift, N 11345, E 11445	150	1677	1440	1403	16.5%	19.6%	95.7%
PB181	Final Lift, N 12345, E 11405	150	1805	1534	1510	17.7%	19.5%	100+%
PB182	Final Lift, N 12363, E 11366	150	1778	1499	1452	18.6%	22.4%	99.1%
PB183	Final Lift, N 12380, E 11366	150	1872	1589	1550	17.8%	20.8%	100+%
PB184	Final Lift, N 12433, E 11367	150	1845	1604	1525	15.0%	21.0%	100+%
PB185	Final Lift, N 12485, E 11366	150	1748	1475	1445	18.5%	20.9%	98.7%
PB186	Final Lift, N 12541, E 11367	150	2024	1693	1648	19.6%	22.8%	100+%
PB187	Final Lift, N 12590, E 11366	150	1780	1780	1422	0.0%	25.2%	97.0%
PB188	Final Lift, N 12621, E 11367	150	1797	1797	1797	0.0%	0.0%	100+%

Notes: Tests completed on a 150 thick lift of Clay backfill material

Appendix A-3

Laboratory Hydraulic Conductivity Test Results

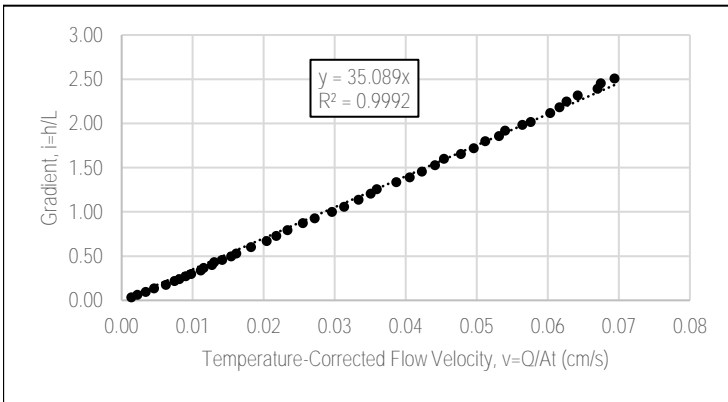
- **Sand Drainage Layer**
-

Project No.	1000-089-08
Client	Waste Connections
Project	Cell 17 CQA
Technician	AD

Sample #	DS-2
Source	On Site
Material	Sand
Sample Date	14-Aug-23
Test Date	15-Aug-23

Grain Size	
USCS Classification	
Maximum Particle Size (mm)	0.075
Oversize Material not used	0%

Density		
Material Properties		
SPMDD (kg/m ³)	1824	
Optimum Moisture Content	14.4%	
Minimum Relative Dry Density (kg/m ³)	0	
Maximum Relative Dry Density (kg/m ³)	N/A	
Specific Gravity (Measured)	2.66	
Test Sample		
	Initial	Final
Density (kg/m ³)	1728	2046
Moisture Content	0.0%	17.4%
Dry Density (kg/m ³)	1728	1743
% SPMDD	95%	96%
% Relative Density	N/A	N/A
Void Ratio	0.54	0.53
Porosity	0.35	0.34



Notes
 Linear laminar flow region used to determine average temperature corrected permeability. All tests (1 to 46) interpreted as laminar flow.

Average Temperature Corrected Permeability, k_{20}	2.79E-04 m/s	2.79E-02 cm/s
--	---------------------	----------------------

Test No.	Manometers (cm)		Head, h (cm)	Q (cm ³)	t (s)	Q/At (cm/s)	h/L	Temp (°C)	k_{20} (cm/s)
	H ₁	H ₂							
1	80.5	81.0	0.5	14.3	56	0.00	0.03	21.0	4.18E-02
2	79.9	80.8	0.9	12.3	30	0.00	0.06	20.9	3.73E-02
3	79.1	80.5	1.4	18.8	30	0.00	0.09	20.8	3.67E-02
4	78.2	80.2	2.0	25.7	30.2	0.00	0.13	20.9	3.48E-02
5	77.1	79.7	2.6	29.1	25.25	0.01	0.17	21.0	3.62E-02
6	75.8	79.1	3.3	32.2	23.5	0.01	0.22	20.7	3.42E-02
7	75.3	78.9	3.6	30.3	20.4	0.01	0.24	20.5	3.41E-02
8	74.3	78.4	4.1	33.8	20.5	0.01	0.27	20.5	3.33E-02
9	73.5	78.0	4.5	36.6	20.4	0.01	0.30	20.5	3.30E-02
10	72.3	77.4	5.1	41.6	20.35	0.01	0.34	20.6	3.30E-02
11	71.8	77.3	5.5	33.0	15.55	0.01	0.36	20.6	3.19E-02
12	70.6	76.6	6.0	36.2	15.45	0.01	0.40	20.7	3.22E-02
13	70.0	76.5	6.5	36.8	15.35	0.01	0.43	20.7	3.04E-02
14	69.0	75.9	6.9	39.8	15.3	0.01	0.46	20.6	3.11E-02
15	67.9	75.4	7.5	43.3	15.35	0.02	0.50	20.4	3.12E-02
16	67.0	75.0	8.0	45.5	15.45	0.02	0.53	20.4	3.05E-02
17	65.0	74.1	9.1	40.8	12.3	0.02	0.60	20.3	3.03E-02
18	63.2	73.3	10.1	38.9	10.45	0.02	0.67	20.3	3.06E-02
19	61.8	72.8	11.0	41.6	10.45	0.02	0.73	20.4	3.00E-02
20	60.0	72.0	12.0	43.7	10.25	0.02	0.79	20.4	2.94E-02

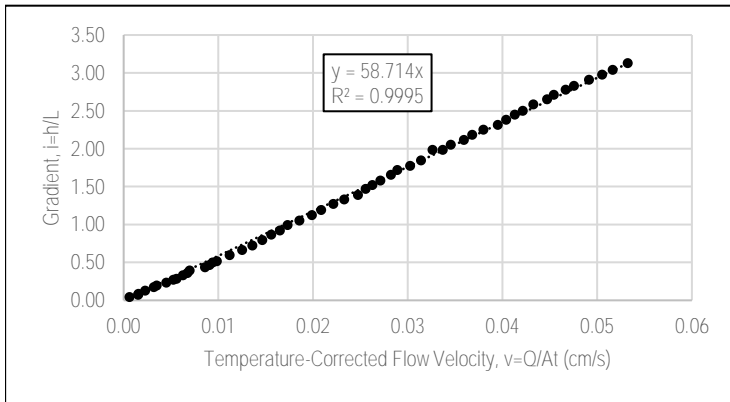
21	57.8	71.0	13.2	48.8	10.45	0.03	0.87	20.5	2.92E-02
22	56.5	70.5	14.0	51.1	10.3	0.03	0.93	20.4	2.94E-02
23	54.4	69.5	15.1	56.6	10.5	0.03	1.00	20.3	2.97E-02
24	52.7	68.7	16.0	59.0	10.35	0.03	1.06	20.3	2.96E-02
25	50.5	67.7	17.2	62.9	10.35	0.03	1.14	20.3	2.94E-02
26	48.8	67.0	18.2	64.8	10.15	0.04	1.20	20.3	2.92E-02
27	47.5	66.5	19.0	67.2	10.3	0.04	1.26	20.2	2.86E-02
28	45.2	65.4	20.2	72.3	10.3	0.04	1.34	20.2	2.90E-02
29	43.5	64.5	21.0	76.8	10.4	0.04	1.39	20.3	2.92E-02
30	41.8	63.8	22.0	79.6	10.35	0.04	1.45	20.3	2.91E-02
31	39.7	62.8	23.1	83.1	10.35	0.04	1.53	20.3	2.89E-02
32	38.0	62.2	24.2	85.3	10.3	0.05	1.60	20.4	2.84E-02
33	36.0	61.0	25.0	89.8	10.3	0.05	1.65	20.4	2.89E-02
34	34.0	60.0	26.0	93.9	10.35	0.05	1.72	20.5	2.89E-02
35	32.0	59.2	27.2	94.1	10.05	0.05	1.80	20.5	2.85E-02
36	30.0	58.1	28.1	99.4	10.25	0.05	1.86	20.4	2.86E-02
37	28.4	57.4	29.0	99.7	10.15	0.05	1.92	20.3	2.82E-02
38	26.5	56.5	30.0	106.3	10.35	0.06	1.98	20.3	2.85E-02
39	24.5	55.0	30.5	107.4	10.25	0.06	2.02	20.3	2.86E-02
40	22.5	54.5	32.0	112.8	10.3	0.06	2.12	20.2	2.85E-02
41	20.6	53.6	33.0	113.0	10.15	0.06	2.18	20.0	2.83E-02
42	18.7	52.7	34.0	117.7	10.4	0.06	2.25	20.0	2.79E-02
43	16.5	51.5	35.0	99.8	8.6	0.06	2.31	20.0	2.78E-02
44	14.0	50.2	36.2	104.7	8.65	0.07	2.39	20.0	2.80E-02
45	12.0	49.1	37.1	96.3	7.9	0.07	2.45	20.0	2.75E-02
46	10.5	48.4	37.9	97.2	7.75	0.07	2.50	20.0	2.77E-02

Project No.	1000-089-08
Client	Waste Connection
Project	Cell 17 CQA
Technician	AD/SC

Sample #	DS-4
Source	On-Site
Material	Sand
Sample Date	16-Aug-23
Test Date	21-Aug-23

Grain Size	
USCS Classification	
Maximum Particle Size (mm)	9.5
Oversize Material not used	100%

Density		
Material Properties		
SPMDD (kg/m ³)	1824	
Optimum Moisture Content	14.4%	
Minimum Relative Dry Density (kg/m ³)	0	
Maximum Relative Dry Density (kg/m ³)	N/A	
Specific Gravity	2.66	
Test Sample		
	Initial	Final
Density (kg/m ³)	1791	2087
Moisture Content	0.1%	16.3%
Dry Density (kg/m ³)	1789	1795
% SPMDD	98%	98%
% Relative Density	N/A	N/A
Void Ratio	0.49	0.48
Porosity	0.33	0.33



Notes
 Linear laminar flow reions used to determine average temperature coreected permeability. All tests (1 to 55) interpreted as laminar flow.

Average Temperature Corrected Permeability, k_{20}	1.66E-04 m/s	1.66E-02 cm/s
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Test No.	Manometers (cm)		Head, h (cm)	Q (cm ³)	t (s)	Q/At (cm/s)	h/L	Temp (°C)	k_{20} (cm/s)
	H ₁	H ₂							
1	78.4	77.8	0.6	6.8	59.85	0.00	0.04	20.3	1.57E-02
2	78.3	77.2	1.1	16.8	60	0.00	0.07	20.3	2.11E-02
3	78.1	76.8	1.3	17.3	59.965	0.00	0.09	20.2	1.84E-02
4	77.7	75.8	1.9	24.8	60	0.00	0.13	20.2	1.81E-02
5	77.0	74.4	2.6	35.0	60	0.00	0.17	20.2	1.87E-02
6	76.7	73.8	2.9	38.3	60	0.00	0.19	20.2	1.83E-02
7	75.6	72.1	3.5	49.3	60	0.00	0.23	20.2	1.96E-02
8	74.5	70.4	4.1	57.4	60	0.01	0.27	20.2	1.94E-02
9	73.6	69.3	4.3	61.0	60	0.01	0.28	20.3	1.97E-02
10	72.0	67.0	5.0	51.5	45.15	0.01	0.33	20.2	1.90E-02
11	71.7	66.3	5.4	55.2	45.1	0.01	0.36	20.2	1.89E-02
12	71.3	65.4	5.9	37.9	30.25	0.01	0.39	19.8	1.79E-02
13	70.6	64.0	6.6	23.5	15.25	0.01	0.44	19.7	1.97E-02
14	70.3	63.3	7.0	24.5	15.1	0.01	0.46	19.6	1.96E-02
15	70.3	62.8	7.5	25.5	15.2	0.01	0.50	19.5	1.90E-02
16	70.0	62.2	7.8	26.7	15.19	0.01	0.52	19.5	1.91E-02
17	69.4	60.4	9.0	30.3	15.125	0.01	0.59	19.6	1.89E-02
18	68.4	58.4	10.0	34.0	15.19	0.01	0.66	19.6	1.89E-02
19	67.9	57.0	10.9	37.1	15.25	0.01	0.72	19.6	1.89E-02
20	67.3	55.3	12.0	39.9	15.235	0.01	0.79	19.6	1.85E-02

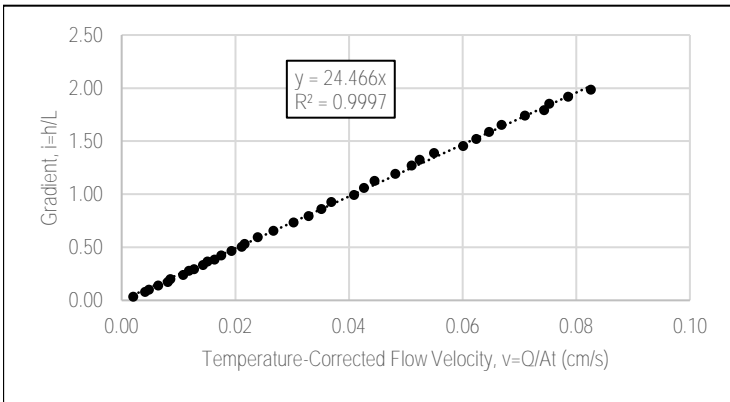
21	68.3	55.2	13.1	42.7	15.3	0.02	0.87	19.6	1.80E-02
22	67.8	53.9	13.9	45.2	15.3	0.02	0.92	19.6	1.80E-02
23	67.3	52.3	15.0	47.5	15.25	0.02	0.99	19.8	1.75E-02
24	66.8	50.9	15.9	51.7	15.45	0.02	1.05	19.9	1.77E-02
25	66.5	49.5	17.0	55.2	15.4	0.02	1.12	19.9	1.77E-02
26	66.0	48.0	18.0	57.4	15.25	0.02	1.19	19.9	1.75E-02
27	65.4	46.2	19.2	61.7	15.45	0.02	1.27	19.9	1.75E-02
28	65.0	44.9	20.1	64.5	15.35	0.02	1.33	19.9	1.75E-02
29	64.5	43.5	21.0	68.3	15.3	0.02	1.39	19.9	1.78E-02
30	68.5	46.3	22.2	70.1	15.2	0.03	1.47	19.9	1.74E-02
31	68.3	45.3	23.0	72.9	15.35	0.03	1.52	20.0	1.73E-02
32	68.0	44.1	23.9	74.5	15.2	0.03	1.58	20.0	1.72E-02
33	67.2	42.2	25.0	78.0	15.25	0.03	1.65	20.1	1.71E-02
34	66.8	40.8	26.0	53.9	10.3	0.03	1.72	20.1	1.68E-02
35	66.5	39.7	26.8	56.3	10.25	0.03	1.77	20.2	1.71E-02
36	66.0	38.1	27.9	58.7	10.3	0.03	1.84	20.2	1.70E-02
37	66.5	36.5	30.0	61.0	10.3	0.03	1.98	20.2	1.65E-02
38	65.0	35.0	30.0	62.1	10.15	0.03	1.98	20.2	1.70E-02
39	64.4	33.4	31.0	64.5	10.25	0.03	2.05	20.3	1.69E-02
40	64.0	32.0	32.0	67.4	10.3	0.04	2.12	20.3	1.70E-02
41	63.7	30.7	33.0	68.7	10.2	0.04	2.18	20.5	1.69E-02
42	63.5	29.5	34.0	70.9	10.25	0.04	2.25	20.3	1.69E-02
43	63.0	28.0	35.0	72.8	10.15	0.04	2.31	20.2	1.71E-02
44	62.5	26.5	36.0	74.5	10.15	0.04	2.38	20.2	1.70E-02
45	62.0	25.0	37.0	77.2	10.35	0.04	2.45	20.0	1.69E-02
46	61.8	24.0	37.8	78.1	10.25	0.04	2.50	20.0	1.69E-02
47	61.1	22.0	39.1	80.9	10.35	0.04	2.58	20.0	1.67E-02
48	60.4	20.3	40.1	83.2	10.3	0.04	2.65	20.0	1.69E-02
49	60.0	19.0	41.0	84.1	10.25	0.05	2.71	20.0	1.68E-02
50	59.5	17.5	42.0	86.5	10.25	0.05	2.78	20.0	1.68E-02
51	58.8	16.0	42.8	87.6	10.2	0.05	2.83	20.0	1.68E-02
52	58.0	14.0	44.0	91.2	10.3	0.05	2.91	19.9	1.69E-02
53	57.5	12.5	45.0	93.6	10.3	0.05	2.97	19.8	1.70E-02
54	57.0	11.0	46.0	94.9	10.25	0.05	3.04	19.7	1.70E-02
55	56.3	9.0	47.3	98.3	10.3	0.05	3.13	19.7	1.70E-02

Project No.	1000-089-08
Client	Waste Connections
Project	Cell 17 CQA
Technician	BMH

Sample #	DS-6
Source	On Site
Material	Sand
Sample Date	18-Aug-23
Test Date	22-Aug-23

Grain Size	
USCS Classification	SP
Maximum Particle Size (mm)	9.5
Oversize Material not used	0%

Density		
Material Properties		
SPMDD (kg/m ³)	1824	
Optimum Moisture Content	14.4%	
Minimum Relative Dry Density (kg/m ³)	0	
Maximum Relative Dry Density (kg/m ³)	N/A	
Specific Gravity (Measured)	2.66	
Test Sample		
	Initial	Final
Density (kg/m ³)	1677	1987
Moisture Content	0.8%	17.7%
Dry Density (kg/m ³)	1664	1688
% SPMDD	91%	93%
% Relative Density	N/A	N/A
Void Ratio	0.60	0.58
Porosity	0.37	0.37



Notes
 Linear laminar flow region used to determine average temperature corrected permeability. All tests (1 to 38) interpreted as laminar flow.

Average Temperature Corrected Permeability, k_{20}	4.07E-04 m/s	4.07E-02 cm/s
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Test No.	Manometers (cm)		Head, h (cm)	Q (cm ³)	t (s)	Q/At (cm/s)	h/L	Temp (°C)	k_{20} (cm/s)
	H ₁	H ₂							
1	80.0	80.5	0.5	21.6	60	0.00	0.03	18.8	6.21E-02
2	78.8	80.0	1.2	43.8	60	0.00	0.08	18.9	5.24E-02
3	78.5	80.0	1.5	51.3	60	0.00	0.10	19.0	4.89E-02
4	77.4	79.5	2.1	68.2	60	0.01	0.14	19.1	4.64E-02
5	76.4	79.0	2.6	85.4	60	0.01	0.17	18.7	4.74E-02
6	76.0	79.0	3.0	90.0	60	0.01	0.20	18.7	4.33E-02
7	74.4	78.0	3.6	113.8	60	0.01	0.24	18.7	4.56E-02
8	73.8	78.0	4.2	61.8	30	0.01	0.28	18.5	4.26E-02
9	73.1	77.5	4.4	66.5	30	0.01	0.29	18.5	4.38E-02
10	72.0	77.0	5.0	74.9	30	0.01	0.33	18.5	4.34E-02
11	71.5	77.0	5.5	78.9	30	0.02	0.36	18.5	4.15E-02
12	70.5	76.3	5.8	85.4	30	0.02	0.38	18.5	4.27E-02
13	69.6	76.0	6.4	91.7	30	0.02	0.42	18.5	4.15E-02
14	68.5	75.5	7.0	101.1	30	0.02	0.46	18.5	4.19E-02
15	67.0	74.6	7.6	110.3	30	0.02	0.50	18.4	4.21E-02
16	66.5	74.5	8.0	113.0	30	0.02	0.53	18.5	4.10E-02
17	65.0	74.0	9.0	125.3	30	0.02	0.59	18.5	4.03E-02
18	62.6	72.5	9.9	139.7	30	0.03	0.65	18.5	4.09E-02
19	60.0	71.1	11.1	158.0	30	0.03	0.73	18.5	4.12E-02
20	58.0	70.0	12.0	114.5	20	0.03	0.79	18.5	4.15E-02

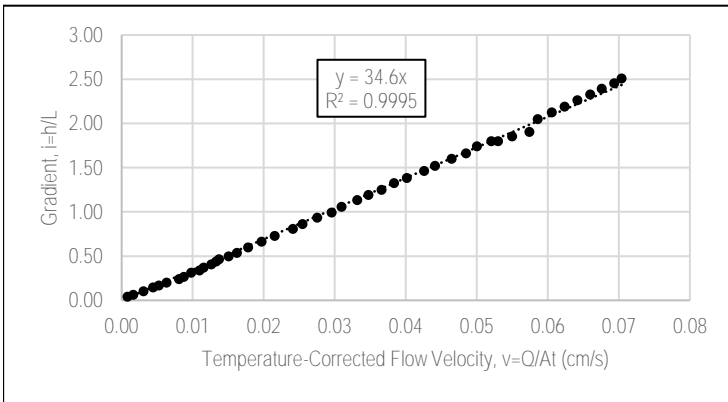
21	56.0	69.0	13.0	122.2	20	0.04	0.86	18.4	4.09E-02
22	54.0	68.0	14.0	128.2	20	0.04	0.93	18.4	3.99E-02
23	52.0	67.0	15.0	141.0	20	0.04	0.99	18.1	4.13E-02
24	50.0	66.0	16.0	147.0	20	0.04	1.06	18.1	4.03E-02
25	48.0	65.0	17.0	153.9	20	0.04	1.12	18.2	3.97E-02
26	45.5	63.5	18.0	124.9	15	0.05	1.19	18.2	4.05E-02
27	42.5	61.7	19.2	132.6	15	0.05	1.27	18.3	4.02E-02
28	41.0	61.0	20.0	136.2	15	0.05	1.32	18.3	3.97E-02
29	38.0	59.0	21.0	95.2	10	0.05	1.39	18.3	3.96E-02
30	35.5	57.5	22.0	104.1	10	0.06	1.45	18.3	4.13E-02
31	33.0	56.0	23.0	108.2	10	0.06	1.52	18.3	4.11E-02
32	30.5	54.5	24.0	112.0	10	0.06	1.59	18.3	4.08E-02
33	28.0	53.0	25.0	115.9	10	0.07	1.65	18.3	4.05E-02
34	24.1	50.4	26.3	123.0	10	0.07	1.74	18.3	4.08E-02
35	21.6	48.7	27.1	129.5	10	0.07	1.79	18.5	4.15E-02
36	19.5	47.5	28.0	131.4	10	0.08	1.85	18.6	4.07E-02
37	16.0	45.0	29.0	137.1	10	0.08	1.92	18.6	4.10E-02
38	13.0	43.0	30.0	144.1	10	0.08	1.98	18.6	4.17E-02

Project No.	1000-089-08
Client	Waste Connection
Project	Cell 17 CQA
Technician	AD/SC

Sample #	DS-8
Source	On-Site
Material	Sand
Sample Date	30-Aug-23
Test Date	02-Sep-23

Grain Size	
USCS Classification	
Maximum Particle Size (mm)	9.5
Oversize Material not used	0%

Density		
Material Properties		
SPMDD (kg/m ³)	1824	
Optimum Moisture Content	14.4%	
Minimum Relative Dry Density (kg/m ³)	0	
Maximum Relative Dry Density (kg/m ³)	N/A	
Specific Gravity	2.66	
Test Sample		
	Initial	Final
Density (kg/m ³)	1813	2102
Moisture Content	0.4%	15.9%
Dry Density (kg/m ³)	1806	1813
% SPMDD	99%	99%
% Relative Density	N/A	N/A
Void Ratio	0.47	0.47
Porosity	0.32	0.32



Notes
0

Average Temperature Corrected Permeability, k_{20}	2.85E-04 m/s	2.85E-02 cm/s
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Test No.	Manometers (cm)		Head, h (cm)	Q (cm ³)	t (s)	Q/At (cm/s)	h/L	Temp (°C)	k_{20} (cm/s)
	H ₁	H ₂							
1	81.1	80.5	0.6	9.2	59.95	0.00	0.04	20.6	2.10E-02
2	80.9	80.0	0.9	18.1	60.05	0.00	0.06	20.8	2.74E-02
3	80.5	79.0	1.5	17.2	30.3	0.00	0.10	20.8	3.10E-02
4	80.2	78.0	2.2	24.5	30.05	0.00	0.15	20.8	3.04E-02
5	80.0	77.5	2.5	14.6	15.1	0.01	0.17	20.8	3.18E-02
6	79.6	76.6	3.0	18.0	15.35	0.01	0.20	20.8	3.20E-02
7	79.0	75.4	3.6	22.9	15.3	0.01	0.24	20.8	3.41E-02
8	78.8	74.8	4.0	25.2	15.6	0.01	0.26	20.8	3.32E-02
9	78.5	73.8	4.7	27.9	15.4	0.01	0.31	20.9	3.15E-02
10	78.0	72.9	5.1	20.9	10.3	0.01	0.34	20.9	3.25E-02
11	77.8	72.2	5.6	22.1	10.35	0.01	0.37	20.9	3.12E-02
12	77.4	71.3	6.1	24.2	10.35	0.01	0.40	20.9	3.14E-02
13	77.0	70.4	6.6	25.3	10.3	0.01	0.44	20.9	3.05E-02
14	76.9	69.9	7.0	26.4	10.4	0.01	0.46	20.9	2.97E-02
15	76.5	69.0	7.5	28.7	10.3	0.02	0.50	20.9	3.04E-02
16	76.0	67.9	8.1	31.0	10.35	0.02	0.54	20.8	3.03E-02
17	75.5	66.5	9.0	33.7	10.25	0.02	0.59	20.8	3.00E-02
18	74.7	64.7	10.0	37.4	10.3	0.02	0.66	20.7	2.99E-02
19	73.9	62.9	11.0	40.5	10.25	0.02	0.73	20.5	2.97E-02
20	72.9	60.7	12.2	44.9	10.2	0.02	0.81	20.4	2.99E-02

21	72.0	59.0	13.0	48.3	10.4	0.03	0.86	20.3	2.97E-02
22	71.2	57.1	14.1	51.6	10.3	0.03	0.93	20.2	2.96E-02
23	70.5	55.5	15.0	55.6	10.4	0.03	0.99	20.0	2.98E-02
24	69.6	53.6	16.0	57.4	10.25	0.03	1.06	20.0	2.93E-02
25	68.5	51.4	17.1	62.4	10.4	0.03	1.13	20.0	2.94E-02
26	67.9	49.9	18.0	65.0	10.35	0.03	1.19	20.0	2.92E-02
27	67.0	48.1	18.9	68.1	10.3	0.04	1.25	20.0	2.93E-02
28	66.0	46.0	20.0	72.4	10.45	0.04	1.32	20.0	2.90E-02
29	65.0	44.1	20.9	75.8	10.45	0.04	1.38	20.0	2.91E-02
30	63.8	41.7	22.1	79.3	10.3	0.04	1.46	20.0	2.92E-02
31	62.8	39.8	23.0	81.9	10.3	0.04	1.52	19.9	2.90E-02
32	61.6	37.4	24.2	87.1	10.4	0.05	1.60	19.9	2.91E-02
33	60.3	35.2	25.1	90.1	10.3	0.05	1.66	19.9	2.92E-02
34	59.3	33.0	26.3	92.5	10.25	0.05	1.74	19.9	2.88E-02
35	58.3	31.1	27.2	96.7	10.3	0.05	1.80	19.9	2.90E-02
36	58.3	31.1	27.2	99.1	10.4	0.05	1.80	19.8	2.95E-02
37	57.6	29.6	28.0	103.1	10.45	0.05	1.85	19.7	2.97E-02
38	56.7	27.9	28.8	107.6	10.45	0.06	1.90	19.7	3.02E-02
39	54.6	23.6	31.0	108.7	10.35	0.06	2.05	19.7	2.86E-02
40	53.6	21.5	32.1	113.2	10.45	0.06	2.12	19.6	2.85E-02
41	52.3	19.2	33.1	113.3	10.15	0.06	2.19	19.6	2.85E-02
42	51.2	17.0	34.2	120.0	10.45	0.06	2.26	19.6	2.84E-02
43	50.1	14.9	35.2	123.4	10.45	0.07	2.33	19.6	2.84E-02
44	49.2	13.0	36.2	125.2	10.35	0.07	2.39	19.6	2.83E-02
45	48.1	11.0	37.1	130.3	10.5	0.07	2.45	19.6	2.83E-02
46	47.3	9.4	37.9	130.3	10.35	0.07	2.50	19.6	2.81E-02

Appendix A-4

Grain Size Analysis

- Sand Drainage Layer
 - Sub-Liner Sampler Blanket
 - Leachate Collection Stone
-



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 1712 St. James Street
 Winnipeg, MB R3H 0L3
 Tel: 204.975.9433 Fax: 204.975.9435

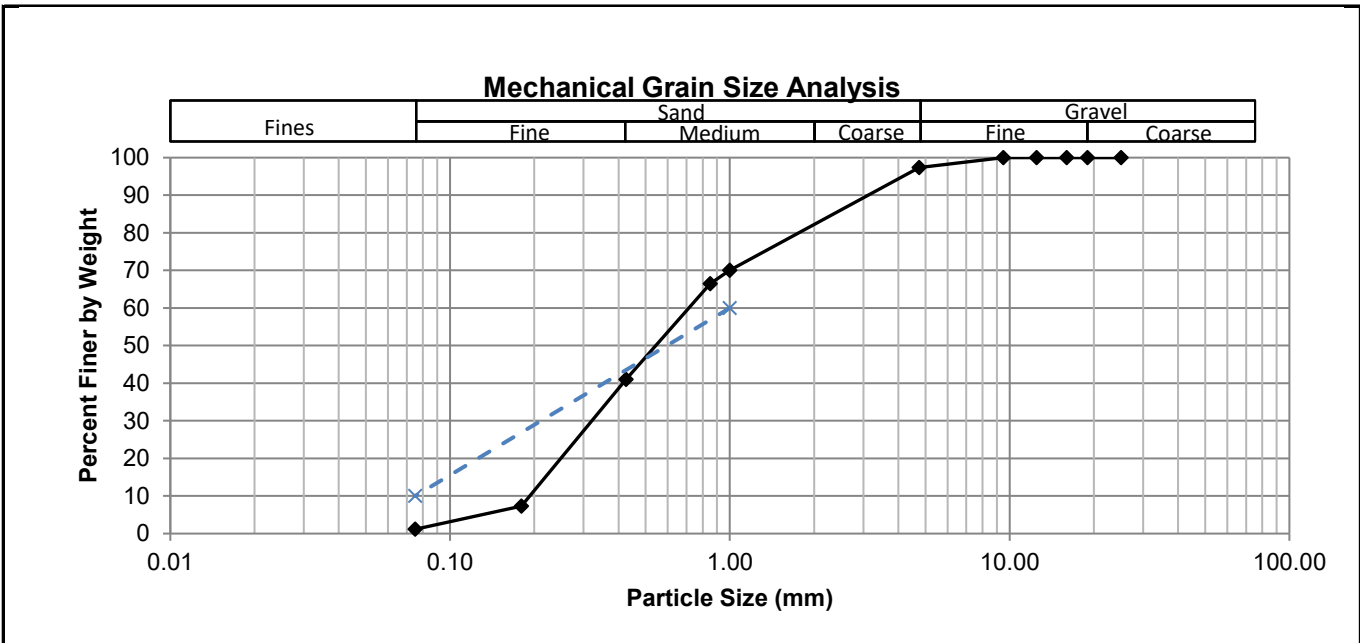
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 117 CQA



Sample # DS-1
Source On-Site
Soil Desc. Sand
Date Sampled 20-Jul-23
Date Tested 20-Jul-23
Technician I. Araquil

Total Weight (g)	500
Gravel %	2.7
Sand %	96.2
Fines %	1.1



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
16.0	100	
12.5	100	
9.5	100	
4.75	97	
1.0	70	60
0.850	66	
0.425	41	
0.180	7	
0.075	1.1	10



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 Winnipeg, MB R3H 0L3
 Tel: 204.975.9433 Fax: 204.975.9435

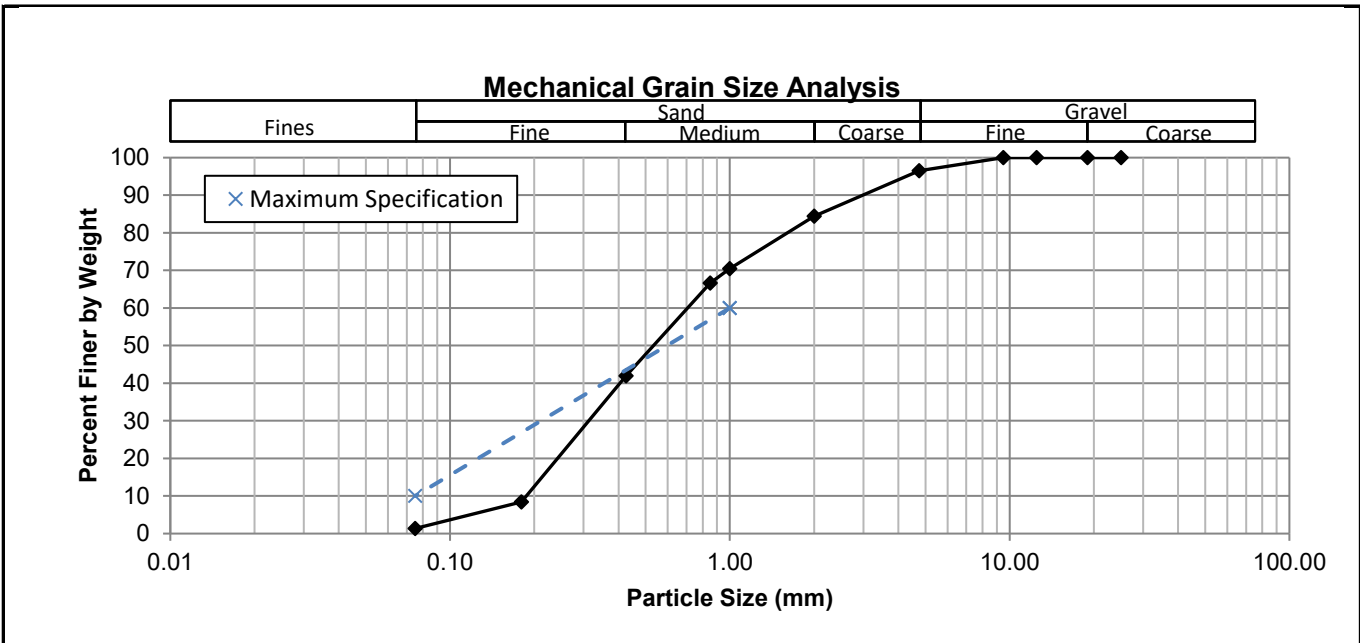
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS-2
Source On-site
Soil Desc. Sand
Date Sampled 14-Aug-23
Date Tested 14-Aug-23
Technician CK

Total Weight (g)	803
Gravel %	3.5
Sand %	95.1
Fines %	1.3



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	96	
2.00	84	
1.00	70	60
0.850	67	
0.425	42	
0.180	8	
0.075	1.3	10



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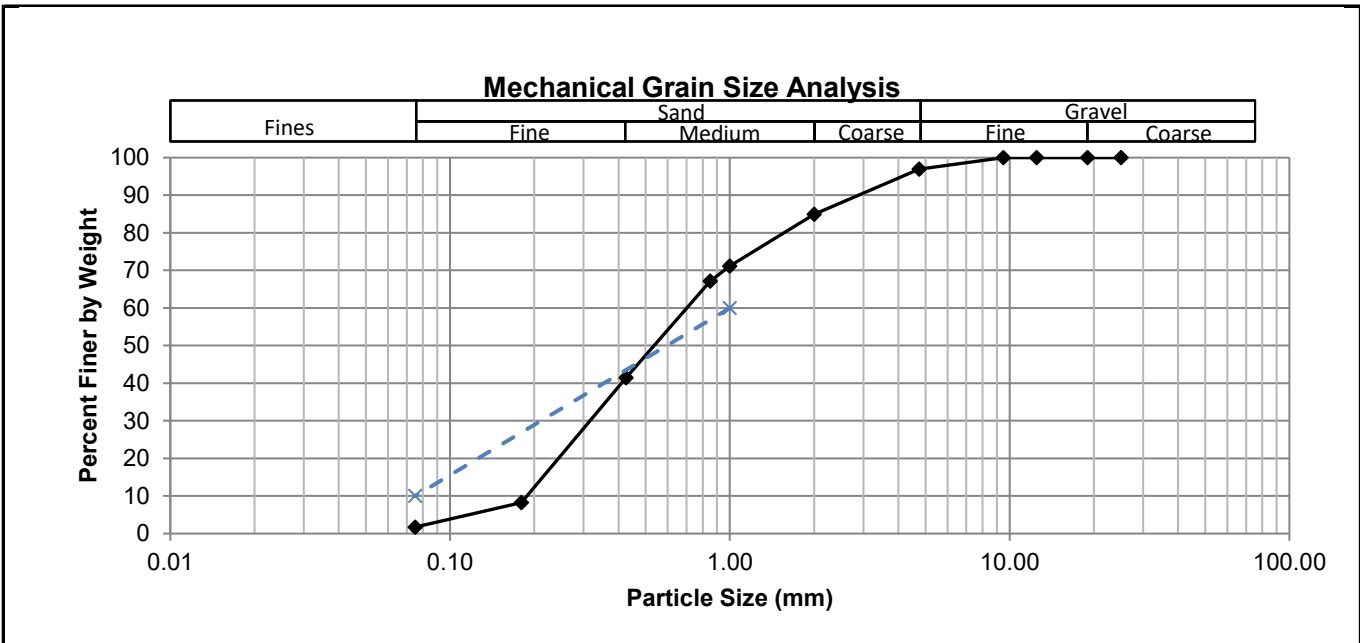
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 117 CQA



Sample # DS-3
Source On-site
Soil Desc. Sand
Date Sampled 15-Aug-23
Date Tested 15-Aug-23
Technician MG

Total Weight (g)	778
Gravel %	3.0
Sand %	95.3
Fines %	1.7



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	97	
2.00	85	
1.00	71	60
0.850	67	
0.425	41	
0.180	8	
0.075	1.7	10



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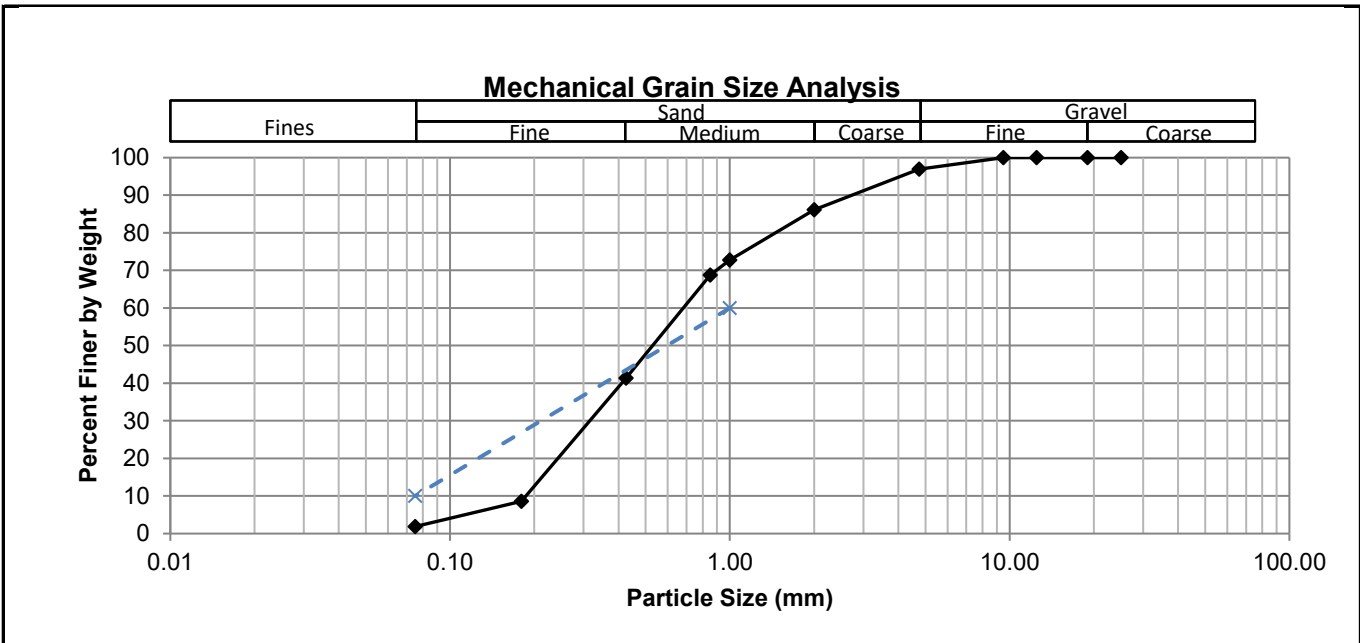
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS-4
Source On-site
Soil Desc. Sand
Date Sampled 16-Aug-23
Date Tested 16-Aug-23
Technician BMH

Total Weight (g)	653
Gravel %	3.1
Sand %	95.0
Fines %	1.9



Sieve Opening (mm)	Percent Passing	Specification (Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	97	
2.00	86	
1.00	73	60
0.850	69	
0.425	41	
0.180	9	
0.075	1.9	10



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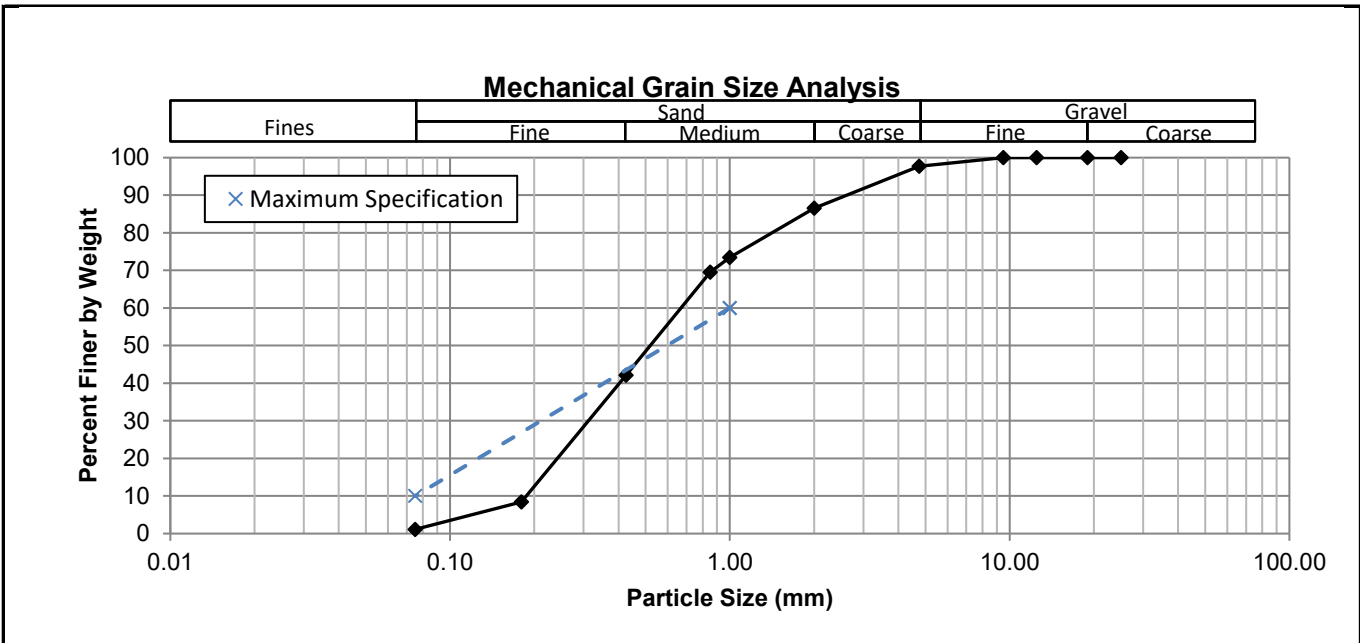
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS-5
Source On-site
Soil Desc. Sand
Date Sampled 16-Aug-23
Date Tested 18-Aug-23
Technician LB

Total Weight (g)	754
Gravel %	2.3
Sand %	96.6
Fines %	1.1



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	98	
2.00	87	
1.00	73	60
0.850	70	
0.425	42	
0.180	8	
0.075	1.1	10



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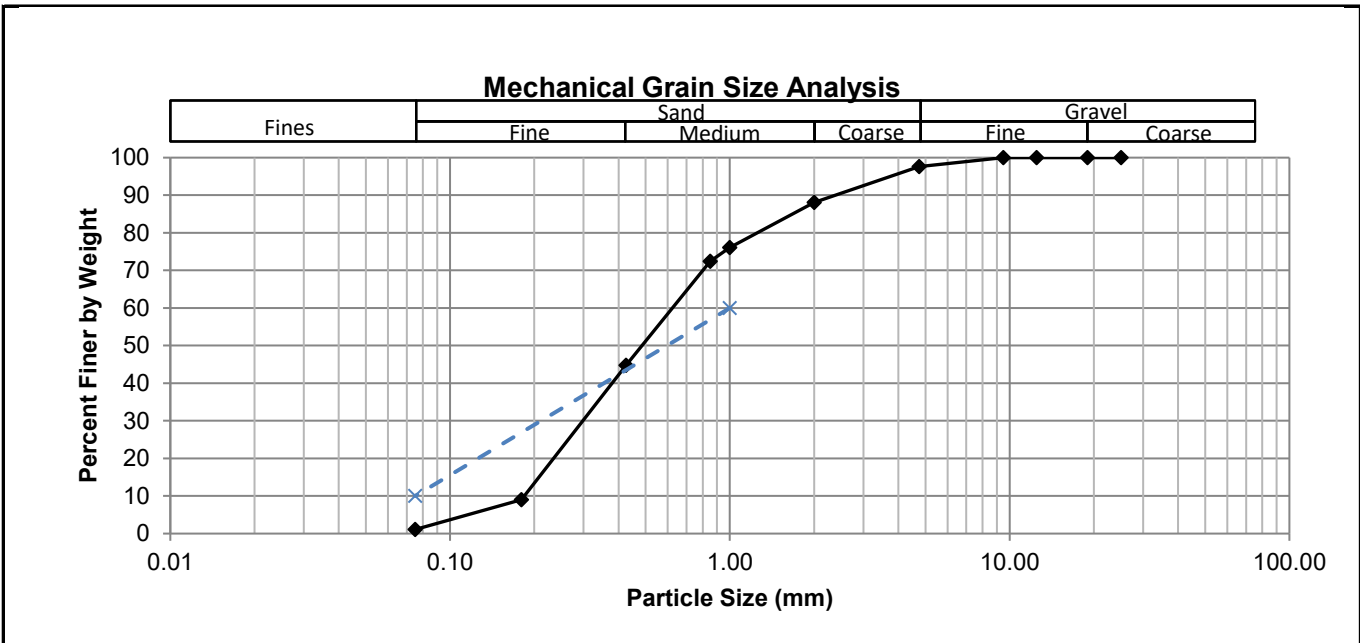
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS-6
Source On-site
Soil Desc. Sand
Date Sampled 18-Aug-23
Date Tested 21-Aug-23
Technician JC

Total Weight (g)	1210
Gravel %	2.4
Sand %	96.6
Fines %	1.1



Sieve Opening (mm)	Percent Passing	Specification (Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	98	
2.00	88	
1.00	76	60
0.850	72	
0.425	45	
0.180	9	
0.075	1.1	10



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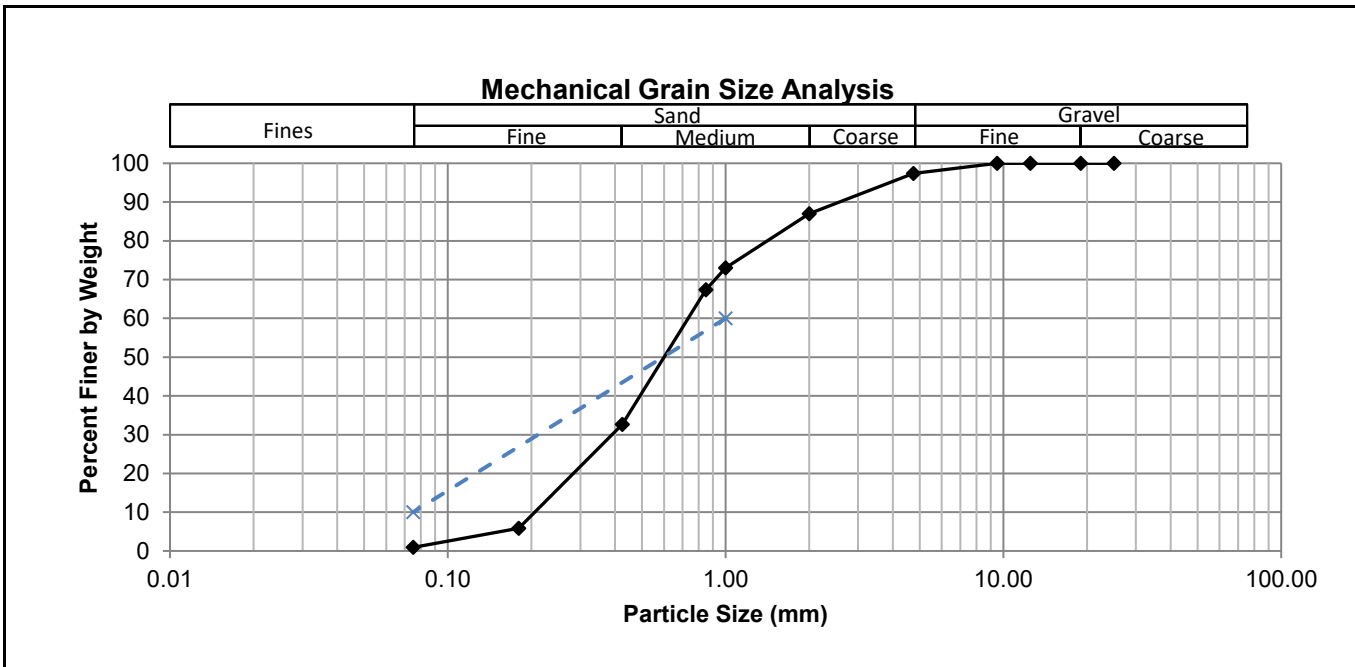
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 117 CQA



Sample # DS-07
Source On-site
Soil Desc. Sand
Date Sampled 22-Aug-23
Date Tested 22-Aug-23
Technician MG/PMB

Total Weight (g)	1391
Gravel %	2.6
Sand %	96.5
Fines %	0.9



Sieve Opening (mm)	Percent Passing	Specification (Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	97	
2.00	87	
1.00	73	60
0.850	67	
0.425	33	
0.180	6	
0.075	0.9	10



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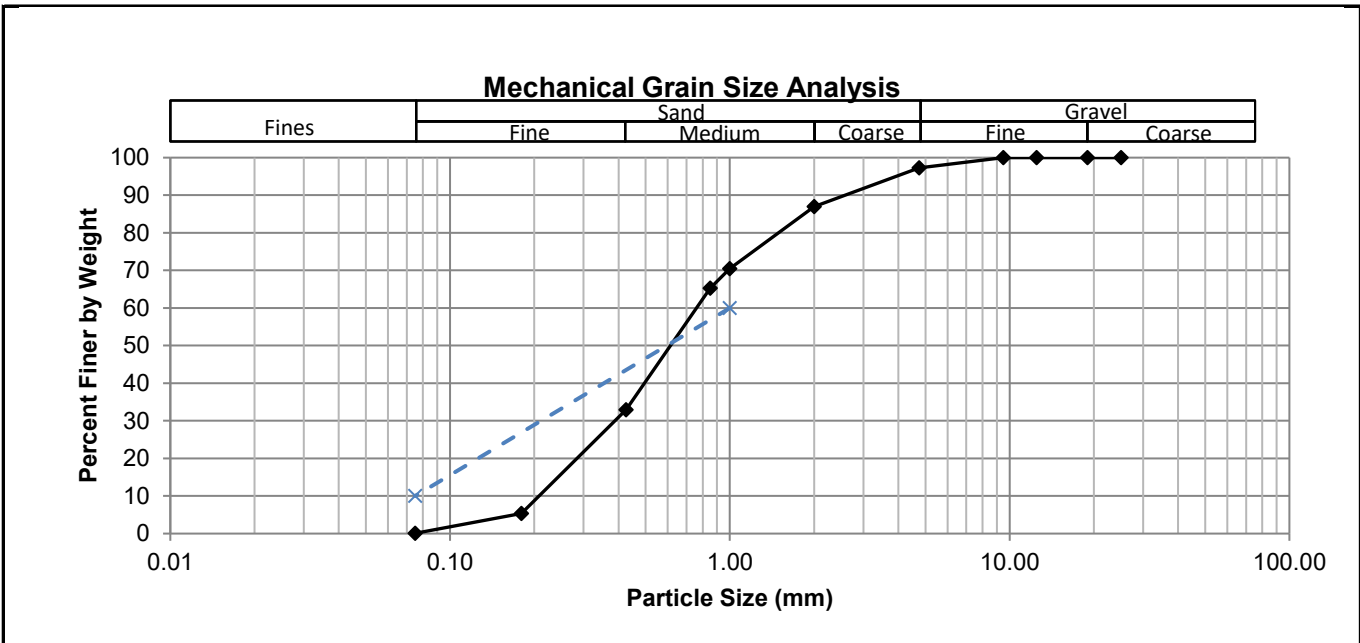
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS8
Source On-site
Soil Desc. Sand
Date Sampled 30-Aug-23
Date Tested 31-Aug-23
Technician EM

Total Weight (g)	1061
Gravel %	2.7
Sand %	97.2
Fines %	0.1



Sieve Opening (mm)	Percent Passing	Specification (Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	97	
2.00	87	
1.00	70	60
0.850	65	
0.425	33	
0.180	5	
0.075	0.1	10



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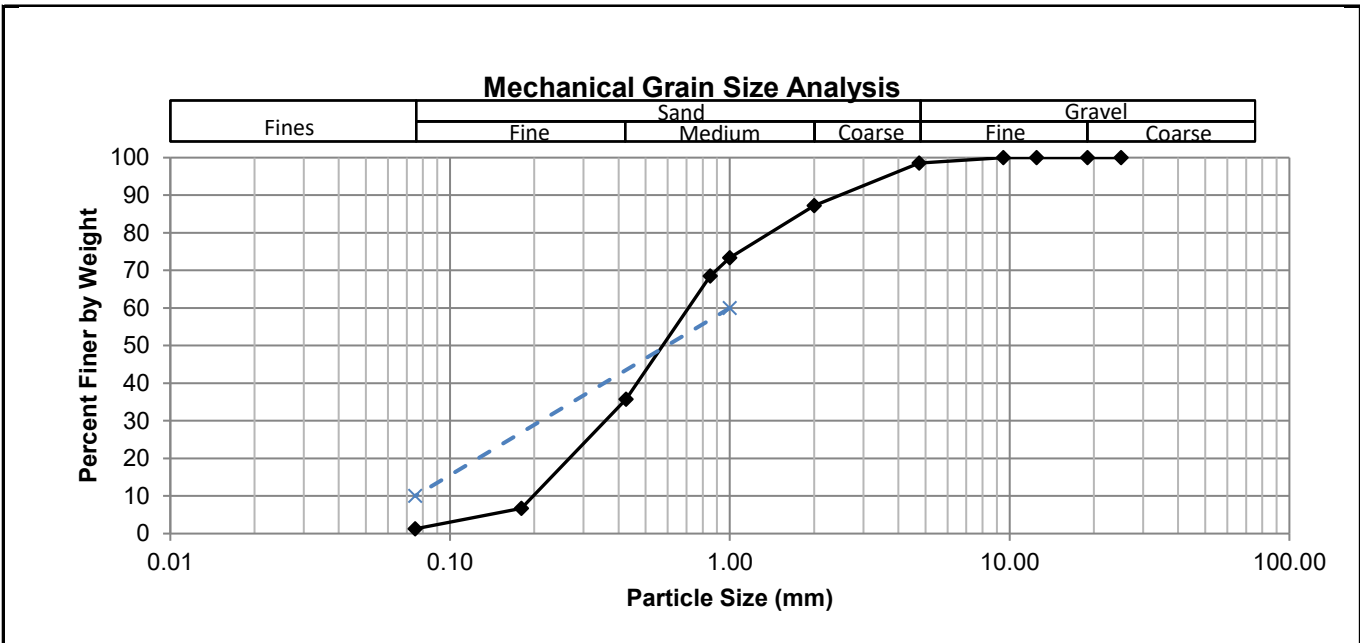
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections
Project Cell 17 CQA



Sample # DS9
Source On-site
Soil Desc. Sand
Date Sampled 31-Aug-23
Date Tested 31-Aug-23
Technician EM

Total Weight (g)	1044
Gravel %	1.4
Sand %	97.3
Fines %	1.3



Sieve Opening (mm)	Percent Passing	Specification (Max)
		Cell 17 Contract Documents
		Section 12-2.1.3
25.0	100	
19.0	100	
12.5	100	
9.5	100	
4.75	99	
2.00	87	
1.00	73	60
0.850	69	
0.425	36	
0.180	7	
0.075	1.3	10



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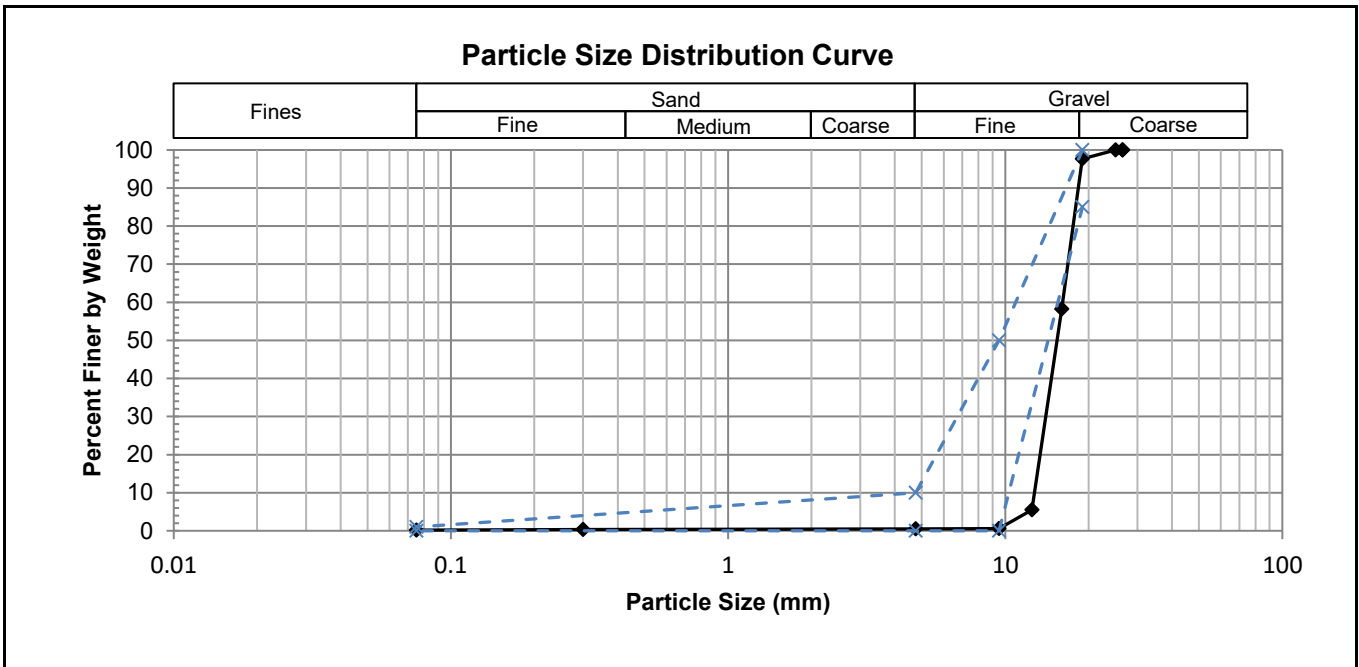
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17 CQA



Sample # SS1 (L23-344)
Source On-site
Soil Desc. 26.5 mm clean stone
Date Sampled 2-Aug-23
Date Tested 2-Aug-23
Technician CK

Total Weight (g)	20117
Gravel %	99.5
Sand %	0.3
Fines %	0.2



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
		Sub-Liner Stone Specification
26.5	100	100 - 100
25.0	100	
19.0	98	85 - 100
16.00	58	
12.50	5.5	
9.500	0.6	0 - 50
4.750	0.5	0 - 10
0.300	0.3	
0.075	0.2	0 - 1



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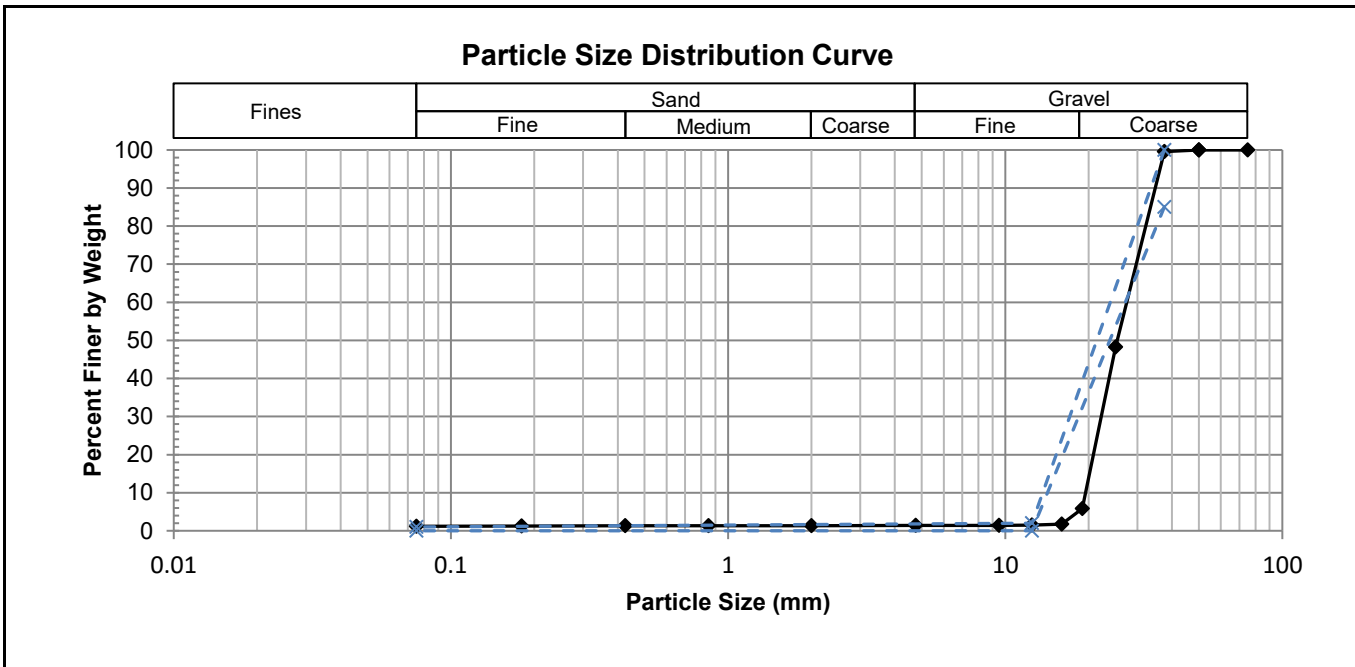
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17 CQA



Sample # L23-300 (LS-1)
Source On-site
Soil Desc. 50 mm clean stone
Date Sampled 14-Jul-23
Date Tested 17-Jul-23
Technician PMB/LL

Total Weight (g)	17790
Gravel %	98.6
Sand %	0.2
Fines %	1.2



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
50.0	100	100 - 100
37.5	100	85 - 100
25.0	48	
19.0	5.8	0 - 10
16.0	1.7	
12.5	1.5	0 - 2
9.5	1.4	
4.75	1.4	
2.00	1.4	
0.850	1.3	
0.425	1.3	
0.180	1.3	
0.075	1.2	0 - 1



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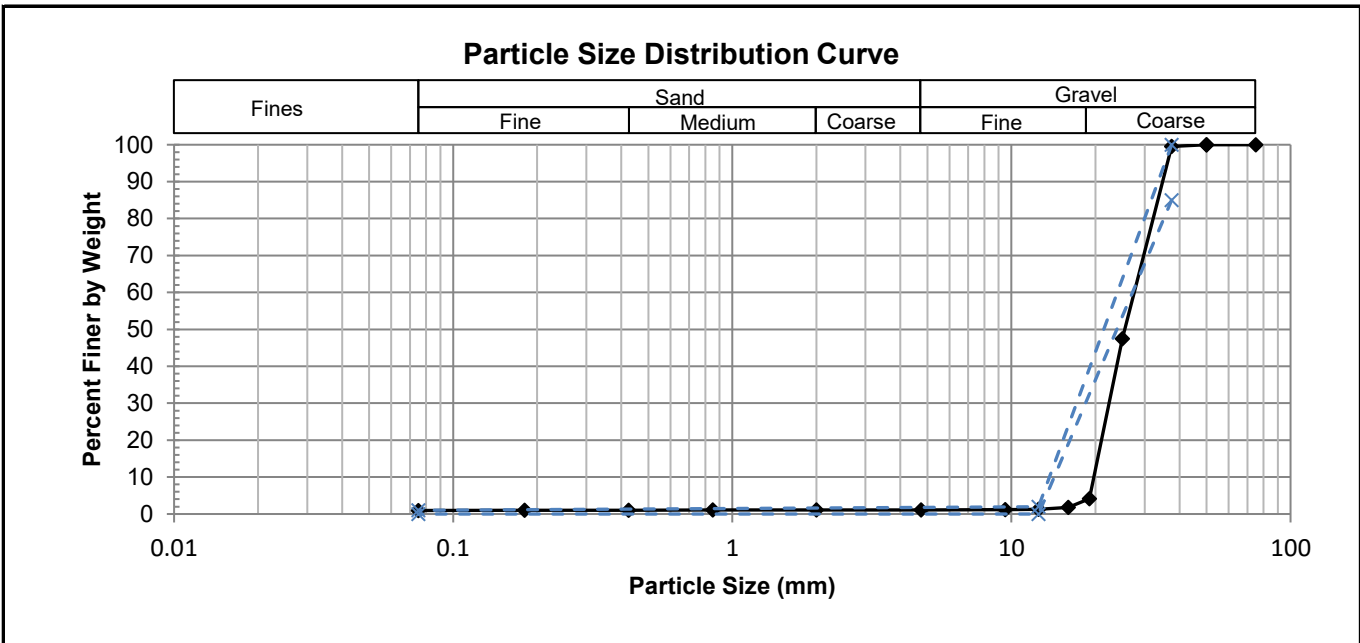
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17 CQA



Sample # L23-391 (LS-2)
Source On-site
Soil Desc. 50 mm clean stone
Date Sampled 21-Aug-23
Date Tested 21-Aug-23
Technician JC

Total Weight (g)	19314
Gravel %	98.9
Sand %	0.2
Fines %	1.0



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
50.0	100	100 - 100
37.5	100	85 - 100
25.0	47	
19.0	4.1	0 - 10
16.0	1.7	
12.5	1.3	0 - 2
9.5	1.2	
4.75	1.1	
2.00	1.1	
0.850	1.1	
0.425	1.1	
0.180	1.0	
0.075	1.0	0 - 1



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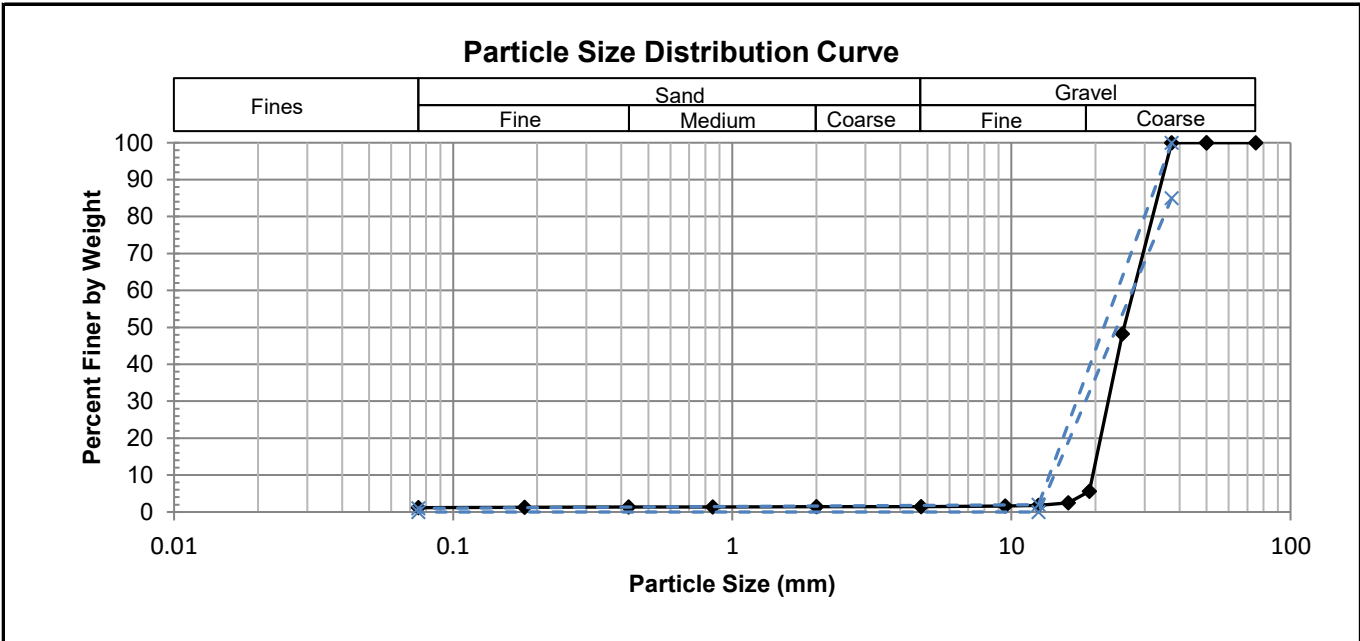
Grain Size Analysis (Sieve Method)
ASTM C136-19

Project No. 1000-089-08
Client Waste Connections of Canada
Project Cell 17 CQA



Sample # L23-399 (LS-3)
Source On-site
Soil Desc. 50 mm clean stone
Date Sampled 23-Aug-23
Date Tested 24-Aug-23
Technician PMB

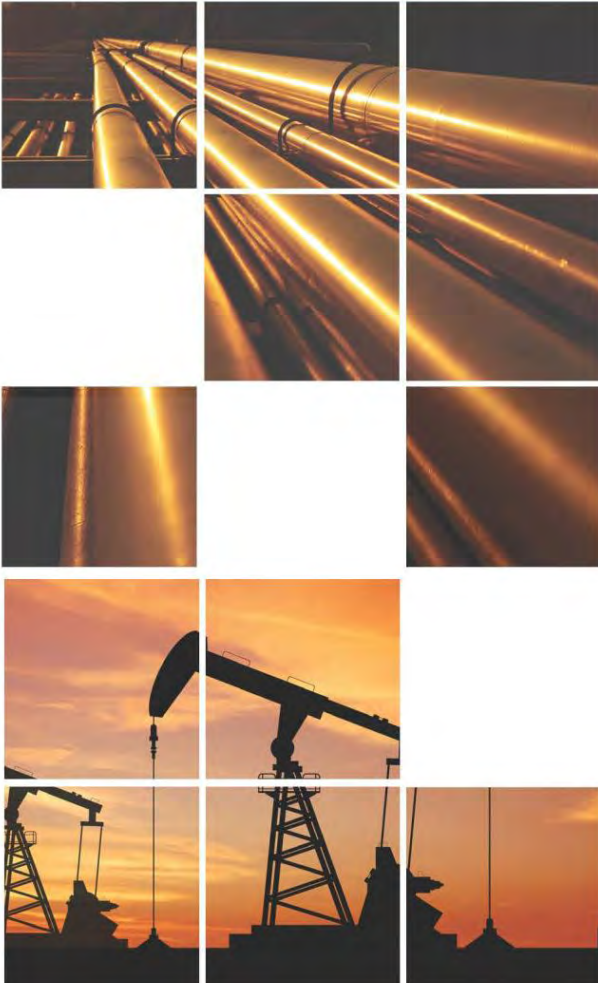
Total Weight (g)	22385
Gravel %	98.6
Sand %	0.3
Fines %	1.2



Sieve Opening (mm)	Percent Passing	Specification (Min-Max)
50.0	100	100 - 100
37.5	100	85 - 100
25.0	48	
19.0	5.6	0 - 10
16.0	2.5	
12.5	1.8	0 - 2
9.5	1.6	
4.75	1.4	
2.00	1.4	
0.850	1.4	
0.425	1.4	
0.180	1.3	
0.075	1.2	0 - 1



BULK X-RAY DIFFRACTION (XRD) ANALYSIS USING RIETVELD METHOD FOR ONE STONE SAMPLE



Sample ID: Leachate Collection Stone

Company: Secure Energy

Work Order No: 23A22192

Date: August, 2023

AGAT Geology Department
2730 39 Ave NE, Calgary
Alberta T1Y 7H6

AGAT Laboratories

Service Beyond Analysis



Bulk X-Ray Diffraction Analysis

Introduction: One (1) sample with the below identification (**Table 1**) was obtained from ABG Engineering Inc. for Bulk X-Ray Diffraction (XRD) analysis at the Geology Division, AGAT Laboratories Ltd., Calgary.

Table 1: Sample background information

Sample #	Sample ID	Date and Time Sampled
1	Leachate Collection Stone	July 21, 2023 @ 8:00 AM

Sample Preparation: The sample was pieces of stone. Few pieces of stone (~100 grams) were crushed using a vibratory disc mill (RS200; Retsch) to reduce the sizes. The crushed material was homogenized again and approximately 3 grams was taken as a subsample. Finally the sample was micronized with a planetary ball mill for XRD analysis. The experimental setup for XRD for data collection is given as annexure-A. The powder X-ray diffraction pattern refined by Rietveld method is also given in **Figure 1**.

Quantitative mineral/compounds analysis: Using HighScore program, the different mineral phases of the XRD pattern were identified. Once the mineral phases were identified, Rietveld refinement was performed by importing the trace pattern into TOPAS 5. This program (TOPAS 5) is used for Rietveld analysis to quantify the mineralogy. The XRD result is given in **Table 2**.

Bulk XRD Analysis Results

Table 2: Results of quantitative mineral analysis (relative weight %) of X-ray diffraction data for sample 1 [Leachate Collection Stone] using Rietveld method

Mineral Name	Ideal Chemical Formula	Concentration, wt. %	Abundance
Dolomite	CaMg(CO ₃) ₂	98.2	Major
Goethite	FeO(OH) ₃	0.7	Minor
Quartz	SiO ₂	0.6	
Cristobalite	SiO ₂	0.3	Trace
Potassium feldspar	KAlSi ₃ O ₈	0.2	
Total:		100	

Comments: The XRD result (**Table 2**) shows that the sample consists mostly of calcium magnesium carbonate (dolomite), with minor to trace amounts of silicates (quartz, cristobalite, and potassium feldspar) and iron oxide hydroxide (goethite).

Remark: No calcite (calcium carbonate) was detected in the sample

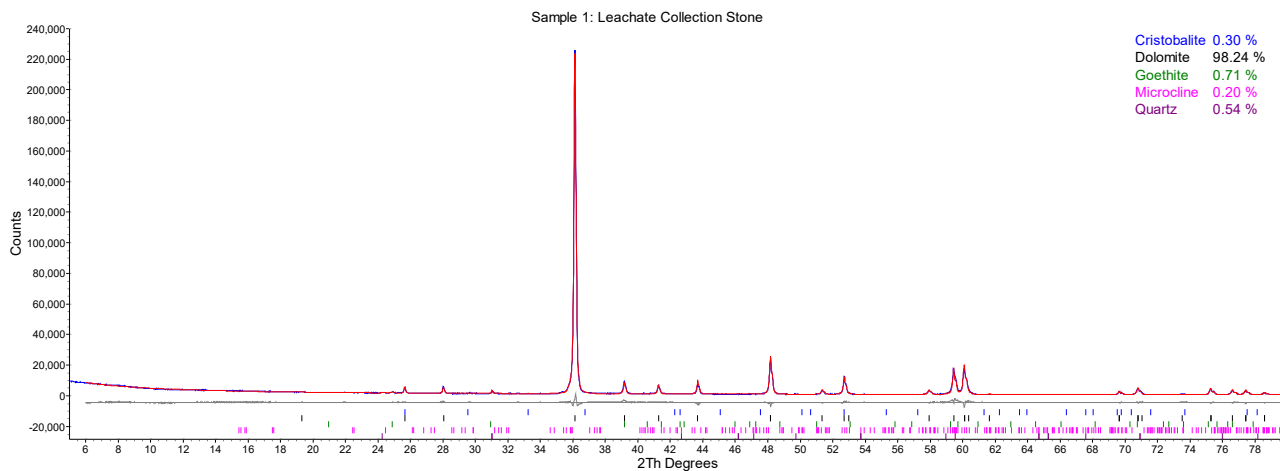


Figure 1: Powder X-ray Diffraction Pattern for Sample 1 [Leachate Collection Stone] after Rietveld Refinement

Annexure-A

Experimental Setup for X-Ray Diffraction Data Collection and Analysis:

Diffractometer Name: Bruker D4 Endeavor XRD with a Lynx-Eye detector

Instrumental Parameters: Radiation Source – Cobalt (Co)
Generator settings - 40 mA, 35 kV
Start position [$^{\circ}2\theta$] - 4
End position [$^{\circ}2\theta$] - 80
Step size [$^{\circ}2\theta$] - 0.02
Scan step time [s] - 1

Data Analysis: ICDD PDF-4 Mineral 2023 powder diffraction database
X'PERT HighScore Software for mineral identification
TOPAS Software for quantitative phase analysis

Detection Limit: 0.2 – 1.0 % depending on the type and nature of sample and crystallinity

Appendix B-1

Geosynthetic Inventory Control Record



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 1

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392819	103172B	GCL	2023-05-12	45.7	4.72	N/A	Y
2	392820	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
3	392821	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
4	392822	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
5	392823	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
6	392824	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
7	392825	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
8	392826	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
9	392827	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
10	392828	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
11	392829	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
12	392830	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
13	392831	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
14	392832	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
15	392833	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
16	392834	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
17	392835	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
18	392836	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
19	392837	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
20	392838	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
21	392839	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
22	392840	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
23	392841	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
24	392842	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y
25	392843	1031723C	GCL	2023-05-12	45.7	4.72	N/A	Y

NOTES :

(1) Geomembrane roll length may vary, roll length often established by roll weight

(2) Material Type Designation

mem = Geomembrane Sm = Smooth Tx = Textured

tex = Geotextile

GCL = Geosynthetic Clay Liner

gec = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 2

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392844	103172B	GCL	2023-05-12	45.7	4.72	N/A	Y
2	392845	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
3	392846	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
4	392847	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
5	392848	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
6	392849	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
7	392850	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
8	392851	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
9	392852	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
10	392853	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
11	392854	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
12	392855	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
13	392856	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
14	392857	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
15	392858	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
16	392859	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
17	392860	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
18	392861	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
19	392862	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
20	392863	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
21	392864	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
22	392865	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
23	392866	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
24	392867	1031723D	GCL	2023-05-12	45.7	4.72	N/A	Y
25	392868	1032023A	GCL	2023-05-12	45.7	4.72	N/A	Y

NOTES :

(1) Geomembrane roll length may vary, roll length often established by roll weight

(2) Material Type Designation

mem = Geomembrane Sm = Smooth Tx = Textured

tex = Geotextile

GCL = Geosynthetic Clay Liner

gec = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 3

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392869	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
2	392870	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
3	392871	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
4	392872	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
5	392873	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
6	392874	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
7	392875	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
8	392876	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
9	392877	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
10	392878	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
11	392879	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
12	392880	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
13	392881	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
14	392882	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
15	392883	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
16	392884	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
17	392885	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
18	392886	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
19	392887	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
20	392888	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
21	392889	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
22	392890	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
23	392891	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
24	392892	1032023A	GCL	2023-05-18	45.7	4.72	N/A	Y
25	392893	1032023B	GCL	2023-05-18	45.7	4.72	N/A	Y

NOTES :

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mem = Geomembrane Sm = Smooth Tx = Textured

tex = Geotextile

GCL = Geosynthetic Clay Liner

gec = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 4

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392894	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
2	392895	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
3	392896	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
4	392897	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
5	392898	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
6	392899	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
7	392900	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
8	392901	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
9	392902	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
10	392903	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
11	392904	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
12	392905	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
13	392906	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
14	392907	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
15	392908	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
16	392909	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
17	392910	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
18	392911	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
19	392912	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
20	392913	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
21	392914	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
22	392915	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
23	392916	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
24	392917	1032023B	GCL	2023-05-15	45.7	4.72	N/A	Y
25	392918	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y

NOTES :

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gec = Geocomposite

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(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections of Canada
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
CONTRACTOR: WTL
MATERIAL: GCL

SHEET NUMBER: 5

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392919	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
2	392920	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
3	392921	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
4	392922	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
5	392923	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
6	392924	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
7	392925	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
8	392926	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
9	392927	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
10	392928	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
11	392929	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
12	392930	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
13	392931	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
14	392932	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
15	392933	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
16	392934	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
17	392935	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
18	392936	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
19	392937	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
20	392938	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
21	392939	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
22	392940	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
23	392941	1032023C	GCL	2023-05-15	45.7	4.72	N/A	Y
24	392942	1032023D	GCL	2023-05-15	45.7	4.72	N/A	Y
25	392943	1032023D	GCL	2023-05-15	45.7	4.72	N/A	Y

NOTES :

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gec = Geocomposite

cus = Geocushion

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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 6

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392919	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
2	392920	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
3	392921	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
4	392922	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
5	392923	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
6	392924	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
7	392925	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
8	392926	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
9	392927	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
10	392928	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
11	392929	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
12	392930	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
13	392931	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
14	392932	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
15	392933	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
16	392934	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
17	392935	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
18	392936	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
19	392937	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
20	392938	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
21	392939	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
22	392940	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
23	392941	1032023C	GCL	2023-05-18	45.7	4.72	N/A	Y
24	392942	1032023D	GCL	2023-05-18	45.7	4.72	N/A	Y
25	392943	1032023D	GCL	2023-05-18	45.7	4.72	N/A	Y

NOTES :

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(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections of Canada
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
CONTRACTOR: WTL
MATERIAL: GCL

SHEET NUMBER: 7

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392944	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
2	392945	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
3	392946	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
4	392947	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
5	392948	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
6	392949	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
7	392950	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
8	392951	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
9	392952	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
10	392953	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
11	392954	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
12	392955	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
13	392956	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
14	392957	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
15	392958	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
16	392959	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
17	392960	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
18	392961	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
19	392962	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
20	392963	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
21	392964	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
22	392965	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
23	392966	1032023D	GCL	2023-05-12	45.7	4.72	N/A	Y
24	392967	1032023A	GCL	2023-05-12	45.7	4.72	N/A	Y
25	392968	1032023A	GCL	2023-05-12	45.7	4.72	N/A	Y

NOTES :

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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 8

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392969	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
2	392970	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
3	392971	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
4	392972	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
5	392973	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
6	392974	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
7	392975	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
8	392976	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
9	392977	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
10	392978	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
11	392979	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
12	392980	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
13	392981	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
14	392982	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
15	392983	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
16	392984	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
17	392985	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
18	392986	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
19	392987	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
20	392988	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
21	392989	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
22	392990	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
23	392991	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
24	392992	1032023A	GCL	2023-05-11	45.7	4.72	N/A	Y
25	392993	1032023B	GCL	2023-05-11	45.7	4.72	N/A	Y

NOTES :

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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: GCL

SHEET NUMBER: 9

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	392994	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
2	392995	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
3	392996	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
4	392997	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
5	392998	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
6	392999	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
7	393000	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
8	393001	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
9	393002	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
10	393003	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
11	393004	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
12	393005	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
13	393006	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
14	393007	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
15	393008	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
16	393009	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
17	393010	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
18	393011	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
19	393012	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
20	393013	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
21	393014	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
22	393015	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
23	393016	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
24	393017	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
25	393018	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y
26	393019	1032023B	GCL	2023-05-10	45.7	4.72	N/A	Y

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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: Geomembrane

SHEET NUMBER: 10

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	66951	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
2	66952	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
3	66953	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
4	66954	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
5	66955	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
6	66956	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
7	66957	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
8	66959	PPK621270	tx-mem	2023-05-10	158.5	6.8	60	Y
9	66960	PPK621270	tx-mem	2023-05-10	164.6	6.8	60	Y
10	66961	PPK621270	tx-mem	2023-05-10	164.6	6.8	60	Y
11	66962	PPK621270	tx-mem	2023-05-10	164.6	6.8	60	Y
12								
13								
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NOTES :

- (1) Geomembrane roll length may vary, roll length often established by roll weight
- (2) Material Type Designation
 - mem = Geomembrane Sm = Smooth Tx = Textured
 - tex = Geotextile
 - GCL = Geosynthetic Clay Liner
 - gec = Geocomposite
 - cus = Geocushion
- (3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: Geomembrane

SHEET NUMBER: 11

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	115595	22F1238	sm-mem	2023-05-10	158.5	6.8	60	Y
2	117502	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
3	117503	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
4	117504	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
5	117505	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
6	117506	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
7	117507	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
8	117508	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
9	117509	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
10	117510	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
11	117511	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
12	117512	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
13	117513	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
14	117514	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
15	117515	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
16	117516	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
17	117517	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
18	117518	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
19	117519	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
20	117520	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
21	117521	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
22	117522	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
23	117523	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
24	117524	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
25	117525	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y

NOTES :

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(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: Geomembrane

SHEET NUMBER: 12

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested
					Length (m)	Width (m)	Thick (mil)	(y/n)
1	117526	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
2	117527	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
3	117528	PPK62150	sm-mem	2023-05-10	158.5	6.8	60	Y
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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: WTL
 MATERIAL: Geotextile

SHEET NUMBER: 13

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	J20781963	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
2	J20781926	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
3	J20781974	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
4	J20781951	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
5	J20781964	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
6	J20781962	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
7	J20781968	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
8	J20781961	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
9	J20781973	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
10	J20781970	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
11	J20781975	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
12	J20781971	N/A	tex	2021-04-27	91.44	4.57	TE-E8	N
13	J105000024	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
14	J10499992	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
15	J10499988	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
16	J10499989	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
17	J10499974	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
18	J10499986	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
19	J10499999	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
20	J105000038	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
21	J10499990	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
22	J10499971	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
23	J10499977	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
24	J104999987	N/A	cus	2021-04-27	91.44	4.57	TE-E8	N
25								

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GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 14

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33092	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
2	33093	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
3	33094	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
4	33095	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
5	33096	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
6	33097	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
7	33098	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
8	33099	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
9	33100	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
10	33101	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
11	33102	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
12	33103	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
13	33104	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
14	33105	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
15	33106	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
16	33107	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
17	33108	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
18	33109	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
19	33110	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
20	33111	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
21	33112	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
22	33113	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
23	33114	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
24	33115	N/A	geo	2923-05-18	61	4.57	FrabriNet	N
25	33116	N/A	geo	2923-05-18	61	4.57	FrabriNet	N

NOTES :

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tex = Geotextile

GCL = Geosynthetic Clay Liner

geo = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 15

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33117	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
2	33118	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
3	33119	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
4	33120	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
5	33121	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
6	33122	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
7	33123	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
8	33124	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
9	33125	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
10	33126	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
11	33127	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
12	33128	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
13	33129	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
14	33130	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
15	33131	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
16	33132	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
17	33133	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
18	33134	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
19	33135	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
20	33136	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
21	33137	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
22	33138	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
23	33139	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
24	33140	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
25	33141	N/A	geo	2023-05-18	61	4.57	FrabriNet	N

NOTES :

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tex = Geotextile

GCL = Geosynthetic Clay Liner

geo = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 16

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33142	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
2	33143	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
3	33144	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
4	33145	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
5	33146	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
6	33147	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
7	33148	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
8	33149	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
9	33150	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
10	33151	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
11	33152	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
12	33153	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
13	33154	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
14	33155	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
15	33156	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
16	33157	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
17	33158	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
18	33159	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
19	33160	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
20	33161	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
21	33162	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
22	33163	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
23	33164	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
24	33165	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
25	33166	N/A	geo	2023-05-18	61	4.57	FrabriNet	N

NOTES :

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GCL = Geosynthetic Clay Liner

geo = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 17

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33167	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
2	33168	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
3	33169	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
4	33170	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
5	33171	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
6	33172	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
7	33173	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
8	33174	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
9	33175	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
10	33176	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
11	33177	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
12	33178	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
13	33179	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
14	33180	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
15	33181	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
16	33182	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
17	33183	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
18	33184	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
19	33185	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
20	33186	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
21	33187	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
22	33188	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
23	33189	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
24	33190	N/A	geo	2023-05-18	61	4.57	FrabriNet	N
25	33191	N/A	geo	2023-05-18	61	4.57	FrabriNet	N

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GCL = Geosynthetic Clay Liner

geo = Geocomposite

cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 18

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33192	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
2	33193	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
3	33194	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
4	33195	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
5	33196	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
6	33197	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
7	33198	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
8	33199	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
9	33200	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
10	33201	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
11	33202	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
12	33203	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
13	33204	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
14	33205	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
15	33206	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
16	33207	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
17	33208	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
18	33209	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
19	33210	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
20	33211	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
21	33212	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
22	33213	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
23	33214	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
24	33215	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
25	33216	N/A	geo	2023-05-19	61	4.57	FrabriNet	N

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- GCL = Geosynthetic Clay Liner
- geo = Geocomposite
- cus = Geocushion

(3) Thickness dimensions are minimum values unless otherwise reported



GEOMEMBRANE INVENTORY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17 Construction
 CONTRACTOR: Titan Environmental
 MATERIAL: Geocomposite

SHEET NUMBER: 19

	ROLL NUMBER	LOT NUMBER	MATERIAL TYPE	DELIVERY DATE	ROLL DIMENSIONS			QC Tested (y/n)
					Length (m)	Width (m)	Type	
1	33217	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
2	33218	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
3	33219	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
4	33220	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
5	33221	N/A	geo	2023-05-19	61	4.57	FrabriNet	N
6								
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22								
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24								
25								

NOTES :

- (1) Geomembrane roll length may vary, roll length often established by roll weight
- (2) Material Type Designation
 - mem = Geomembrane Sm = Smooth Tx = Textured
 - tex = Geotextile
 - GCL = Geosynthetic Clay Liner
 - geo = Geocomposite
 - cus = Geocushion
- (3) Thickness dimensions are minimum values unless otherwise reported

Appendix B-2

Geomembrane, GCL and Geocomposite Manufacturer's Quality Control Documents



LIST OF GEOMEMBRANE ROLLS



PROJECT NUMBER: 864

SALES ORDER: SO-002673

PACKING SLIP NUMBER: Pre-SO-002673-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

ROLL NUMBER	RESIN LOT NUMBER	MANUFACT. DATE	RESIN MELT INDEX 190/2.16 g/10 min D1238	RESIN DENSITY g/cc D1505	OIT min D8117	HPOIT min D5885	ESCR SP-NCTL hours D5397
Product Code : 1042792							
HDPE 1.50 mm Black Textured			1.0	> 0.932	100		500
1005-066951	PPK621270	2023-02-01	0.07	0.937	120		>500 Certified 1005-066910
1005-066952	PPK621270	2023-02-01	0.07	0.937	120		>500 Certified 1005-066910
1005-066953	PPK621270	2023-02-01	0.07	0.937	120		>500 Certified 1005-066910
1005-066954	PPK621270	2023-02-01	0.07	0.937	120		>500 Certified 1005-066910
1005-066955	PPK621270	2023-02-01	0.07	0.937	120		>500 Certified 1005-066910
1005-066956	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910
1005-066957	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910
1005-066959	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910
1005-066960	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910
1005-066961	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910
1005-066962	PPK621270	2023-02-02	0.07	0.937	120		>500 Certified 1005-066910

QUANTITY (ROLLS): 11

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2801 MARIE-VICTORIN,, VARENNES, QC, CANADA, J3X 0J4

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TEST RESULTS

PROJECT NUMBER: 864
 SALES ORDER: SO-002673
 PACKING SLIP NUMBER: Pre-SO-002673-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

PRODUCT: 1042792

CE Certificate = HD-60-TT-BB

HDPE 1.50 mm Black Textured

Properties	Thickness ave/min.	GeoM Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension Stability	Asperity Height In/Out
					Yield Strength	Elong.	Break Strength	Elong.				
Unit	mm	g/cc	%	Cat 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5994	D792	D4218	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll	Every 10 rolls	Every 2 rolls	Every 10 rolls	Every 2 rolls				Every 5 rolls	Every 5 rolls		Every roll
Specification	1.43 / 1.28	≥ 0.940	2.0 - 3.0	Cat. 1 / Cat.	23	13	23	150	200	535		0.40 / 0.40
1005-066951 MD XD	1.44 / 1.38	0.945	2.61	10/10 views	25.7 26.6	18.3 15.0	32.9 31.0	513 529	225 240	649		0.48 / 0.48
1005-066952 MD XD	1.44 / 1.38	0.945	2.54	10/10 views	24.7 26.6	17.2 15.7	35.9 29.6	567 491	225 240	649		0.47 / 0.48
1005-066953 MD XD	1.44 / 1.41	0.945	2.54	10/10 views	24.7 26.6	17.2 15.7	35.9 29.6	567 491	225 240	649		0.46 / 0.47
1005-066954 MD XD	1.44 / 1.38	0.946	2.61	10/10 views	25.5 26.8	18.3 15.6	32.7 27.5	491 443	219 236	654		0.45 / 0.48
1005-066955 MD XD	1.43 / 1.39	0.946	2.61	10/10 views	25.5 26.8	18.3 15.6	32.7 27.5	491 443	219 236	654		0.47 / 0.50
1005-066956 MD XD	1.43 / 1.36	0.946	2.63	10/10 views	25.9 25.4	18.6 16.2	33.6 29.9	511 487	219 236	654		0.48 / 0.52
1005-066957 MD XD	1.45 / 1.39	0.946	2.63	10/10 views	25.9 25.4	18.6 16.2	33.6 29.9	511 487	219 236	654		0.45 / 0.53
1005-066959 MD XD	1.45 / 1.36	0.946	2.39	10/10 views	24.7 26.5	16.1 15.2	33.8 28.9	512 433	219 236	654		0.45 / 0.52
1005-066960 MD XD	1.45 / 1.39	0.945	2.39	10/10 views	24.7 26.5	16.1 15.2	33.8 28.9	512 433	213 222	632		0.45 / 0.53
1005-066961 MD XD	1.46 / 1.42	0.945	2.36	10/10 views	25.1 26.7	17.9 15.2	33.1 28.4	507 457	213 222	632		0.55 / 0.57
1005-066962 MD XD	1.49 / 1.36	0.945	2.36	10/10 views	25.1 26.7	17.9 15.2	33.1 28.4	507 457	213 222	632		0.57 / 0.58

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2801 MARIE-VICTORIN,, VARENNES, QC, CANADA, J3X 0J4

SOLMAX.COM

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

Delivery # 80794552
PO # 3059
Weight: 186000.000 LB
Ship Date: 11/21/2022
Package: BULK
Mode: Hopper Car
Car # CPCX815190
Seal No: 319015

Product:
MARLEX K306 POLYETHYLENE in Bulk
Additive levels have been tested and meet minimum the specification for this lot.
As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).
As a result, High Pressure OIT (by ASTM D 5885) is greater than 1000 minutes (nominal value, not tested on every lot).

Lot Number: PPK621270

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.070	g/10min
HLMI Flow Rate	ASTM D1238	11.82	g/10min
Density	D1505 or D4883	0.9367	g/cm3
Production Date		10/21/2022	

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 Leslie Dziamara at +1-832-813-4806



LIST OF GEOMEMBRANE ROLLS



PROJECT NUMBER: 864
 SALES ORDER: SO-002673
 PACKING SLIP NUMBER: Pre-SO-002673-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

ROLL NUMBER	RESIN LOT NUMBER	MANUFACT. DATE	RESIN MELT INDEX 190/2.16 g/10 min D1238	RESIN DENSITY g/cc D1505	OIT min D8117	HPOIT min D5885	ESCR SP-NCTL hours D5397
Product Code : 1037703							
HDPE 1.50 mm Black Smooth			1.0	> 0.932	100		500
1002-115595	22F1238	2022-08-02	0.08	0.938	120		>500 Certified 1002-115524
1002-117502	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117503	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117504	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117505	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117506	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117507	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117508	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117509	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117510	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117511	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117512	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117513	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447
1002-117514	PPK621520	2023-02-16	0.06	0.936	120		>500 Certified 1002-117447

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LIST OF GEOMEMBRANE ROLLS



PROJECT NUMBER: 864
 SALES ORDER: SO-002673
 PACKING SLIP NUMBER: Pre-SO-002673-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

1002-117515	PPK621520	2023-02-16	0.06	0.936	120	>500 Certified 1002-117447
1002-117516	PPK621520	2023-02-17	0.06	0.936	120	>500 Certified 1002-117447
1002-117517	PPK621520	2023-02-17	0.06	0.936	120	>500 Certified 1002-117447
1002-117518	PPK621520	2023-02-17	0.06	0.936	120	>500 Certified 1002-117447
1002-117519	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117520	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117521	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117522	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117523	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117524	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117525	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117526	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117527	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521
1002-117528	PPK621420	2023-02-17	0.07	0.937	120	>500 Certified 1002-117521

QUANTITY (ROLLS): 28

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TEST RESULTS

PROJECT NUMBER: 864
 SALES ORDER: SO-002673
 PACKING SLIP NUMBER: Pre-SO-002673-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

PRODUCT: 1037703

CE Certificate = HD-60-SS-BB

HDPE 1.50 mm Black Smooth

Properties	Thickness ave/min.	GeoM Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension Stability	Asperity Height In/Out mm
					Yield Strength	Elong.	Break Strength	Elong.				
Unit	mm	g/cc	%	Cat 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5199	D792	D4218	D5596	D6693				D1004	D4833	D1204	
Frequency	Each roll	Every 10 rolls	Every 2 rolls	Every 10 rolls	Every 2 rolls				Every 5 rolls	Every 5 rolls		
Specification	1.50 / 1.35	≥ 0.940	2.0 - 3.0	Cat. 1 / Cat.	23	13	43	700	187	534		
1002-115595 MD XD	1.52 / 1.47	0.942	2.70	10/10 views	24.6 27.1	18.3 16.3	51.0 53.2	806 875	221 240	636		
1002-117502 MD XD	1.50 / 1.48	0.945	2.35	10/10 views	24.6 26.0	19.8 16.5	50.8 49.0	812 821	194 214	614		
1002-117503 MD XD	1.50 / 1.44	0.945	2.46	10/10 views	23.2 25.2	18.5 17.1	51.0 50.6	822 840	194 214	614		
1002-117504 MD XD	1.51 / 1.48	0.945	2.46	10/10 views	23.2 25.2	18.5 17.1	51.0 50.6	822 840	194 214	614		
1002-117505 MD XD	1.50 / 1.47	0.944	2.34	10/10 views	24.3 25.7	20.2 17.5	48.5 52.2	774 867	207 222	618		
1002-117506 MD XD	1.50 / 1.48	0.944	2.34	10/10 views	24.3 25.7	20.2 17.5	48.5 52.2	774 867	207 222	618		
1002-117507 MD XD	1.52 / 1.50	0.944	2.43	10/10 views	25.1 26.3	19.4 16.8	52.4 51.7	831 858	207 222	618		
1002-117508 MD XD	1.51 / 1.49	0.944	2.43	10/10 views	25.1 26.3	19.4 16.8	52.4 51.7	831 858	207 222	618		
1002-117509 MD XD	1.52 / 1.49	0.944	2.50	10/10 views	24.3 26.1	19.5 18.2	51.5 53.6	823 892	207 222	618		
1002-117510 MD XD	1.52 / 1.47	0.944	2.50	10/10 views	24.3 26.1	19.5 18.2	51.5 53.6	823 892	205 214	609		
1002-117511 MD XD	1.51 / 1.46	0.944	2.44	10/10 views	24.2 25.6	20.2 18.2	50.3 52.0	801 867	205 214	609		
1002-117512 MD XD	1.51 / 1.48	0.944	2.44	10/10 views	24.2 25.6	20.2 18.2	50.3 52.0	801 867	205 214	609		
1002-117513 MD XD	1.51 / 1.46	0.944	2.45	10/10 views	24.6 26.4	20.1 17.4	51.5 51.0	816 849	205 214	609		

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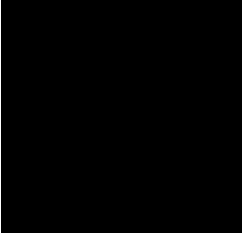
Solmax International Inc.

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 864
 SALES ORDER: SO-002673
 PACKING SLIP NUMBER: Pre-SO-002673-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

1002-117514 MD XD	1.50 / 1.48	0.944	2.45	10/10 views	24.6 26.4	20.1 17.4	51.5 51.0	816 849	205 214	609		
1002-117515 MD XD	1.50 / 1.48	0.944	2.46	10/10 views	24.4 25.2	18.7 15.2	50.1 52.0	809 872	196 209	618		
1002-117516 MD XD	1.50 / 1.47	0.944	2.46	10/10 views	24.4 25.2	18.7 15.2	50.1 52.0	809 872	196 209	618		
1002-117517 MD XD	1.51 / 1.47	0.944	2.38	10/10 views	23.7 25.8	17.1 15.9	51.8 52.0	829 871	196 209	618		
1002-117518 MD XD	1.50 / 1.48	0.944	2.38	10/10 views	23.7 25.8	17.1 15.9	51.8 52.0	829 871	196 209	618		
1002-117519 MD XD	1.50 / 1.48	0.944	2.42	10/10 views	23.7 25.4	19.9 17.7	51.7 53.2	825 887	196 209	618		
1002-117520 MD XD	1.50 / 1.46	0.945	2.42	10/10 views	23.7 25.4	19.9 17.7	51.7 53.2	825 887	197 209	627		
1002-117521 MD XD	1.50 / 1.48	0.945	2.25	10/10 views	23.3 24.9	20.6 17.6	47.6 51.1	767 861	197 209	627		
1002-117522 MD XD	1.50 / 1.47	0.945	2.25	10/10 views	23.3 24.9	20.6 17.6	47.6 51.1	767 861	197 209	627		
1002-117523 MD XD	1.50 / 1.48	0.945	2.55	10/10 views	24.2 25.6	19.9 17.1	52.2 53.1	824 883	197 209	627		
1002-117524 MD XD	1.50 / 1.48	0.945	2.55	10/10 views	24.2 25.6	19.9 17.1	52.2 53.1	824 883	197 209	627		
1002-117525 MD XD	1.51 / 1.47	0.944	2.30	10/10 views	23.8 25.2	17.6 19.9	48.7 50.1	773 836	198 214	627		
1002-117526 MD XD	1.51 / 1.47	0.944	2.30	10/10 views	23.8 25.2	17.6 19.9	48.7 50.1	773 836	198 214	627		
1002-117527 MD XD	1.51 / 1.47	0.944	2.51	10/10 views	24.1 25.4	20.0 16.7	46.6 53.6	751 895	198 214	627		
1002-117528 MD XD	1.52 / 1.48	0.944	2.51	10/10 views	24.1 25.4	20.0 16.7	46.6 53.6	751 895	198 214	627		

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 2801 MARIE-VICTORIN,, VARENNES, QC, CANADA, J3X 0J4

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FORMOSA PLASTICS CORPORATION, TEXAS

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT

TX 77978

PHONE: (888) FPCUSA3

Certificate of Analysis
(CONFIDENTIAL)

CUSTOMER: SOLMAX INTERNATIONAL INC.
2801 MARIE VICTORIN

S/O NO : E26A016
CUSTOMER PO : PO-002716
DATE SHIPPED: 6/26/22

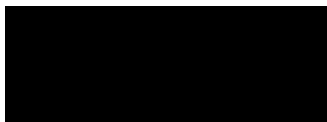
VARENNES QC J3X 1
PRODUCT : HL3812
RAILCAR FPAX200441

LOT NO : 22F1238
WEIGHT (LB) : 196,450.00
CUSTID: FT03828 SPIDM6

Property	Method	Spec Min	Actual	Spec Max
Melt Index, g/10min	ASTM D1238	.04	.076	.12
HLMI, g/10 min.	ASTM D1238	9	11.5	13
Density, g/cm3	ASTM D1505	.935	.9375	.939

Notes:

Additive levels were tested and meet the min specification for this lot. As a result Standard OIT (by ASTM D3895) is greater than 120 mins (nominal values not tested on every lot). As a result, High Pressure OIT (by ASTM D5885) is greater than 1000 mins.



QC SUPERVISOR

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

Delivery # 80816229
PO # 3154
Weight: 183700.000 LB
Ship Date: 12/26/2022
Package: BULK
Mode: Hopper Car
Car # CHVX891117
Seal No: 318725

Product:
MARLEX K306 POLYETHYLENE in Bulk
Additive levels have been tested and meet minimum the specification for this lot.
As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).
As a result, High Pressure OIT (by ASTM D 5885) is greater than 1000 minutes (nominal value, not tested on every lot).

Lot Number: PPK621520

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.064	g/10min
HLMI Flow Rate	ASTM D1238	10.65	g/10min
Density	D1505 or D4883	0.9364	g/cm3
Production Date		10/25/2022	

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 Leslie Dziamara at +1-832-813-4806

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

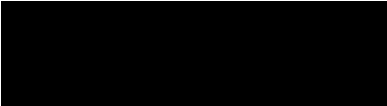
Delivery # 80812229
PO # 3154
Weight: 186900.000 LB
Ship Date: 12/19/2022
Package: BULK
Mode: Hopper Car
Car # CPCX815549
Seal No: 299915

Product:
MARLEX K306 POLYETHYLENE in Bulk
Additive levels have been tested and meet minimum the specification for this lot.
As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).
As a result, High Pressure OIT (by ASTM D 5885) is greater than 1000 minutes (nominal value, not tested on every lot).

Lot Number: PPK621420

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.070	g/10min
HLMI Flow Rate	ASTM D1238	11.20	g/10min
Density	D1505 or D4883	0.9369	g/cm3
Production Date		10/23/2022	

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 Leslie Dziamara at +1-832-813-4806



WESTERN TANK AND LINING LTD.

7192 VANTAGE WAY
DELTA, BC, V4G1K7
CANADA

Canada, 2023/03/26

Project Name: PRAIRIE GREEN LF CELL17
Application: TBD
Location: ROSSER, MB, CANADA
ATTN: CHRIS CALVEZ

To whom it may concern,

Solmax International hereby certifies that **PRODUCT CODE 1037703** (HDPE 1.50mm Black Smooth) geomembrane supplied for the above-mentioned project complies with the following project's specifications;

Solmax International hereby certifies that **PRODUCT CODE 1042792** (HDPE 1.50mm Black Textured) geomembrane supplied for the above-mentioned project complies with the following project's specifications:

- UV resistance
(% retained after 1,600 hrs) GRI-GM11/ASTM D7238
HP OIT (min.avg) ASTM D5885 50 %

You will find attached test report on roll produced using the same resin formulation that has been used to manufacture the above product.

Hoping the above information is satisfactory. Please, do not hesitate to contact us if you require any additional information.

Sincerely,



Quality assistant

● T +1 (450) 929-1234



SOLMAX INTERNATIONAL INC.
2801 RTE MARIE-VICTORIN | VARENNES QC, CANADA J3X 0J4

SOLMAX.COM



GEOMEMBRANE TEST RESULTS

GAI LAP Accreditation No.: 51-05

Date Certification: 2017-08-11

Report No.: HD06-71 - 2017

Technical Department - Canada

Identification:

Type of Material :	HDPE	Formulation :	HD06-71
Roll Number:	5-24600	Resin Type :	Chevron-USA K306
Production Date :	2016-09-25	Lot Number :	HGH710880

Oxidative Induction Time (ASTM D3895)

	Individual Data			Avg.	S.D.	% CV
OIT (minutes)	202	193		198	6	3.3

High Pressure Oxidative Induction Time (ASTM D5885)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes)	1795	1744		1769	36	2.0

UV Resistance (ASTM D7238)

- The resistance to degradation was determined in accordance with ASTM D7238 ;
- Apparatus used : Q-PANEL QUV/se - Lamp: UVA-340;
- Duration of the test: 1600 hours of UV exposure (total of 1920h);
- Cycle : 80 cycles of UVA (20h of light at 75°C followed by 4h of condensation at 60°C)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1795	1744		1769	36	2.0
HP OIT (minutes) : ASTM D5885 - After 1600h of UV	1702	1753		1728	36	2.1
PERCENTAGE RETAINED:	98 %			Note: No visual change after 1600 hrs		

Air-Oven Aging (ASTM D5721)

- The resistance to degradation was determined in accordance with ASTM D5721;
- Duration of the test: The geomembrane was exposed to 90 days in an air oven maintained at 85°C ± 0.5°C;
- Rotation of the exposed specimens : once per wee

	Individual Data			Avg.	S.D.	% CV
OIT (minutes) : ASTM D3895 - Initial	202	193		198	6	3.3
OIT (minutes) : ASTM D3895 - After 90 days of Oven Aging	90	91		91	1	1.1
PERCENTAGE RETAINED:	46 %					

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1795	1744		1769	36	2.0
HP OIT (minutes) : ASTM D5885 - After 90 days of Oven Aging	1599	1615		1607	11	0.7
PERCENTAGE RETAINED:	91 %			Note: No visual change after 90 days		

The tests were performed by Solmax International. The laboratories of Solmax International are accredited by the GRI.

Simon Gilbert St-Pierre, P.Eng.
Technical Services



CoA Date: 08/29/2016

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Giguere
Fax:

Delivery #: 89317688
PO #: 114872-1
Weight: 197600 LB
Ship Date: 08/29/2016
Package: BULK
Mode: Hopper Car
Car #: CHVX896273
Seal No: 48280

Product:

MARLEX K306 POLYETHYLENE in Bulk

Additive levels have been tested and meet minimum the specification for this lot.

As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).

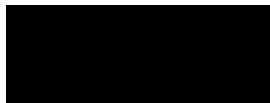
As a result, High Pressure OIT (by ASTM D 5885) is greater than 1000 minutes (nominal value, not tested on every lot).

Lot Number: HGH710880

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.080	g/10mi
HLMI Flow Rate	ASTM D1238	9.80	g/10mi
Density	D1505 or D4883	0.9370	g/cm3
Production Date		08/17/2016	

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.



Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at 800-231-1212



SOLMAX

QUALITY CONTROL REPORT

Roll Certification

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com

ROLL IDENTIFICATION

Roll Number : **5-24600**

Product Code : 1034419

Production Date 2016-09-25

HDPE 2.00 mm Smooth

Length (± 1%) : 121.9 meters
Width : 6.80 meters
Sheet Area : 829 sq. meters
Weight : 1 623 kilograms

RESIN INFORMATION

Resine Lot Number **HGH710880**
Resine Type : **HDPE / K306**
Resine Supplier : **Chevron-USA**

Property	Test Method	Results
Density (g/cc)	ASTM D 1505	0.937
Melt Index (g/10 min.)	ASTM D 1238 (190/2.16)	0.08
ESCR (hrs)	ASTM D 5397	>500
OIT (min.)	ASTM D 3895	120
HP-OIT (min.)	ASTM D 5885	

Physical Property	Test Method	Test Frequency	Technical Data Metric	Test Results Metric	
Thickness (mm)	Average	ASTM D-5199	1/1 ro	2.00	2.02
	Minimum			1.80	1.94
Asperity (mm)	Average (out / in)	N/A	N/A	/	
Tensile properties		ASTM D-6693	1/2 ro		
Yield strength (kN/m)	TD			31	35.2
	MD				33.6
Yield elongation (%)	TD			13	16.0
	MD				17.3
Break strength (kN/m)	TD			57	70.2
	MD				65.5
Break elongation (%)	TD			700	881
	MD		773		
Tear Resistance (N)	TD	ASTM D-1004	1/5 ro	250	276
	MD			262	
Puncture Resistance (N)		ASTM D-4833	1/5 ro	695	789
Density (g/cc)		ASTM D-792	1/10 ro	≥ 0.940	0.944
Carbon Black Content (%)		ASTM D-4218	1/2 ro	2.0 - 3.0	2.59
Carbon Black Dispersion		ASTM D-5596	1/10 ro	Cat. 1 & Cat. 2	10
Dimensional Stability (%)	TD	ASTM D-1204	Certied	± 2	
	MD				

GEOMEMBRANE CERTIFICATION

Physical Property	Test Method	Test Frequency	Test Result
Oven Aging - % retained after 90 days	ASTM D-5721	1/Form	
HP OIT (min. avg.)	ASTM D-5885		> 80
UV Resistance - % retained after 1600 hr	GRI-GM-11	1/Form	
HP-OIT (min. avg.)	ASTM D-5885		> 50



Identification:

Type of Material :	HDPE	Formulation :	HD06-76
Roll Number:	2-89228	Resin Type :	Chevron-USA K306
Production Date :	2017-04-22	Lot Number :	HGN611690

Oxidative Induction Time (ASTM D3895)

	Individual Data			Avg.	S.D.	% CV
OIT (minutes)	195	188		192	5	2.5

High Pressure Oxidative Induction Time (ASTM D5885)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes)	1346	1545		1445	141	9.7

UV Resistance (ASTM D7238)

- The resistance to degradation was determined in accordance with ASTM D7238 ;
- Apparatus used : Q-PANEL QUV/se - Lamp: UVA-340;
- Duration of the test: 1600 hours of UV exposure (total of 1920h);
- Cycle : 80 cycles of UVA (20h of light at 75°C followed by 4h of condensation at 60°C)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1346			1445	141	9.7
HP OIT (minutes) : ASTM D5885 - After 1600h of UV	1203	1214		1209	8	0.7
PERCENTAGE RETAINED:	84 %			Note: No visual change after 1600 hrs		

Air-Oven Aging (ASTM D5721)

- The resistance to degradation was determined in accordance with ASTM D5721;
- Duration of the test: The geomembrane was exposed to 90 days in an air oven maintained at 85°C ± 0.5°C;
- Rotation of the exposed specimens : once per wee

	Individual Data			Avg.	S.D.	% CV
OIT (minutes) : ASTM D3895 - Initial	195	188		192	5	2.5
OIT (minutes) : ASTM D3895 - After 90 days of Oven Aging	82	87		84	4	4.3
PERCENTAGE RETAINED:	44 %					

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1346	1545		1445	141	9.7
HP OIT (minutes) : ASTM D5885 - After 90 days of Oven Aging	1443	1435		1439	5	0.4
PERCENTAGE RETAINED:	100 %			Note: No visual change after 90 days		

The tests were performed by Solmax International. The laboratories of Solmax International are accredited by the GRI.

Simon Gilbert St-Pierre, P.Eng.
 Technical Services



CoA Date: 03/31/2017

Certificate of Analysis

Shipped To: SOLMAX
2801 BOUL MARIE-VICTORIN
VARENNES QC J3X 1P7
CANADA

Recipient: Marcotte
Fax:

Delivery #: 89438683
PO #: 115554-0
Weight: 183000 LB
Ship Date: 03/31/2017
Package: BULK
Mode: Hopper Car
Car #: PSPX008167
Seal No: 74915

Product:

MARLEX K306 POLYETHYLENE in Bulk

Additive levels have been tested and meet minimum the specification for this lot.

As a result, Standard OIT (by ASTM D 3895) is greater than 120 minutes (nominal value, not tested on every lot).

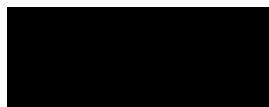
As a result, High Pressure OIT (by ASTM D 5885) is greater than 1000 minutes (nominal value, not tested on every lot).

Lot Number: HGN611690

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.080	g/10mi
HLMI Flow Rate	ASTM D1238	12.40	g/10mi
Density	D1505	0.9370	g/cm3
Production Date		12/28/2016	

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.



Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at 800-231-1212



SOLMAX

QUALITY CONTROL REPORT

Roll Certification

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7
Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com

ROLL IDENTIFICATION

Roll Number : 2-89228

Product Code : 1054428

Production Date 2017-04-22

HDPE 60 mils Black Smooth

Length (± 1%) : 158.5 meters
Width : 6.80 meters
Sheet Area : 1 078 sq. meters
Weight : 1 617 kilograms

RESIN INFORMATION

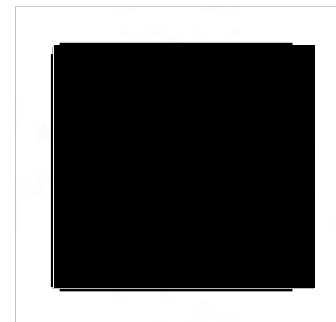
Resine Lot Numb **HGN611690**
Resine Type : **HDPE / K306**
Resine Supplier : **Chevron-USA**

Property	Test Method	Results
Density (g/cc)	ASTM D 1505	0.937
Melt Index (g/10 min.)	ASTM D 1238 (190/2.16)	0.08
ESCR (hrs)	ASTM D 5397	>500
OIT (min.)	ASTM D 3895	120
HP-OIT (min.)	ASTM D 5885	

Physical Property		Test Method	Test Frequency	Technical Data Metric	Test Results Metric
Thickness (mm)	Average	ASTM D-5199	1/1 ro	1.52	1.55
	Minimum			1.37	1.51
Asperity (mm)	Average (out / in)	N/A	N/A		/
Tensile properties		ASTM D-6693	1/2 ro		
Yield strength (kN/m)	TD			23	28.1
		MD		27.3	
Yield elongation (%)	TD	13	15.6		
	MD		17.2		
Break strength (kN/m)	TD	43	54.6		
	MD		54.4		
Break elongation (%)	TD	700	904		
	MD		842		
Tear Resistance (N)	TD	ASTM D-1004	1/5 ro	187	237
	MD			209	
Puncture Resistance (N)		ASTM D-4833	1/5 ro	534	670
Density (g/cc)		ASTM D-792	1/10 ro	≥ 0.940	0.944
Carbon Black Content (%)		ASTM D-4218	1/2 ro	2.0 - 3.0	2.62
Carbon Black Dispersion		ASTM D-5596	1/10 ro	Cat. 1 & Cat. 2	10
Dimensional Stability (%)	TD	ASTM D-1204	Certied	± 2	
	MD				

GEOMEMBRANE CERTIFICATION

Physical Property	Test Method	Test Frequency	Test Result
Oven Aging - % retained after 90 days	ASTM D-5721	1/Form	
HP OIT (min. avg.)	ASTM D-5885		> 80
UV Resistance - % retained after 1600 hr	GRI-GM-11	1/Form	
HP-OIT (min. avg.)	ASTM D-5885		> 50



Identification:

Type of Material :	HDPE	Formulation :	HD27-29
Roll Number:	2-88870	Resin Type :	Formosa HL3812
Production Date :	2017-04-05	Lot Number :	16L1127

Oxidative Induction Time (ASTM D3895)

	Individual Data			Avg.	S.D.	% CV
OIT (minutes)	213	187		200	19	9.3

High Pressure Oxidative Induction Time (ASTM D5885)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes)	1696	1562		1629	95	5.8

UV Resistance (ASTM D7238)

- The resistance to degradation was determined in accordance with ASTM D7238 ;
- Apparatus used : Q-PANEL QUV/se - Lamp: UVA-340;
- Duration of the test: 1600 hours of UV exposure (total of 1920h);
- Cycle : 80 cycles of UVA (20h of light at 75°C followed by 4h of condensation at 60°C)

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1696	1562		1629	95	5.8
HP OIT (minutes) : ASTM D5885 - After 1600h of UV	1415	1406		1410	6	0.5
PERCENTAGE RETAINED:	87 %			Note: No visual change after 1600 hrs		

Air-Oven Aging (ASTM D5721)

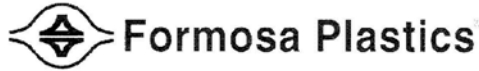
- The resistance to degradation was determined in accordance with ASTM D5721;
- Duration of the test: The geomembrane was exposed to 90 days in an air oven maintained at 85°C ± 0.5°C;
- Rotation of the exposed specimens : once per wee

	Individual Data			Avg.	S.D.	% CV
OIT (minutes) : ASTM D3895 - Initial	213	187		200	19	9.3
OIT (minutes) : ASTM D3895 - After 90 days of Oven Aging	90	97		93	5	5.4
PERCENTAGE RETAINED:	47 %					

	Individual Data			Avg.	S.D.	% CV
HP OIT (minutes) : ASTM D5885 - Initial	1696	1562		1629	95	5.8
HP OIT (minutes) : ASTM D5885 - After 90 days of Oven Aging	1515	1487		1501	20	1.3
PERCENTAGE RETAINED:	92 %			Note: No visual change after 90 days		

The tests were performed by Solmax International. The laboratories of Solmax International are accredited by the GRI.

Simon Gilbert St-Pierre, P.Eng.
 Technical Services



FORMOSA PLASTICS CORPORATION, TEXAS

201 FORMOSA DRIVE
PO BOX 700
POINT COMFORT

TX 77978

PHONE: (888) FPCUSA3

Certificate of Analysis
(CONFIDENTIAL)

CUSTOMER: SOLMAX INTERNATIONAL INC.
2801 MARIE-VICTORIN

S/O NO : ES1A720
CUSTOMER PO : 115393-0
DATE SHIPPED: 2/21/17
LOT NO : 16L1127
WEIGHT (LB) : 191,100.00
CUSTID: FT03828 SPIDE3

VARENNES QC J3X 1
PRODUCT : HL3812
RAILCAR FPAX140025

Property	Method	Spec Min	Actual	Spec Max
Melt Index, g/10min	ASTM D1238	.04	.070	.12
HLMI, g/10 min.	ASTM D1238	9	12.1	13
Density, g/cm3	ASTM D1505	.935	.9375	.939

Notes:
Additive levels were tested and meet the min specification for this lot. As a result Standard OIT (by ASTM D3895) is greater than 120 mins (nominal values not tested on every lot). As a result, High Pressure OIT (by ASTM D5885) is greater than 1000 mins.



QC SUPERVISOR



ROLL IDENTIFICATION

Roll Number : 2-88870

Product Code : 1040450

Production Date 2017-04-05

HDPE 2.00 mm Black Smooth

Length (± 1%) : 121.9 meters
Width : 6.80 meters
Sheet Area : 829 sq. meters
Weight : 1 635 kilograms

RESIN INFORMATION

Resine Lot Number 16L1127
Resine Type : HDPE / HL3812
Resine Supplier : Formosa

Property	Test Method	Results
Density (g/cc)	ASTM D 1505	0.938
Melt Index (g/10 min.)	ASTM D 1238 (190/2.16)	0.07
ESCR (hrs)	ASTM D 5397	>500
OIT (min.)	ASTM D 3895	120
HP-OIT (min.)	ASTM D 5885	

Physical Property	Test Method	Test Frequency	Technical Data Metric	Test Results Metric	
Thickness (mm)	Average	ASTM D-5199	1/1 ro	2.00	2.01
	Minimum			1.80	1.98
Asperity (mm)	Average (out / in)	N/A	N/A	/	
Tensile properties		ASTM D-6693	1/2 ro		
Yield strength (kN/m)	TD			31	35.8
	MD				35.1
Yield elongation (%)	TD			13	16.3
	MD				17.8
Break strength (kN/m)	TD			57	72.3
	MD				72.5
Break elongation (%)	TD			700	907
	MD				867
Tear Resistance (N)	TD	ASTM D-1004	1/5 ro	250	286
	MD				279
Puncture Resistance (N)		ASTM D-4833	1/5 ro	695	765
Density (g/cc)		ASTM D-792	1/10 ro	≥ 0.940	0.946
Carbon Black Content (%)		ASTM D-4218	1/2 ro	2.0 - 3.0	2.73
Carbon Black Dispersion		ASTM D-5596	1/10 ro	Cat. 1 & Cat. 2	10
Dimensional Stability (%)	TD	ASTM D-1204	Certied	± 2	
	MD				

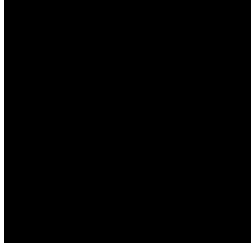
GEOMEMBRANE CERTIFICATION

Physical Property	Test Method	Test Frequency	Test Result
Oven Aging - % retained after 90 days	ASTM D-5721	1/Form	
HP OIT (min. avg.)	ASTM D-5885		> 80
UV Resistance - % retained after 1600 hr	GRI-GM-11	1/Form	
HP-OIT (min. avg.)	ASTM D-5885		> 50





MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

ROLL NUMBER	MANUFACT. DATE	BENTONITE LOT NUMBER	TOP LAYER 1	BOTTOM LAYER 1
Product Code : 1084617-39038-3				
<u>Bentoliner 0.89 lbs/ft² - 4.35 kg/m², NW</u>				
0242-392819	2023-03-23	1031723B	2027421211	2027302639
0242-392820	2023-03-23	1031723C	2027421222	2027302639
0242-392821	2023-03-23	1031723C	2027421222	2027302639
0242-392822	2023-03-23	1031723C	2027421222	2027302639
0242-392823	2023-03-23	1031723C	2027421222	2027302639
0242-392824	2023-03-23	1031723C	2027421222	2027302639
0242-392825	2023-03-23	1031723C	2027421222	2027366251
0242-392826	2023-03-23	1031723C	2027421222	2027366251
0242-392827	2023-03-23	1031723C	2027421222	2027366251
0242-392828	2023-03-23	1031723C	2027421222	2027366251
0242-392829	2023-03-23	1031723C	2027421222	2027366251
0242-392830	2023-03-23	1031723C	2027421218	2027366251
0242-392831	2023-03-23	1031723C	2027421218	2027366251
0242-392832	2023-03-23	1031723C	2027421218	2027366251
0242-392833	2023-03-23	1031723C	2027421218	2027366251
0242-392834	2023-03-23	1031723C	2027421218	2027366251
0242-392835	2023-03-23	1031723C	2027421218	2027366251
0242-392836	2023-03-23	1031723C	2027421218	2027366251
0242-392837	2023-03-23	1031723C	2027421218	2027366251

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

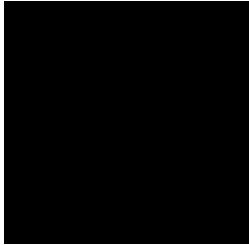
Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

Solmax Geosynthetics LLC
 19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

SOLMAX.COM



MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392838	2023-03-23	1031723C	2027421218	2027366251
0242-392839	2023-03-23	1031723C	2027421218	2027366251
0242-392840	2023-03-23	1031723C	2027421218	2027366251
0242-392841	2023-03-23	1031723C	2027408569	2027366292
0242-392842	2023-03-23	1031723C	2027408569	2027366292
0242-392843	2023-03-23	1031723C	2027408569	2027366292
0242-392844	2023-03-23	1031723C	2027408569	2027366292
0242-392845	2023-03-23	1031723D	2027408569	2027366292
0242-392846	2023-03-23	1031723D	2027408569	2027366292
0242-392847	2023-03-23	1031723D	2027421217	2027366292
0242-392848	2023-03-24	1031723D	2027421217	2027366292
0242-392849	2023-03-24	1031723D	2027421217	2027366292
0242-392850	2023-03-24	1031723D	2027421217	2027366292
0242-392851	2023-03-24	1031723D	2027421217	2027366292
0242-392852	2023-03-24	1031723D	2027421217	2027366292
0242-392853	2023-03-24	1031723D	2027421217	2027366292
0242-392854	2023-03-24	1031723D	2027421217	2027366292
0242-392855	2023-03-24	1031723D	2027421217	2027366292
0242-392856	2023-03-24	1031723D	2027421217	2027366292
0242-392857	2023-03-24	1031723D	2027421214	2027302644
0242-392858	2023-03-24	1031723D	2027421214	2027302644
0242-392859	2023-03-24	1031723D	2027421214	2027302644
0242-392860	2023-03-24	1031723D	2027421214	2027302644
0242-392861	2023-03-24	1031723D	2027421214	2027302644
0242-392862	2023-03-24	1031723D	2027421214	2027302644
0242-392863	2023-03-24	1031723D	2027421214	2027302644
0242-392864	2023-03-24	1031723D	2027421214	2027302644

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Solmax Geosynthetics LLC
 19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392865	2023-03-24	1031723D	2027421214	2027302644
0242-392866	2023-03-24	1031723D	2027421221	2027302644
0242-392867	2023-03-24	1031723D	2027421221	2027302644
0242-392868	2023-03-24	1032023A	2027421221	2027302644
0242-392869	2023-03-24	1032023A	2027421221	2027302644
0242-392870	2023-03-24	1032023A	2027421221	2027302644
0242-392871	2023-03-24	1032023A	2027421221	2027390139
0242-392872	2023-03-24	1032023A	2027421221	2027390139
0242-392873	2023-03-24	1032023A	2027421221	2027390139
0242-392874	2023-03-24	1032023A	2027421221	2027390139
0242-392875	2023-03-24	1032023A	2027421221	2027390139
0242-392876	2023-03-24	1032023A	2027421216	2027390139
0242-392877	2023-03-24	1032023A	2027421216	2027390139
0242-392878	2023-03-24	1032023A	2027421216	2027390139
0242-392879	2023-03-24	1032023A	2027421216	2027390139
0242-392880	2023-03-24	1032023A	2027421216	2027390139
0242-392881	2023-03-24	1032023A	2027421216	2027390139
0242-392882	2023-03-24	1032023A	2027421216	2027390139
0242-392883	2023-03-24	1032023A	2027421216	2027390139
0242-392884	2023-03-24	1032023A	2027421216	2027390139
0242-392885	2023-03-24	1032023A	2027421216	2027390139
0242-392886	2023-03-24	1032023A	2027421216	2027390139
0242-392887	2023-03-24	1032023A	2027424247	2027366294
0242-392888	2023-03-24	1032023A	2027424247	2027366294
0242-392889	2023-03-24	1032023A	2027424247	2027366294
0242-392890	2023-03-24	1032023A	2027424247	2027366294
0242-392891	2023-03-24	1032023A	2027424247	2027366294

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392892	2023-03-24	1032023A	2027424247	2027366294
0242-392893	2023-03-24	1032023B	2027424247	2027366294
0242-392894	2023-03-24	1032023B	2027424247	2027366294
0242-392895	2023-03-24	1032023B	2027424247	2027366294
0242-392896	2023-03-24	1032023B	2027424247	2027366294
0242-392897	2023-03-24	1032023B	2027424239	2027366294
0242-392898	2023-03-24	1032023B	2027424239	2027366294
0242-392899	2023-03-24	1032023B	2027424239	2027366294
0242-392900	2023-03-24	1032023B	2027424239	2027366294
0242-392901	2023-03-24	1032023B	2027424239	2027366294
0242-392902	2023-03-24	1032023B	2027424239	2027366293
0242-392903	2023-03-24	1032023B	2027424239	2027366293
0242-392904	2023-03-24	1032023B	2027424239	2027366293
0242-392905	2023-03-24	1032023B	2027424239	2027366293
0242-392906	2023-03-24	1032023B	2027424239	2027366293
0242-392907	2023-03-24	1032023B	2027424248	2027366293
0242-392908	2023-03-24	1032023B	2027424248	2027366293
0242-392909	2023-03-24	1032023B	2027424248	2027366293
0242-392910	2023-03-24	1032023B	2027424248	2027366293
0242-392911	2023-03-24	1032023B	2027424248	2027366293
0242-392912	2023-03-24	1032023B	2027424248	2027366293
0242-392913	2023-03-24	1032023B	2027424248	2027366293
0242-392914	2023-03-24	1032023B	2027424248	2027366293
0242-392915	2023-03-24	1032023B	2027424248	2027366293
0242-392916	2023-03-24	1032023B	2027424248	2027366293
0242-392917	2023-03-24	1032023B	2027424249	2027366291
0242-392918	2023-03-24	1032023C	2027424249	2027366291

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392919	2023-03-24	1032023C	2027424249	2027366291
0242-392920	2023-03-24	1032023C	2027424249	2027366291
0242-392921	2023-03-24	1032023C	2027424249	2027366291
0242-392922	2023-03-24	1032023C	2027424249	2027366291
0242-392923	2023-03-24	1032023C	2027424249	2027366291
0242-392924	2023-03-24	1032023C	2027424249	2027366291
0242-392925	2023-03-24	1032023C	2027424249	2027366291
0242-392926	2023-03-24	1032023C	2027424249	2027366291
0242-392927	2023-03-24	1032023C	2027424400	2027366291
0242-392928	2023-03-24	1032023C	2027424400	2027366291
0242-392929	2023-03-24	1032023C	2027424400	2027366291
0242-392930	2023-03-24	1032023C	2027424400	2027366291
0242-392931	2023-03-24	1032023C	2027424400	2027366291
0242-392932	2023-03-24	1032023C	2027424400	2027366295
0242-392933	2023-03-24	1032023C	2027424400	2027366295
0242-392934	2023-03-24	1032023C	2027424400	2027366295
0242-392935	2023-03-24	1032023C	2027424400	2027366295
0242-392936	2023-03-24	1032023C	2027424400	2027366295
0242-392937	2023-03-24	1032023C	2027424400	2027366295
0242-392938	2023-03-25	1032023C	2027424244	2027366295
0242-392939	2023-03-25	1032023C	2027424244	2027366295
0242-392940	2023-03-25	1032023C	2027424244	2027366295
0242-392941	2023-03-27	1032023C	2027424244	2027366295
0242-392942	2023-03-27	1032023D	2027424244	2027366295
0242-392943	2023-03-27	1032023D	2027424244	2027366295
0242-392944	2023-03-27	1032023D	2027424244	2027366295
0242-392945	2023-03-27	1032023D	2027424244	2027366295

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392946	2023-03-27	1032023D	2027424244	2027366295
0242-392947	2023-03-27	1032023D	2027424244	2027366295
0242-392948	2023-03-27	1032023D	2027424241	2027366285
0242-392949	2023-03-27	1032023D	2027424241	2027366285
0242-392950	2023-03-27	1032023D	2027424241	2027366285
0242-392951	2023-03-27	1032023D	2027424241	2027366285
0242-392952	2023-03-27	1032023D	2027424241	2027366285
0242-392953	2023-03-27	1032023D	2027424241	2027366285
0242-392954	2023-03-27	1032023D	2027424241	2027366285
0242-392955	2023-03-27	1032023D	2027424241	2027366285
0242-392956	2023-03-27	1032023D	2027424241	2027366285
0242-392957	2023-03-27	1032023D	2027424241	2027366285
0242-392958	2023-03-27	1032023D	2027424240	2027366285
0242-392959	2023-03-27	1032023D	2027424240	2027366285
0242-392960	2023-03-27	1032023D	2027424240	2027366285
0242-392961	2023-03-27	1032023D	2027424240	2027366285
0242-392962	2023-03-27	1032023D	2027424240	2027366285
0242-392963	2023-03-27	1032023D	2027424240	2027366284
0242-392964	2023-03-27	1032023D	2027424240	2027366284
0242-392965	2023-03-27	1032023D	2027424240	2027366284
0242-392966	2023-03-27	1032023D	2027424240	2027366284
0242-392967	2023-03-27	1032223A	2027424240	2027366284
0242-392968	2023-03-27	1032223A	2027424245	2027366284
0242-392969	2023-03-27	1032223A	2027424245	2027366284
0242-392970	2023-03-27	1032223A	2027424245	2027366284
0242-392971	2023-03-27	1032223A	2027424245	2027366284
0242-392972	2023-03-27	1032223A	2027424245	2027366284

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-392973	2023-03-27	1032223A	2027424245	2027366284
0242-392974	2023-03-27	1032223A	2027424245	2027366284
0242-392975	2023-03-27	1032223A	2027424245	2027366284
0242-392977	2023-03-27	1032223A	2027424245	2027366284
0242-392978	2023-03-27	1032223A	2027424234	2027366284
0242-392979	2023-03-27	1032223A	2027424234	2027366283
0242-392980	2023-03-27	1032223A	2027424234	2027366283
0242-392981	2023-03-27	1032223A	2027424234	2027366283
0242-392982	2023-03-27	1032223A	2027424234	2027366283
0242-392983	2023-03-27	1032223A	2027424234	2027366283
0242-392984	2023-03-27	1032223A	2027424234	2027366283
0242-392985	2023-03-27	1032223A	2027424234	2027366283
0242-392986	2023-03-27	1032223A	2027424234	2027366283
0242-392987	2023-03-27	1032223A	2027424234	2027366283
0242-392988	2023-03-27	1032223A	2027424234	2027366283
0242-392989	2023-03-27	1032223A	2027424237	2027366283
0242-392990	2023-03-27	1032223A	2027424237	2027366283
0242-392991	2023-03-27	1032223A	2027424237	2027366283
0242-392992	2023-03-27	1032223A	2027424237	2027366283
0242-392993	2023-03-27	1032223B	2027424237	2027366283
0242-392994	2023-03-27	1032223B	2027424237	2027302927
0242-392995	2023-03-27	1032223B	2027424237	2027302927
0242-392996	2023-03-27	1032223B	2027424237	2027302927
0242-392997	2023-03-27	1032223B	2027424237	2027302927
0242-392998	2023-03-27	1032223B	2027424237	2027302927
0242-392999	2023-03-27	1032223B	2027424238	2027302927
0242-393000	2023-03-27	1032223B	2027424238	2027302927

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MANUFACTURING QUALITY CONTROL



PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME: PRAIRIE GREEN LF CELL 17

0242-393001	2023-03-27	1032223B	2027424238	2027302927
0242-393002	2023-03-27	1032223B	2027424238	2027302927
0242-393003	2023-03-27	1032223B	2027424238	2027302927
0242-393004	2023-03-27	1032223B	2027424238	2027302927
0242-393005	2023-03-27	1032223B	2027424238	2027302927
0242-393006	2023-03-27	1032223B	2027424238	2027302927
0242-393007	2023-03-27	1032223B	2027424238	2027302927
0242-393008	2023-03-27	1032223B	2027424238	2027302927
0242-393009	2023-03-27	1032223B	2027424229	2027302927
0242-393010	2023-03-27	1032223B	2027424229	2027302925
0242-393011	2023-03-27	1032223B	2027424229	2027302925
0242-393012	2023-03-27	1032223B	2027424229	2027302925
0242-393013	2023-03-27	1032223B	2027424229	2027302925
0242-393014	2023-03-27	1032223B	2027424229	2027302925
0242-393015	2023-03-27	1032223B	2027424229	2027302925
0242-393016	2023-03-27	1032223B	2027424229	2027302925
0242-393017	2023-03-27	1032223B	2027424229	2027302925
0242-393018	2023-03-27	1032223B	2027424229	2027302925
0242-393019	2023-03-27	1032223B	2027424229	2027302925

QUANTITY (ROLLS): 200

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

PRODUCT: 1084617-39038-3
Bentoliner 0.89 lbs/ft² - 4.35 kg/m², NW

Rolls

Test	Property	Direction	Test Method	Frequency	Unit
1	Bentonite Mass (0% moisture)		ASTM D5993	40,000 ft ² /3,715 m ²	kg/m ²
2	Peel Strength (min.avg.)	MD	ASTM D4632	40,000 ft ² /3,715 m ²	N
3	Peel Strength (min.avg.)	MD	ASTM D6496	40,000 ft ² /3,715 m ²	N/m
4	Tensile Strength MD (min. avg.)	MD	ASTM D6768	40,000 ft ² /3,715 m ²	kN/m

Test	1	2	3	4
SPECIFICATIONS	4.35	93	610	8.8
0242-392819	4.74	253.55	1,926.21	9.8
0242-392820	4.74	253.55	1,926.21	9.8
0242-392821	4.74	253.55	1,926.21	9.8
0242-392822	4.74	253.55	1,926.21	9.8
0242-392823	4.74	253.55	1,926.21	9.8
0242-392824	4.74	253.55	1,926.21	9.8
0242-392825	4.74	253.55	1,926.21	9.8
0242-392826	4.74	253.55	1,926.21	9.8
0242-392827	4.74	253.55	1,926.21	9.8
0242-392828	4.74	253.55	1,926.21	9.8
0242-392829	4.74	253.55	1,926.21	9.8
0242-392830	4.74	253.55	1,926.21	9.8
0242-392831	4.74	253.55	1,926.21	9.8
0242-392832	4.74	253.55	1,926.21	9.8
0242-392833	4.74	253.55	1,926.21	9.8
0242-392834	4.74	253.55	1,926.21	9.8
0242-392835	4.49	169.03	1,400.88	9.8
0242-392836	4.49	169.03	1,400.88	9.8
0242-392837	4.49	169.03	1,400.88	9.8
0242-392838	4.49	169.03	1,400.88	9.8
0242-392839	4.49	169.03	1,400.88	9.8
0242-392840	4.49	169.03	1,400.88	9.8
0242-392841	4.49	169.03	1,400.88	9.8
0242-392842	4.49	169.03	1,400.88	9.8

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

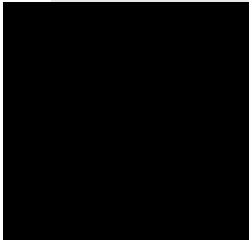
PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-392843	4.49	169.03	1,400.88	9.8
0242-392844	4.49	169.03	1,400.88	9.8
0242-392845	4.49	169.03	1,400.88	9.8
0242-392846	4.49	169.03	1,400.88	9.8
0242-392847	4.49	169.03	1,400.88	9.8
0242-392848	4.49	169.03	1,400.88	9.8
0242-392849	4.49	169.03	1,400.88	9.8
0242-392850	4.49	169.03	1,400.88	9.8
0242-392851	4.69	235.76	1,926.21	9.3
0242-392852	4.69	235.76	1,926.21	9.3
0242-392853	4.69	235.76	1,926.21	9.3
0242-392854	4.69	235.76	1,926.21	9.3
0242-392855	4.69	235.76	1,926.21	9.3
0242-392856	4.69	235.76	1,926.21	9.3
0242-392857	4.69	235.76	1,926.21	9.3
0242-392858	4.69	235.76	1,926.21	9.3
0242-392859	4.69	235.76	1,926.21	9.3
0242-392860	4.69	235.76	1,926.21	9.3
0242-392861	4.69	235.76	1,926.21	9.3
0242-392862	4.69	235.76	1,926.21	9.3
0242-392863	4.69	235.76	1,926.21	9.3
0242-392864	4.69	235.76	1,926.21	9.3
0242-392865	4.69	235.76	1,926.21	9.3
0242-392866	4.69	235.76	1,926.21	9.3
0242-392867	4.64	284.69	2,469.05	9.6
0242-392868	4.64	284.69	2,469.05	9.6
0242-392869	4.64	284.69	2,469.05	9.6
0242-392870	4.64	284.69	2,469.05	9.6
0242-392871	4.64	284.69	2,469.05	9.6
0242-392872	4.64	284.69	2,469.05	9.6
0242-392873	4.64	284.69	2,469.05	9.6
0242-392874	4.64	284.69	2,469.05	9.6
0242-392875	4.64	284.69	2,469.05	9.6
0242-392876	4.64	284.69	2,469.05	9.6
0242-392877	4.64	284.69	2,469.05	9.6

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TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-392878	4.64	284.69	2,469.05	9.6
0242-392879	4.64	284.69	2,469.05	9.6
0242-392880	4.64	284.69	2,469.05	9.6
0242-392881	4.64	284.69	2,469.05	9.6
0242-392882	4.64	284.69	2,469.05	9.6
0242-392883	4.74	240.20	2,083.81	10.0
0242-392884	4.74	240.20	2,083.81	10.0
0242-392885	4.74	240.20	2,083.81	10.0
0242-392886	4.74	240.20	2,083.81	10.0
0242-392887	4.74	240.20	2,083.81	10.0
0242-392888	4.74	240.20	2,083.81	10.0
0242-392889	4.74	240.20	2,083.81	10.0
0242-392890	4.74	240.20	2,083.81	10.0
0242-392891	4.74	240.20	2,083.81	10.0
0242-392892	4.74	240.20	2,083.81	10.0
0242-392893	4.74	240.20	2,083.81	10.0
0242-392894	4.74	240.20	2,083.81	10.0
0242-392895	4.74	240.20	2,083.81	10.0
0242-392896	4.74	240.20	2,083.81	10.0
0242-392897	4.74	240.20	2,083.81	10.0
0242-392898	4.74	240.20	2,083.81	10.0
0242-392899	4.69	213.51	1,681.06	9.6
0242-392900	4.69	213.51	1,681.06	9.6
0242-392901	4.69	213.51	1,681.06	9.6
0242-392902	4.69	213.51	1,681.06	9.6
0242-392903	4.69	213.51	1,681.06	9.6
0242-392904	4.69	213.51	1,681.06	9.6
0242-392905	4.69	213.51	1,681.06	9.6
0242-392906	4.69	213.51	1,681.06	9.6
0242-392907	4.69	213.51	1,681.06	9.6
0242-392908	4.69	213.51	1,681.06	9.6
0242-392909	4.69	213.51	1,681.06	9.6
0242-392910	4.69	213.51	1,681.06	9.6
0242-392911	4.69	213.51	1,681.06	9.6
0242-392912	4.69	213.51	1,681.06	9.6

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-392913	4.69	213.51	1,681.06	9.6
0242-392914	4.69	213.51	1,681.06	9.6
0242-392915	4.83	146.79	1,225.77	9.1
0242-392916	4.83	146.79	1,225.77	9.1
0242-392917	4.83	146.79	1,225.77	9.1
0242-392918	4.83	146.79	1,225.77	9.1
0242-392919	4.83	146.79	1,225.77	9.1
0242-392920	4.83	146.79	1,225.77	9.1
0242-392921	4.83	146.79	1,225.77	9.1
0242-392922	4.83	146.79	1,225.77	9.1
0242-392923	4.83	146.79	1,225.77	9.1
0242-392924	4.83	146.79	1,225.77	9.1
0242-392925	4.83	146.79	1,225.77	9.1
0242-392926	4.83	146.79	1,225.77	9.1
0242-392927	4.83	146.79	1,225.77	9.1
0242-392928	4.83	146.79	1,225.77	9.1
0242-392929	4.83	146.79	1,225.77	9.1
0242-392930	4.83	146.79	1,225.77	9.1
0242-392931	4.83	191.27	1,646.03	9.1
0242-392932	4.83	191.27	1,646.03	9.1
0242-392933	4.83	191.27	1,646.03	9.1
0242-392934	4.83	191.27	1,646.03	9.1
0242-392935	4.83	191.27	1,646.03	9.1
0242-392936	4.83	191.27	1,646.03	9.1
0242-392937	4.83	191.27	1,646.03	9.1
0242-392938	4.83	191.27	1,646.03	9.1
0242-392939	4.83	191.27	1,646.03	9.1
0242-392940	4.83	191.27	1,646.03	9.1
0242-392941	4.83	191.27	1,646.03	9.1
0242-392942	4.83	191.27	1,646.03	9.1
0242-392943	4.83	191.27	1,646.03	9.1
0242-392944	4.83	191.27	1,646.03	9.1
0242-392945	4.83	191.27	1,646.03	9.1
0242-392946	4.83	191.27	1,646.03	9.1
0242-392947	4.74	155.69	1,295.81	8.8

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Solmax Geosynthetics LLC
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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-392948	4.74	155.69	1,295.81	8.8
0242-392949	4.74	155.69	1,295.81	8.8
0242-392950	4.74	155.69	1,295.81	8.8
0242-392951	4.74	155.69	1,295.81	8.8
0242-392952	4.74	155.69	1,295.81	8.8
0242-392953	4.74	155.69	1,295.81	8.8
0242-392954	4.74	155.69	1,295.81	8.8
0242-392955	4.74	155.69	1,295.81	8.8
0242-392956	4.74	155.69	1,295.81	8.8
0242-392957	4.74	155.69	1,295.81	8.8
0242-392958	4.74	155.69	1,295.81	8.8
0242-392959	4.74	155.69	1,295.81	8.8
0242-392960	4.74	155.69	1,295.81	8.8
0242-392961	4.74	155.69	1,295.81	8.8
0242-392962	4.74	155.69	1,295.81	8.8
0242-392963	5.03	266.89	2,188.88	9.6
0242-392964	5.03	266.89	2,188.88	9.6
0242-392965	5.03	266.89	2,188.88	9.6
0242-392966	5.03	266.89	2,188.88	9.6
0242-392967	5.03	266.89	2,188.88	9.6
0242-392968	5.03	266.89	2,188.88	9.6
0242-392969	5.03	266.89	2,188.88	9.6
0242-392970	5.03	266.89	2,188.88	9.6
0242-392971	5.03	266.89	2,188.88	9.6
0242-392972	5.03	266.89	2,188.88	9.6
0242-392973	5.03	266.89	2,188.88	9.6
0242-392974	5.03	266.89	2,188.88	9.6
0242-392975	5.03	266.89	2,188.88	9.6
0242-392977	5.03	266.89	2,188.88	9.6
0242-392978	5.03	266.89	2,188.88	9.6
0242-392979	5.03	142.34	1,190.75	9.6
0242-392980	5.03	142.34	1,190.75	9.6
0242-392981	5.03	142.34	1,190.75	9.6
0242-392982	5.03	142.34	1,190.75	9.6
0242-392983	5.03	142.34	1,190.75	9.6

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-392984	5.03	142.34	1,190.75	9.6
0242-392985	5.03	142.34	1,190.75	9.6
0242-392986	5.03	142.34	1,190.75	9.6
0242-392987	5.03	142.34	1,190.75	9.6
0242-392988	5.03	142.34	1,190.75	9.6
0242-392989	5.03	142.34	1,190.75	9.6
0242-392990	5.03	142.34	1,190.75	9.6
0242-392991	5.03	142.34	1,190.75	9.6
0242-392992	5.03	142.34	1,190.75	9.6
0242-392993	5.03	142.34	1,190.75	9.6
0242-392994	5.03	142.34	1,190.75	9.6
0242-392995	4.59	209.07	1,768.61	10.3
0242-392996	4.59	209.07	1,768.61	10.3
0242-392997	4.59	209.07	1,768.61	10.3
0242-392998	4.59	209.07	1,768.61	10.3
0242-392999	4.59	209.07	1,768.61	10.3
0242-393000	4.59	209.07	1,768.61	10.3
0242-393001	4.59	209.07	1,768.61	10.3
0242-393002	4.59	209.07	1,768.61	10.3
0242-393003	4.59	209.07	1,768.61	10.3
0242-393004	4.59	209.07	1,768.61	10.3
0242-393005	4.59	209.07	1,768.61	10.3
0242-393006	4.59	209.07	1,768.61	10.3
0242-393007	4.59	209.07	1,768.61	10.3
0242-393008	4.59	209.07	1,768.61	10.3
0242-393009	4.59	209.07	1,768.61	10.3
0242-393010	4.59	209.07	1,768.61	10.3
0242-393011	4.78	164.58	1,400.88	9.5
0242-393012	4.78	164.58	1,400.88	9.5
0242-393013	4.78	164.58	1,400.88	9.5
0242-393014	4.78	164.58	1,400.88	9.5
0242-393015	4.78	164.58	1,400.88	9.5
0242-393016	4.78	164.58	1,400.88	9.5
0242-393017	4.78	164.58	1,400.88	9.5
0242-393018	4.78	164.58	1,400.88	9.5

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 19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4
0242-393019	4.78	164.58	1,400.88	9.5

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MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

PRODUCT: 1084617-39038-3
 Bentoliner 0.89 lbs/ft² - 4.35 kg/m², NW

Test	Property	Direction	Test Method	Frequency	Unit
1	Swell Index (min.)		ASTM D5890	1/100,000 lb	ml/2 g
2	Moisture Content (max.)		ASTM D4643	1/100,000 lb	%
3	Fluid Loss (max.)		ASTM D5891	1/100,000 lb	ml

Test	1	2	3
Specification	24	12	18
1031723B	32.0	10.6	13
1031723C	33.0	10.6	13
1031723D	32.0	10.9	13
1032023A	32.0	11.0	12
1032023B	31.0	11.5	12
1032023C	30.0	11.5	12
1032023D	29.0	11.2	13
1032223A	31.0	10.9	12
1032223B	30.0	12.0	13

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TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	Property	Direction	Test Method	Frequency	Unit
1	Mass per Unit Area (min. avg.)		ASTM D5261	1/200,000 ft ²	g/m ²
	Grab Tensile Properties (min. avg)		ASTM D4632	1/200,000 ft ²	
2	Strength (MD)				N
3	Strength (CMD)				N
4	Elongation (MD)				%
5	Elongation (CMD)				%

Test	1	2	3	4	5
Specification	203	400	445	10	10
2027302639	230.6	676.1	680.6	14	10
2027302644	230.6	560.5	734.0	12	10
2027302925	250.9	613.9	653.9	15	14
2027302927	254.3	631.6	645.0	14	10
2027366251	220.4	609.4	627.2	13	11
2027366283	237.3	582.7	631.6	14	11
2027366284	213.6	600.5	676.1	15	12
2027366285	213.6	600.5	676.1	15	12
2027366291	217.0	618.3	622.8	14	12
2027366292	217.0	618.3	622.8	14	12
2027366293	210.2	591.6	605.0	14	12
2027366294	210.2	591.6	605.0	14	12
2027366295	210.2	591.6	605.0	14	12
2027390139	254.3	600.5	751.7	17	14

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TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-1

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	Property	Direction	Test Method	Frequency	Unit
1	Mass per Unit Area (min. avg.)		ASTM D5261	1/200,000 ft ²	g/m ²
2	Strength (MD)				N
3	Strength (CMD)				N
4	Elongation (MD)				%
5	Elongation (CMD)				%

Test	1	2	3	4	5
Specification	200	98	98	100	100
2027408569	254.3	351.4	800.7	162	149
2027421211	237.3	471.5	947.5	164	174
2027421214	278.0	609.4	1,000.8	179	154
2027421216	257.7	516.0	907.4	161	159
2027421217	257.7	516.0	907.4	161	159
2027421218	257.7	516.0	907.4	161	159
2027421221	271.2	542.7	965.3	176	168
2027421222	254.3	529.3	960.8	166	174
2027424229	250.9	409.2	742.9	165	152
2027424234	250.9	444.8	769.5	160	143
2027424237	254.3	467.1	782.9	170	161
2027424238	250.9	529.3	871.9	175	153
2027424239	250.9	529.3	871.9	175	153
2027424240	250.9	529.3	871.9	175	153
2027424241	261.1	556.0	983.1	178	168
2027424244	254.3	551.6	956.4	163	145
2027424245	254.3	551.6	956.4	163	145
2027424247	240.7	564.9	1,036.4	166	145
2027424248	240.7	564.9	1,036.4	166	145
2027424249	240.7	564.9	1,036.4	166	145
2027424400	237.3	569.4	1,023.1	167	153

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GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2023

PRODUCT : NATIONAL® 30

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

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	MARCH No. of CARS	M AVG	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
B0004847369	03-17-23	1031723A	9.8	0.02	4.90	14.6	114	30	956	34	9.42	0.06	3.62	14.62	111.94	29.88	864.15	03-*	
B0004847370	03-17-23	1031723B	9.4	0.04	3.39	14.2	110	31	918	34	0.56	0.12	1.28	0.87	2.63	1.39	39.19		

YTD No. of CARS	M AVG	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
137	3.29	0.54	0.44	1.62	1.17	112.81	30.48	873.69

SOLD TO: Solmax
 19103 Gundle RD
 Houston, TX 77073

For any questions contact:
 Q.A. SUPERVISOR
 Tucker Goodvin

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

SHIPPED TO: Solmax
 3150 FIRST AVENUE
 SPEARFISH, SD 57783

Prepared by: TO
 03/17/23

CC:
 File

GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2023

PRODUCT : NATIONAL® 30

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

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847372	03-19-23	1031723C	9.9	0.02	4.40	15.4	106	34	817

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
35		9.43	0.55	0.06	0.12	3.64	14.64	111.77	30.00	862.80	03-*
						1.26	0.87	2.78	1.53	39.42	

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
138		9.43	0.54	0.10	0.44	3.97	14.61	112.77	30.50	873.29
						1.61	1.16	3.33	1.69	43.83

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Chuck Taylor (ctaylor@gseworld.com)
Cheryl Hofer (chofer@gseworld.com)

SHIPPED TO: Solmax
 3150 FIRST AVENUE
 SPEARFISH, SD 57783

Prepared by: TO
 03/20/23

CC: File

GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2023

PRODUCT : NATIONAL® 30

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

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847374	03-20-23	1031723D	9.6	0.06	1.30	14.8	112	33	861

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
	36	9.44	0.55	0.06	0.11	3.58	14.64	111.78	30.08	862.75	03-*
				0.86	2.74	1.59	38.87				

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
	139	9.43	0.53	0.10	0.44	3.95	14.61	112.76	30.52	873.20
				1.62	1.16	3.32	1.69	43.69		

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 SPEARFISH, SD 57783

Prepared by: TO
 03/20/23

CC: File

GSE BENTOLINER

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 COLONY PLANT
 BELLE FOURCHE, S.D. 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847375	03-20-23	1032023A	9.7	0.11	4.62	15.0	110	32	899

MARCH	No. of CARS	M AVG	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
37	37	9.45	0.54	0.06	3.61	14.65	111.73	30.14	863.73	03-*
	STD DEV			0.11	1.30	0.85	2.72	1.60	38.79	

YTD	No. of CARS	M AVG	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
140	140	9.43	0.53	0.10	3.95	14.61	112.74	30.53	873.38
	STD DEV			0.44	1.62	1.16	3.32	1.69	43.59

SOLD TO: Solmax
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 Houston, TX 77073

For any questions contact:
 Q.A. SUPERVISOR
 Tucker Goodvin

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

SHIPPED TO: Solmax
 3150 FIRST AVENUE
 SPEARFISH, SD 57783

Prepared by: TO
 03/21/23

CC:
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GSE BENTOLINER

CERTIFICATE OF ANALYSIS 2023

PRODUCT : NATIONAL® 30

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

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847378	03-20-23	1032023B	9.8	0.02	6.88	15.0	112	30	910

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE		
38		9.46	0.54	0.06	0.11	3.69	1.38	14.66	0.84	111.74	2.68	03-*	
										30.13	1.58	864.95	38.98

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN					
141		9.43	0.53	0.09	0.44	3.97	1.63	14.62	1.15	112.74	3.31	30.53	1.69	873.64	43.55

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BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847380	03-21-23	1032023C	9.2	0.15	3.86	14.8	118	31	878

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
39		9.45	0.53	0.06	0.11	3.70	14.67	111.90	30.15	865.28
						1.37	0.83	2.83	1.56	38.54

DATE
03-*

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
142		9.43	0.53	0.10	0.44	3.97	14.62	112.77	30.53	873.67
						1.62	1.15	3.32	1.68	43.40

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 BELLE FOURCHE, S.D. 57717

BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847381	03921923	1032023D	9.9	0.08	4.12	14.8	114	30	852

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
39		9.45	0.53	0.06	0.11	3.70	14.67	111.90	30.15	865.28
						1.37	0.83	2.83	1.56	38.54

DATE
03-*

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
142		9.43	0.53	0.10	0.44	3.97	14.62	112.77	30.53	873.67
						1.62	1.15	3.32	1.68	43.40

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BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847382	03-22-23	1032223A	9.6	0.02	2.35	14.6	116	34	945

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
41		9.46	0.52	0.06	0.11	3.67	14.67	112.05	30.24	866.90	03-*
				0.81	1.35	0.81	2.85	1.63	39.61		

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
144		9.43	0.53	0.09	0.43	3.96	14.62	112.80	30.55	874.01
				1.62	1.14	3.31	1.70	43.54		

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PRODUCT : NATIONAL® 30

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BOL #	LOAD DATE	LOT CODE	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	FL 18 MAX	MBC MEQ 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
B0004847383	03-22-23	1032223B	9.6	0.02	3.38	15.0	112	35	931

MARCH	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN	DATE
43		9.49	0.53	0.06	0.11	3.67	14.68	112.09	30.35	868.05	03-*
				0.79	1.32		0.79	2.79	1.75	39.95	

YTD	No. of CARS	M AVG	STD DEV	% MOIST 12 MAX	Mesh % + 20 15 MAX	Mesh % - 200 10 MAX	0 FL 18 MAX	MBC meq 70 MIN	SWELL INDEX 25 MIN	PWA 750 MIN
146		9.44	0.53	0.09	0.43	3.96	14.62	112.81	30.58	874.24
				1.13	1.61		1.13	3.29	1.72	43.53

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Prepared by: TO
 03/23/23

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Quality Assurance Laboratory Test Results

Index Flux - Hydraulic Conductivity report

MF-LAB-52

Revision:01

Date: 2021-09-09

Project: PRAIRIE GREEN LF CELL 17
Sales Order: SO-094867
Product: Bentoliner 0.89 lbs/ft² - 4.35 kg/m², NW

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

Frequency: 1/270,000 sf

Effective Stress: 7.3 psi

Roll Number	Production Date	Index Flux (m ³ /m ² /sec)	Hydraulic Conductivity (cm/sec)
0242-392827	3/23/2023	2.08E-09	8.96E-10
0242-392947	3/27/2023	2.87E-09	1.69E-09

Approved By: Chuck Taylor
Date Approved: 04/03/23



MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

PRODUCT: 1106390-39038-2
 FabriNet 275 mil, Double Sided 8 oz/yd², Nonwoven Cal.

Test	Property	Direction	Test Method	Frequency	Rolls	
					Unit	
1	Thickness (min. avg.)		ASTM D5199	50,000 ft ² /4,600 m ²	mm	
2	Carbon Black Content		ASTM D4218	50,000 ft ² /4,600 m ²	%	
3	Density (min.)		ASTM D792	50,000 ft ² /4,600 m ²	g/cm ³	
4	Tensile Strength (MD)	MD	ASTM D7179	50,000 ft ² /4,600 m ²	N/mm	✓
5	Ply Adhesion Average (min. avg.)	Top	ASTM D7005	50,000 ft ² /4,600 m ²	g/cm	
6	Ply Adhesion Average (min. avg.)	Bottom	ASTM D7005	50,000 ft ² /4,600 m ²	g/cm	
7	Transmissivity (x10 ⁻³)		ASTM D4716	540,000 ft ² /50,000 m ²	m ² /sec	
8	Transmissivity (x10 ⁻³)		ASTM D4716	Once per Shift	m ² /sec	

Test	1	2	3	4	5	6	7	8
SPECIFICATIONS	7.0 ✓	2.0 ✓	0.94 ✓	11.5 ✓	178 ✓	178 ✓	1.0	6
0116-033092	7.37	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033093	7.37	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033094	7.37	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033095	7.37	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033096	7.37	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033097	7.29	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033098	7.29	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033099	7.29	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033100	7.29	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033101	7.29	2.27	0.952	16.5 ✓	623	585.62	5.54	11.7
0116-033102	7.10	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033103	7.10	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033104	7.10	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033105	7.10	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033106	7.10	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033107	7.34	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033108	7.34	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033109	7.34	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033110	7.34	2.44	0.952	17.9	427	179.78	5.54	11.7
0116-033111	7.34	2.44	0.952	17.9	427	179.78	5.54	11.7

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4	5	6	7	8
0116-033112	7.21	2.31	0.956	17.7	231	423.64	5.54	11.7
0116-033113	7.21	2.31	0.956	17.7	231	423.64	5.54	11.7
0116-033114	7.21	2.31	0.956	17.7	231	423.64	5.54	11.7
0116-033115	7.21	2.31	0.956	17.7	231	423.64	5.54	11.7
0116-033116	7.21	2.31	0.956	17.7	231	423.64	5.54	11.7
0116-033117	7.16	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033118	7.16	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033119	7.16	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033120	7.16	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033121	7.16	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033122	7.20	2.65	0.957	17.9	801	425.42	5.54	11.7
0116-033123	7.20	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033124	7.20	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033125	7.20	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033126	7.20	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033127	7.18	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033128	7.18	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033129	7.18	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033130	7.18	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033131	7.18	2.65	0.956	17.7	231	423.64	5.54	11.7
0116-033132	7.15	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033133	7.15	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033134	7.15	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033135	7.15	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033136	7.15	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033137	7.26	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033138	7.26	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033139	7.26	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033140	7.26	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033141	7.26	2.62	0.956	17.7	214	546.46	5.54	11.7
0116-033142	7.23	2.68	0.956	17.7	534	1146.32	5.54	11.7
0116-033143	7.23	2.68	0.956	17.7	534	1146.32	5.54	11.7
0116-033144	7.23	2.68	0.956	17.7	534	1146.32	5.54	11.7
0116-033145	7.23	2.68	0.956	17.7	534	1146.32	5.54	11.7
0116-033146	7.23	2.68	0.956	17.7	534	1146.32	5.54	11.7

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4	5	6	7	8
0116-033147	7.20	2.58	0.956	17.7	534	1146.32	5.54	11.7
0116-033148	7.20	2.58	0.956	17.7	534	1146.32	5.54	11.7
0116-033149	7.20	2.58	0.956	17.7	534	1146.32	5.54	11.7
0116-033150	7.20	2.58	0.956	17.7	534	1146.32	5.54	11.7
0116-033151	7.20	2.58	0.956	17.7	534	1146.32	5.54	11.7
0116-033152	7.06	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033153	7.06	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033154	7.06	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033155	7.06	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033156	7.06	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033157	7.20	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033158	7.20	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033159	7.20	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033160	7.20	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033161	7.20	2.25	0.952	17.2	196	217.16	5.54	11.7
0116-033162	7.21	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033163	7.21	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033164	7.21	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033165	7.21	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033166	7.21	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033167	7.23	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033168	7.23	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033169	7.23	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033170	7.23	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033171	7.23	2.36	0.955	16.6	570	498.4	5.54	11.7
0116-033172	7.28	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033173	7.28	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033174	7.28	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033175	7.28	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033176	7.28	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033177	7.10	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033178	7.10	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033179	7.10	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033180	7.10	2.42	0.953	17.9	570	548.24	5.54	11.7
0116-033181	7.10	2.42	0.953	17.9	570	548.24	5.54	11.7

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MANUFACTURING QUALITY CONTROL

TEST RESULTS

PROJECT NUMBER: 866
 SALES ORDER: SO-094867
 PACKING SLIP NUMBER: Pre-SO-094867-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4	5	6	7	8
0116-033182	7.19	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033183	7.19	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033184	7.19	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033185	7.19	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033186	7.19	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033187	7.25	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033188	7.25	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033189	7.25	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033190	7.25	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033191	7.25	2.62	0.958	17.2	570	439.66	5.54	11.7
0116-033192	7.33	2.60	0.957	18.0	374	489.50	5.54	11.7
0116-033193	7.33	2.60	0.957	18.0	374	489.50	5.54	11.7
0116-033194	7.33	2.60	0.957	18.0	374	489.50	5.54	11.7
0116-033195	7.33	2.60	0.957	18.0	374	489.50	5.54	11.7
0116-033196	7.33	2.60	0.957	18.0	374	489.50	5.54	11.7
0116-033197	7.38	2.57	0.957	18.0	374	489.50	5.54	11.7
0116-033198	7.38	2.57	0.957	18.0	374	489.50	5.54	11.7
0116-033199	7.38	2.57	0.957	18.0	374	489.50	5.54	11.7
0116-033200	7.38	2.57	0.957	18.0	374	489.50	5.54	11.7
0116-033201	7.38	2.57	0.957	18.0	374	489.50	5.54	11.7
0116-033202	7.33	2.51	0.954	18.9	605	792.10	5.54	11.7
0116-033203	7.33	2.51	0.954	18.9	605	792.10	5.54	11.7
0116-033204	7.33	2.51	0.954	18.9	605	792.10	5.54	11.7
0116-033205	7.33	2.51	0.954	18.9	605	792.10	5.54	11.7
0116-033206	7.33	2.51	0.954	18.9	605	792.10	5.54	11.7
0116-033207	7.35	2.57	0.954	18.9	605	792.10	5.54	11.7
0116-033208	7.35	2.57	0.954	18.9	605	792.10	5.54	11.7
0116-033209	7.35	2.57	0.954	18.9	605	792.10	5.54	11.7
0116-033210	7.35	2.57	0.954	18.9	605	792.10	5.54	11.7
0116-033211	7.35	2.57	0.954	18.9	605	792.10	5.54	11.7
0116-033212	7.17	2.68	0.955	18.7	463	375.58	5.54	11.7
0116-033213	7.17	2.68	0.955	18.7	463	375.58	5.54	11.7
0116-033214	7.17	2.68	0.955	18.7	463	375.58	5.54	11.7
0116-033215	7.17	2.68	0.955	18.7	463	375.58	5.54	11.7
0116-033216	7.17	2.68	0.955	18.7	463	375.58	5.54	11.7

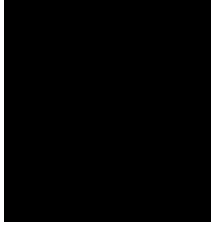
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Solmax Geosynthetics LLC
19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

SOLMAX.COM



MANUFACTURING QUALITY CONTROL



TEST RESULTS

PROJECT NUMBER: 866
SALES ORDER: SO-094867
PACKING SLIP NUMBER: Pre-SO-094867-2

PROJECT NAME : PRAIRIE GREEN LF CELL 17

Test	1	2	3	4	5	6	7	8
0116-033217	7.17	2.56	0.955	18.7	463	375.58	5.54	11.7
0116-033218	7.17	2.56	0.955	18.7	463	375.58	5.54	11.7
0116-033219	7.17	2.56	0.955	18.7	463	375.58	5.54	11.7
0116-033220	7.17	2.56	0.955	18.7	463	375.58	5.54	11.7
0116-033221	7.17	2.56	0.955	18.7	463	375.58	5.54	11.7

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Solmax Geosynthetics LLC
19103 GUNDLE RD,, HOUSTON, TX, UNITED STATES, 77073

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TENCATE

MIRAFI E1600 Certification

WESTERN TANK & LINING LTD.
 ANDREW SANDERSON
 E-mail: ANDREW@WTL.CA
 E-mail: CLINT@WTL.CA

BOL#: 2267652
 Order#: 1146493-000
 PO#: 785

This is to certify that Mirafi® E1600 is a needlepunched nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® E1600 geotextile is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids.

Mechanical Properties	Test Method	Minimum Average Roll Value	
GRAB TENSILE STRENGTH (MD)	ASTM D4632	425	LBS
GRAB TENSILE STRENGTH (CD)	ASTM D4632	425	LBS
GRAB ELONGATION (CD)	ASTM D4632	50	%
GRAB ELONGATION (MD)	ASTM D4632	50	%
TRAP TEAR STRENGTH (MD)	ASTM D4533	155	LBS
TRAP TEAR STRENGTH (CD)	ASTM D4533	155	LBS
CBR PUNCTURE STRENGTH	ASTM D6241	1200	LBS
MASS/UNIT WEIGHT	ASTM D5261	16.0	OZ/YD2
			542.4 G/M2

Mechanical Properties	Test Method	Minimum Roll Value	
PERMITTIVITY	ASTM D4491	.6	SEC-1
PERMEABILITY	ASTM D4491	.15	CM/SEC
WATER FLOW RATE	ASTM D4491	40	GPM/FT2

Mechanical Properties	Test Method	Minimum Test Value	
UV RESISTANCE @ 500 HOURS	ASTM D4355	80	%

Mechanical Properties	Test Method	Maximum Opening Size	
APPARENT OPENING SIZE - SIEVE	ASTM D4751	100	#

Mechanical Properties	Test Method	Maximum Opening Size	
APPARENT OPENING SIZE - MM	ASTM D4751	.150	MM

Certification reflects test results at time of manufacturing and shipment. TenCate Geosynthetics is not responsible for environment or other factors which could alter the physical properties.

* * * END OF REPORT * * *

This August 19, 2022



Melissa Medlin, Quality Manager

CERT#: 2267652-001

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Accreditation #: GAI-LAP-25-97
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 Pendergrass, GA 30567 Tel 888 795 0808

www.tencategeo.us



Geotextile Properties

AOS	AOS	CBR	ELONG	ELONG	WATER	GRAB	GRAB	PERME	PERMIT	TRAP	TRAP	WEIGHT
U.S.	MM	PUNC	ATION	ATION	FLOW	TENSILE	TENSILE	ABILITY	TIVITY	TEAR	TEAR	ASTM
SIEVE		TURE	(CD)	(MD)	RATE	(CD)	(MD)			(CD)	(MD)	D5261
ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM
D4751	D4751	D6241	D4632	D4632	D4491	D4632	D4632	D4491	D4491	D4533	D4533	D5261
#	MM	LBS	%	%	GPM/FT2	LBS	LBS	CM/SEC	SEC-1	LBS	LBS	OZ/YD2
J10624565	100	0.123	1244	108	84	57	511	0.27	0.8	232	208	16.3
J10624583	100	0.123	1244	108	84	57	511	0.27	0.8	232	208	16.3
J10624584	100	0.123	1244	108	84	57	511	0.27	0.8	232	208	16.3
J10624587	100	0.123	1294	104	84	59	508	0.28	0.8	241	206	16.2
J10624588	100	0.123	1294	104	84	59	508	0.28	0.8	241	206	16.2
J10624589	100	0.123	1294	104	84	59	508	0.28	0.8	241	206	16.2
J10624597	100	0.123	1294	104	84	59	508	0.28	0.8	241	206	16.2
J10628796	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628797	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628798	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628800	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628805	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628812	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628814	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628815	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628816	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628818	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628829	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628833	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628834	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628835	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628836	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628838	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628839	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628840	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628841	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls.

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Geotextile Properties

AOS	AOS	CBR	ELONG	ELONG	WATER	GRAB	GRAB	PERME	PERMIT	TRAP	TRAP	WEIGHT	
U.S.	MM	PUNC	ATION	ATION	FLOW	TENSILE	TENSILE	ABILITY	TIVITY	TEAR	TEAR	ASTM	
SIEVE		TURE	(MD)	(MD)	RATE	(CD)	(MD)			(CD)	(MD)	D5261	
ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	
D4751	D4751	D6241	D4632	D4632	D4491	D4632	D4632	D4491	D4491	D4533	D4533	D5261	
#	MM	LBS	%	%	GPM/FT2	LBS	LBS	CM/SEC	SEC-1	LBS	LBS	OZ/YD2	
J10628842	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628843	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628844	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628845	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628846	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628847	100	0.075	1245	108	83	56	574	523	0.27	0.8	213	193	16.2
J10628852	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628853	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628854	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628856	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628857	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628858	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628859	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628860	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628864	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628865	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628866	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628867	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628868	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628870	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628871	100	0.075	1230	111	90	56	539	557	0.27	0.8	195	209	16.5
J10628872	100	0.075	1307	114	87	64	562	580	0.31	0.9	226	223	16.8
J10628873	100	0.075	1307	114	87	64	562	580	0.31	0.9	226	223	16.8
J10628874	100	0.075	1307	114	87	64	562	580	0.31	0.9	226	223	16.8
J10628875	100	0.075	1307	114	87	64	562	580	0.31	0.9	226	223	16.8
J10628876	100	0.075	1307	114	87	64	562	580	0.31	0.9	226	223	16.8

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls. Unless specified separately in writing, material results apply only to items tested. No portion of this document may be reproduced whole or in part without the expressed written consent of TenCate. TenCate warrants our products and services to be free from defects in material and workmanship when delivered to TenCate's customers and that our products meet our published specifications.

Geotextile Properties

AOS	AOS	CBR	ELONG	ELONG	WATER	GRAB	GRAB	PERME	PERMIT	TRAP	TRAP	WEIGHT
U.S.	MM	PUNC	ATION	ATION	FLOW	TENSILE	TENSILE	ABILITY	TIVITY	TEAR	TEAR	ASTM
SIEVE	ASTM	TURE	(CD)	(MD)	RATE	(MD)	(MD)			(MD)	(MD)	D5261
ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM
D4751	D4751	D6241	D4632	D4632	D4491	D4632	D4632	D4491	D4491	D4533	D4533	D5261
#	MM	LBS	%	%	GPM/FT2	LBS	LBS	CM/SEC	SEC-1	LBS	LBS	OZ/YD2
J10634663	120	0.118	1212	104	81	62	494	0.27	0.8	191	183	16.0
J10634665	120	0.118	1292	103	84	62	524	0.27	0.8	211	190	16.5
J10634666	120	0.118	1292	103	84	62	524	0.27	0.8	211	190	16.5
J10634667	120	0.118	1292	103	84	62	524	0.27	0.8	211	190	16.5
J10634680	120	0.118	1292	103	84	62	524	0.27	0.8	211	190	16.5
J10634683	120	0.118	1292	103	84	62	524	0.27	0.8	211	190	16.5
J10634746	100	0.118	1353	102	84	50	553	0.23	0.7	220	187	16.5
J10634756	100	0.118	1353	102	84	50	553	0.23	0.7	220	187	16.5

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls.

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Geotextile Properties

AOS	AOS	CBR	ELONG	ELONG	WATER	GRAB	GRAB	PERME	PERMIT	TRAP	TRAP	WEIGHT
U.S.	MM	PUNC	ATION	ATION	FLOW	TENSILE	TENSILE	ABILITY	TIVITY	TEAR	TEAR	ASTM
SIEVE		TURE	(MD)	(MD)	RATE	(CD)	(MD)			(CD)	(MD)	D5261
ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM	ASTM
D4751	D4751	D6241	D4632	D4632	D4491	D4632	D4632	D4491	D4491	D4533	D4533	D5261
#	MM	LBS	%	%	GPM/FT2	LBS	LBS	CM/SEC	SEC-1	LBS	LBS	OZ/YD2
J10604111	140	0.095	1206	106	79	64	461	0.28	0.9	179	171	16.0
J10624495	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624496	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624497	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624498	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624499	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624500	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624504	120	0.123	1356	99	76	63	501	0.28	0.9	209	204	16.1
J10624505	120	0.123	1332	98	76	63	486	0.28	0.9	221	202	16.2
J10624506	120	0.123	1332	98	76	63	486	0.28	0.9	221	202	16.2
J10624507	120	0.123	1332	98	76	63	486	0.28	0.9	221	202	16.2
J10624510	120	0.123	1332	98	76	63	486	0.28	0.9	221	202	16.2
J10628804	100	0.075	1281	107	79	61	519	0.30	0.8	188	195	16.3
J10628813	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628817	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628822	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628828	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628831	100	0.075	1299	105	85	56	545	0.27	0.8	193	195	16.6
J10628832	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628848	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2
J10628850	100	0.075	1245	108	83	56	574	0.27	0.8	213	193	16.2

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Geotextile Properties

AOS	U.S. SIEVE	ASTM	D4751	CBR PUNCTURE	ASTM	D6241	ELONGATION (CD)	ASTM	D4632	ELONGATION (MD)	ASTM	D4632	WATER FLOW RATE	ASTM	D4491	GRAB TENSILE (CD)	ASTM	D4632	GRAB TENSILE (MD)	ASTM	D4632	PERMIT TIVITY	ASTM	D4491	TRAP TEAR (CD)	ASTM	D4533	TRAP TEAR (MD)	ASTM	D4533
#	LBS	%	%	GPM/FT2	LBS	LBS	SEC-1	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	
111561653	50	1157	19	24	8	320	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	130	130	123	123			
111561865	50	1157	19	24	8	320	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	130	130	123	123			
111561866	50	1157	19	24	8	320	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	324	0.11	130	130	123	123			
111645045	50	1173	19	23	7	320	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	131	131	124	124			
111645081	50	1185	18	22	8	323	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	133	133	127	127			
111645084	50	1154	21	24	7	340	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	130	130	126	126			
111645085	50	1154	21	24	7	340	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	130	130	126	126			
111645086	50	1185	18	22	8	323	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	133	133	127	127			
111645087	50	1171	19	23	8	316	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	134	134	130	130			
111645089	50	1171	19	23	8	316	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	319	0.11	134	134	130	130			
111645090	50	1154	21	24	7	340	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	130	130	126	126			
111645091	50	1154	21	24	7	340	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	130	130	126	126			
111645092	50	1154	21	24	7	340	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	327	0.10	130	130	126	126			
111645094	50	1185	18	22	8	323	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	133	133	127	127			
111645095	50	1185	18	22	8	323	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	326	0.11	133	133	127	127			
111645097	50	1191	23	24	7	330	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645098	50	1191	23	24	7	330	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645099	50	1167	17	23	7	319	0.10	324	0.10	324	0.10	324	0.10	324	0.10	324	0.10	324	0.10	324	0.10	324	0.10	127	127	125	125			
111645100	50	1154	21	23	7	316	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645101	50	1154	21	23	7	316	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645102	50	1192	18	20	7	322	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	123	123	125	125			
111645105	50	1191	23	24	7	330	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645106	50	1191	23	24	7	330	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645107	50	1191	23	24	7	330	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	318	0.10	126	126	123	123			
111645109	50	1192	18	20	7	322	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	123	123	125	125			
111645110	50	1192	18	20	7	322	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	325	0.10	123	123	125	125			

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls. Unless specified separately in writing, material results apply only to items tested. No portion of this document may be reproduced whole or in part without the expressed written consent of TenCate. TenCate warrants our products and services to be free from defects in material and workmanship when delivered to TenCate's customers and that our products meet our published specifications.

Geotextile Properties

AOS	CBR PUNCTURE	ELONGATION (CD)	ELONGATION (MD)	WATER FLOW RATE	GRAB TENSILE (CD)	GRAB TENSILE (MD)	PERMIT TIVITY	TRAP TENSILE (CD)	TRAP TENSILE (MD)
U.S. SIEVE	ASTM D6241	ASTM D4632	ASTM D4632	ASTM D4491	ASTM D4632	ASTM D4632	ASTM D4491	ASTM D4533	ASTM D4533
#	LBS	%	%	GPM/FT2	LBS	LBS	SEC-1	LBS	LBS
111645111	50	1154	21	23	7	316	0.10	126	123
111645112	50	1154	21	23	7	316	0.10	126	123
111645113	50	1167	17	23	7	319	0.10	127	125
111645114	50	1191	23	24	7	330	0.10	126	123
111645115	50	1156	19	23	7	332	0.09	128	126
111645116	50	1156	19	23	7	332	0.09	128	126
111645117	50	1157	20	22	7	351	0.09	130	125
111645118	50	1157	19	24	8	320	0.11	130	123
111645119	50	1157	19	24	8	320	0.11	130	123
111645130	50	1157	19	24	8	320	0.11	130	123
111645131	50	1157	20	22	7	351	0.09	130	125
111645132	50	1157	20	22	7	351	0.09	130	125
111645133	50	1156	19	23	7	332	0.09	128	126
111645136	50	1156	19	23	7	332	0.09	128	126
111645137	50	1195	18	22	7	321	0.09	133	126
111645138	50	1195	18	22	7	321	0.09	133	126
111645140	50	1167	17	23	7	319	0.10	127	125
111645141	50	1185	18	22	8	323	0.11	133	127
111645147	50	1167	17	23	7	319	0.10	127	125
111645150	50	1195	18	22	7	321	0.09	133	126
111645151	50	1138	19	24	7	339	0.09	130	122
111645152	50	1138	19	24	7	339	0.09	130	122
111645154	50	1156	19	23	7	332	0.09	128	126
111645155	50	1195	18	22	7	321	0.09	133	126
111645156	50	1195	18	22	7	321	0.09	133	126
111645159	50	1192	18	20	7	322	0.10	123	125

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls.

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Geotextile Properties

AOS	CBR PUNCTURE	ELONGATION (CD)	ELONGATION (MD)	WATER FLOW RATE	GRAB TENSILE (CD)	GRAB TENSILE (MD)	PERMIT TIVITY	TRAP TEAR (CD)	TRAP TEAR (MD)
U.S. SIEVE	ASTM D6241	ASTM D4632	ASTM D4632	ASTM D4491	ASTM D4632	ASTM D4632	ASTM D4491	ASTM D4533	ASTM D4533
#	LBS	%	%	GPM/FT2	LBS	LBS	SEC-1	LBS	LBS
111645164	50	185	18	22	8	323	0.11	133	127
111645165	50	185	18	22	8	323	0.11	133	127
111645166	50	1192	18	20	7	322	0.10	123	125
111645167	50	1192	18	20	7	322	0.10	123	125
111645169	50	1156	19	23	7	332	0.09	128	126
111645170	50	1156	19	23	7	332	0.09	128	126
111645171	50	1157	20	22	7	351	0.09	130	125
111645172	50	1157	20	22	7	351	0.09	130	125
111645173	50	1157	20	22	7	351	0.09	130	125
111645174	50	1167	20	23	7	317	0.09	121	120
111645175	50	1192	18	20	7	322	0.10	123	125
111645176	50	1192	18	20	7	322	0.10	123	125
111645178	50	1185	18	22	8	323	0.11	133	127
111645186	50	1192	18	20	7	322	0.10	123	125
111645187	50	1154	21	23	7	316	0.10	126	123
111645188	50	1154	21	23	7	316	0.10	126	123
111645189	50	1157	20	22	7	351	0.09	130	125
111645190	50	1157	20	22	7	351	0.09	130	125
111645191	50	1157	20	22	7	351	0.09	130	125
111645192	50	1173	19	23	7	320	0.10	131	124
111645205	50	1173	19	23	7	320	0.10	131	124
111645206	50	1173	19	23	7	320	0.10	131	124
111645207	50	1157	20	22	7	351	0.09	130	125
111645223	50	1195	18	22	7	321	0.09	133	126
111645224	50	1195	18	22	7	321	0.09	133	126
111645225	50	1154	21	23	7	316	0.10	126	123

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Geotextile Properties

AOS	U.S. SIEVE	ASTM	D4751	CBR PUNCTURE	ASTM	D6241	ELONGATION (CD)	ASTM	D4632	ELONGATION (MD)	ASTM	D4632	WATER FLOW RATE	ASTM	D4491	GRAB TENSILE (CD)	ASTM	D4632	GRAB TENSILE (MD)	ASTM	D4632	PERMIT TIVITY	ASTM	D4491	TRAP TEAR (CD)	ASTM	D4533	TRAP TEAR (MD)	ASTM	D4533
#	LBS	%	%	LBS	%	GPM/FT2	LBS	LBS	SEC-1	LBS	LBS	LBS	LBS	LBS																
111645235	50	1154	21	23	7	316	318	0.10	126	123																				
111645236	50	1154	21	23	7	316	318	0.10	126	123																				
111645237	50	1195	18	22	7	321	323	0.09	133	126																				
406503310	40	1240	21	22	9	372	366	0.10	129	132																				
406504503	40	1218	19	22	8	342	370	0.09	130	134																				
406504504	40	1218	19	22	8	342	370	0.09	130	134																				
406506803	40	1218	20	22	8	370	344	0.09	131	134																				
406506805	40	1218	20	22	8	370	344	0.09	131	134																				
406506806	40	1218	20	22	8	370	344	0.09	131	134																				
406506811	40	1218	20	22	8	370	344	0.09	131	134																				
406506812	40	1218	20	22	8	370	344	0.09	131	134																				
406506813	40	1218	20	22	8	370	344	0.09	131	134																				

Final "put-up" rolls taken from a single master roll and having identical properties and test data. Results may only be available for tested rolls. Unless specified separately in writing, material results apply only to items tested. No portion of this document may be reproduced whole or in part without the expressed written consent of TenCate. TenCate warrants our products and services to be free from defects in material and workmanship when delivered to TenCate's customers and that our products meet our published specifications.



Certificat of conformance

PPS: 119942
PO: 899

Customer : WESTERN TANK & LINING LTD.
Product : FIN25534
Description : TEXEL080C 04.57M N CC HC 91.44M

Customer Code : 19386
Lot # : 109278
Production date : 2023-02-07

Composition : Blend of short staple polypropylene

Process : Needle Punched Non-Woven

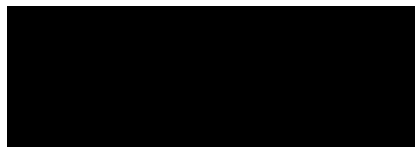
Table with 5 columns: Property, Test Method, Unit, Minimum, Maximum. Rows include UV Resistance, Flow rate, Permittivity, Tear Strength, Elongation Instron, Strength at Break, AOS, Static Puncture Strength, and FOS.

Note :

Empty rectangular box for notes.



Issued by :



Katherine Automne Lepage, Assurance Qualité

Date issued :

May 15, 2023



CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS							
X06002511																			
X06002521	89	6956	2.27	471	430	75	55	1034	1230	75	3600	99							
X06002531																			
X06002541																			
X06002551																			
X06002561																			
X06002571																			
X06002581																			
X06002591																			
X06002601																			
X06002611																			
X06002621																			
X06002631																			
X06002641																			
X06002651																			
X06002661																			
X06002671																			
X06002681																			
X06002691																			
X06002701																			
X06002711																			
X06002721																			
X06002731																			
X06002741																			



CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS						
X06002751	89	6956	2.27	470	400	70	57	1184	1146	75	N/A	99						
X06002761																		
X06002771																		
X06002781																		
X06002791																		
X06002801																		
X06002811																		
X06002821																		
X06002831																		
X06002841																		
X06002851																		
X06002861																		
X06002871																		
X06002881																		
X06002891																		
X06002901																		
X06002911																		
X06002921																		
X06002931																		
X06002941																		
X06002951																		
X06002961																		
X06002971																		
X06002981	89	6956	2.27	558	469	70	58	1111	1150	75	N/A	99						



CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS						
X06002991																		
X06003001																		
X06003011																		
X06003021																		
X06003031																		
X06003041																		
X06003051																		
X06003061																		
X06003071																		
X06003081																		
X06003091																		
X06003101																		
X06003111																		
X06003121																		
X06003131																		
X06003141																		
X06003151																		
X06003161																		
X06003171																		
X06003181																		
X06003191																		
X06003201																		
X06003211	89	6956	2.27	578	491	69	56	1140	1159	75	N/A	99						
X06003221																		



CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS								
X06003231																				
X06003241																				
X06003251																				
X06003261																				
X06003271																				
X06003281																				
X06003291																				
X06003301																				
X06003311																				
X06003321																				
X06003331																				
X06003341																				
X06003351																				
X06003361																				
X06003371																				
X06003381																				
X06003391																				
X06003401																				
X06003411																				
X06003421																				
X06003431																				
X06003441	89	6956	2.27	511	452	70	58	1206	1204	75	N/A	99								
X06003451																				
X06003461																				



CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS						
X06003471																		
X06003481																		
X06003491																		
X06003501																		
X06003511																		
X06003521																		
X06003531																		
X06003541																		
X06003551																		
X06003561																		
X06003571																		
X06003581																		
X06003591																		
X06003601																		
X06003611																		
X06003621																		
X06003631																		
X06003641																		
X06003651																		
X06003661																		
X06003671	89	6956	2.27	515	434	68	56	1034	1160	75	N/A	99						
X06003681																		
X06003691																		
X06003701																		

CERTIFICATE OF CONFORMANCE - DETAILS

Lot #: 109278

Product : FIN25534

Roll Number	JV Resistance (Xenon Arc)	Flow rate (ASTM)	Permittivity (ASTM)	Tear Strength - Moy CD ASTM	Tear Strength - Moy MD ASTM	Elongation Instron - CD ASTM	Elongation Instron - MD ASTM	Strength at Break - Mean CD ASTM	Strength at Break - Mean MD ASTM	AOS	Static Puncture Strength (50mm - CBR)	FOS						
X06003711																		
X06003721																		
X06003731																		
X06003741																		
X06003751																		
X06003761																		
X06003771																		
X06003781																		
X06003791																		
X06003801																		
X06003811																		
X06003821																		
X06003831																		
X06003841																		
X06003851																		
X06003861																		
X06003871																		
X06003881																		
X06003891																		
X06003901	89	6956	2.27	468	377	68	55	1084	1040	75	N/A	99						
X06003911																		
X06003921																		
X06003931																		
X06003941																		

Appendix B-3
Certificate of Acceptance – Clay Subgrade




7192 Vantage Way,
Delta, B.C. V4G 1K7
PH: (604) 241-9487 FAX: (604) 241-9485
(800) 551-4355

CERTIFICATE OF ACCEPTANCE SUBGRADE

PROJECT NAME	Prairie Green Landfill Cell 17 Expansion
PRODUCT DESCRIPTION	Landfill Expansion
PROJECT NUMBER	2314
PROJECT LOCATION	Rosser, MN

INSTALLATION CONTRACTOR REPRESENTATIVE	CCL Installer - Secure Energy Services Geomembrane - WTL
AREA TO BE ACCEPTED	Cell 17 floor and slopes

I, the undersigned, duly authorized representative of the installer do hereby accept the subgrade surface conditions, and shall be responsible for maintaining its integrity and suitability in accordance with the specifications. I do not accept any responsibility for the conditions or character of the subsurface soil, or any effects the soil might have on the lining system.

NAME	Rob Selles
SIGNATURE	
TITLE	Operations Manager
DATE (dd/mm/yy)	2023-06-25

Appendix B-4

Geomembrane Deployment Inspection Summary



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 13-Jul-23
 SHEET NUMBER: 1

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P1			
ROLL NUMBER	1002-17509			
DEPLOYED LENGTH	84.1m			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	61	61	60	60
	69	58	59	60
	60	61	60	61
AVERAGE	63	60	60	60

DESCRIPTION	PANEL NUMBER P2			
ROLL NUMBER	1002-117509			
DEPLOYED LENGTH	1.8M			
AMBIENT AIR TEMP.	25			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	61	59	60	60
	60	61	59	60
	61	60	61	61
AVERAGE	61	60	60	60

DESCRIPTION	PANEL NUMBER P3			
ROLL NUMBER	1002-117509			
DEPLOYED LENGTH	66.3			
AMBIENT AIR TEMP.	25			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	59	60	60	60
	60	61	60	61
	61	59	61	59
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER P4			
ROLL NUMBER	1002-115595			
DEPLOYED LENGTH	18.7 x 2.0			
AMBIENT AIR TEMP.	25			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TRAIL
	60	60	61	59
	61	60	60	62
	59	59	61	60
AVERAGE	60	60	61	60

DESCRIPTION	PANEL NUMBER P5			
ROLL NUMBER	166961			
DEPLOYED LENGTH	24.6			
AMBIENT AIR TEMP.	25			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TRAIL
	59	60	59	61
	61	60	59	60
	60	59	60	61
AVERAGE	60	60	59	61

DESCRIPTION	PANEL NUMBER P6			
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	34.9			
AMBIENT AIR TEMP.	25			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TRAIL
	59	61	58	60
	61	60	59	61
	60	59	60	60
AVERAGE	60	60	59	60

REVIEWED BY: AFK
 DATE: September 5, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 14-Jul-23
 SHEET NUMBER: 2

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P7			
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	78m			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	58	61
	59	59	59	60
	61	59	60	59
AVERAGE	60	59	59	60

DESCRIPTION	PANEL NUMBER P8			
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	53.4m			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	61	61
	61	62	63	58
	61	60	62	60
AVERAGE	61	61	62	60

DESCRIPTION	PANEL NUMBER P9			
ROLL NUMBER	1002-117511			
DEPLOYED LENGTH	25.3m			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150MM			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	62	60	61
	61	60	61	60
	61	60	61	59
AVERAGE	61	61	61	60

DESCRIPTION	PANEL NUMBER P10			
ROLL NUMBER	1002-117511			
DEPLOYED LENGTH	90.3m			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	_____ _____			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	59	61
	61	61	60	60
	60	60	61	59
AVERAGE	60	61	60	60

DESCRIPTION	PANEL NUMBER P11			
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	93.1m			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	_____ _____			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	58	59
	60	59	60	62
	61	58	61	61
AVERAGE	60	59	60	61

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____ _____			
DEPLOYED LENGTH	_____ _____			
AMBIENT AIR TEMP.	_____ _____			
OBSERVED OVERLAP	_____ _____			
REMARKS	_____ _____			
MONITOR	_____ _____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	____	____	____	____
	____	____	____	____
	____	____	____	____
AVERAGE	____	____	____	____

REVIEWED BY: AFK
 DATE: September 5, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 15-Jul-23
 SHEET NUMBER: 3

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P12			
ROLL NUMBER	1002-117511			
DEPLOYED LENGTH	78.7			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	62
	59	61	60	60
	61	58	61	60
AVERAGE	60	59	60	61

DESCRIPTION	PANEL NUMBER P13			
ROLL NUMBER	1002-114511			
DEPLOYED LENGTH	33.1m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	58	60	61
	61	59	58	60
	60	60	61	60
AVERAGE	60	59	60	60

DESCRIPTION	PANEL NUMBER P14			
ROLL NUMBER	1002-117514			
DEPLOYED LENGTH	47.0m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	59	60
	60	61	60	60
	60	62	59	61
AVERAGE	60	61	59	60

DESCRIPTION	PANEL NUMBER P15			
ROLL NUMBER	1002-117514			
DEPLOYED LENGTH	79.0m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	58	61	69
	61	60	60	61
	60	60	60	62
AVERAGE	60	59	60	64

DESCRIPTION	PANEL NUMBER P16			
ROLL NUMBER	1002-117514			
DEPLOYED LENGTH	34.1m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	62	59	60	61
	60	58	61	60
	60	60	60	62
AVERAGE	61	59	60	61

DESCRIPTION	PANEL NUMBER P17			
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	39.5m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	58	59	59
	60	60	60	61
	62	61	60	60
AVERAGE	61	60	60	60

REVIEWED BY: AFK
 DATE: September 5, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Jul-23
 SHEET NUMBER: 4

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P18		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	68.0m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	58	61	62
	61	60	60	61
	62	59	59	60
AVERAGE	61	59	60	61

DESCRIPTION	PANEL NUMBER	P19		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	3.7m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	60	59	59	60
	60			62
AVERAGE	60	59	60	61

DESCRIPTION	PANEL NUMBER	P20		
ROLL NUMBER	1005-066961			
DEPLOYED LENGTH	27.3			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	59	74
	72	60	60	74
	75	61	58	72
AVERAGE	73	60	59	73

DESCRIPTION	PANEL NUMBER	P21		
ROLL NUMBER	1005-066961			
DEPLOYED LENGTH	27.1			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	60	61	74
	74	61	61	73
	74	61	59	73
AVERAGE	73	61	60	73

DESCRIPTION	PANEL NUMBER	P22		
ROLL NUMBER	1005-066961			
DEPLOYED LENGTH	27.4			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	61	73
	72	59	60	72
	73	60	63	72
AVERAGE	73	60	61	72

DESCRIPTION	PANEL NUMBER	P23		
ROLL NUMBER	1005-066961			
DEPLOYED LENGTH	27.4			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	75	60	59	73
	72	61	59	60
	72	60	61	61
AVERAGE	73	60	60	65

REVIEWED BY: AFK
 DATE: September 5, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Jul-23
 SHEET NUMBER: 5

TRANSPORT EQUIPMENT Excavator and Spreader Bar textured
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P24		
ROLL NUMBER	1005-066961			
DEPLOYED LENGTH	27.2			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	61	73
	72	62	58	74
	73	59	60	73
AVERAGE	73	60	60	73

DESCRIPTION	PANEL NUMBER	P25		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	26.8			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	71	60	59	73
	72	60	60	72
	74	60	58	74
AVERAGE	72	60	59	73

DESCRIPTION	PANEL NUMBER	P26		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	27.1			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	62	60	75
	72	60	61	74
	74	60	58	72
AVERAGE	73	61	60	74

DESCRIPTION	PANEL NUMBER	P27		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	27			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	76	58	59	73
	73	60	61	72
	74	60	61	75
AVERAGE	74	59	60	73

DESCRIPTION	PANEL NUMBER	P28		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	27.1			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	61	74
	73	58	61	72
	72	62	60	72
AVERAGE	73	60	61	73

DESCRIPTION	PANEL NUMBER	P29		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	27.3			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	58	72
	72	59	60	72
	74	59	60	74
AVERAGE	73	59	59	73

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Jul-23
 SHEET NUMBER: 6

TRANSPORT EQUIPMENT Excavator and Spreader Bar Textured
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P30		
ROLL NUMBER	1005-066959			
DEPLOYED LENGTH	27.4			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	58	60	73
	74	60	61	74
	74	59	59	72
AVERAGE	73	59	60	73

DESCRIPTION	PANEL NUMBER	P31		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	27.4			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	59	59	72
	73	100	58	75
	72	100	60	75
AVERAGE	73	86	59	74

DESCRIPTION	PANEL NUMBER	P32		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	27.2			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	58	60	73
	72	60	61	71
	75	59	61	74
AVERAGE	73	59	61	73

DESCRIPTION	PANEL NUMBER	P33		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	27.7			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	60	60	73
	72	62	60	74
	73	59	58	72
AVERAGE	72	60	59	73

DESCRIPTION	PANEL NUMBER	P34		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	28.6			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	75	61	59	74
	73	60	60	72
	74	60	60	72
AVERAGE	74	60	60	73

DESCRIPTION	PANEL NUMBER	P35		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	27.3			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	75	61	59	72
	74	60	60	73
	74	60	60	74
AVERAGE	74	60	60	73

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 18-Jul-23
 SHEET NUMBER: 7

TRANSPORT EQUIPMENT Excavator and Spreader Bar Textured
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P36		
ROLL NUMBER	1005-066953			
DEPLOYED LENGTH	27.6m			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	61	58	73
	74	60	60	72
	73	60	59	72
AVERAGE	73	60	59	72

DESCRIPTION	PANEL NUMBER	P37		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	28.4m			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	60	74
	75	60	61	74
	73	60	58	73
AVERAGE	74	60	60	74

DESCRIPTION	PANEL NUMBER	P38		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	28.1m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	75	61	60	73
	74	62	61	75
	74	61	60	74
AVERAGE	74	61	60	74

DESCRIPTION	PANEL NUMBER	P39		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	28.2m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	61	62	75
	73	60	60	74
	72	59	60	72
AVERAGE	73	60	61	74

DESCRIPTION	PANEL NUMBER	P40		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	27.9m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	61	74
	73	59	61	73
	72	59	60	73
AVERAGE	73	59	61	73

DESCRIPTION	PANEL NUMBER	P41		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	27.6m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	60	73
	75	59	58	72
	74	58	58	73
AVERAGE	74	59	59	73

REVIEWED BY: AFK
 DATE: September 6, 2022



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 18-Jul-23
 SHEET NUMBER: 8

TRANSPORT EQUIPMENT Excavator and Spreader Bar Textured
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P42		
ROLL NUMBER	1005-066957			
DEPLOYED LENGTH	28.0m			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	74 60 58 74			
	72 61 59 72			
	74 59 59 73			
AVERAGE	73 60 59 73			

DESCRIPTION	PANEL NUMBER	P43		
ROLL NUMBER	1005-066956			
DEPLOYED LENGTH	28.8m			
AMBIENT AIR TEMP.	20.09			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	72 60 58 74			
	72 59 60 73			
	73 59 59 72			
AVERAGE	72 59 59 73			

DESCRIPTION	PANEL NUMBER	P44		
ROLL NUMBER	1005-066956			
DEPLOYED LENGTH	27.2m			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	74 58 58 75			
	73 58 58 72			
	73 59 58 74			
AVERAGE	73 58 58 74			

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

REVIEWED BY: AFK
 DATE: September 2, 2021



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 18-Jul-23
 SHEET NUMBER: 9

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P45		
ROLL NUMBER		1005-066956		
DEPLOYED LENGTH		27.8m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	62	73
	72	60	61	76
	72	61	61	73
AVERAGE	73	60	61	74

DESCRIPTION	PANEL NUMBER	P46		
ROLL NUMBER		1005-066956		
DEPLOYED LENGTH		27.7m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	58	58	72
	74	59	59	72
	72	58	59	72
AVERAGE	73	58	59	72

DESCRIPTION	PANEL NUMBER	P47		
ROLL NUMBER		1005-066956		
DEPLOYED LENGTH		28.1m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	60	73
	74	59	61	74
	72	59	59	74
AVERAGE	73	59	60	74

DESCRIPTION	PANEL NUMBER	P48		
ROLL NUMBER		1005-066956		
DEPLOYED LENGTH		29.0m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	60	74
	72	61	61	73
	72	61	62	73
AVERAGE	73	61	61	73

DESCRIPTION	PANEL NUMBER	P49		
ROLL NUMBER		1005-066962		
DEPLOYED LENGTH		27.5m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	60	60	74
	73	59	59	73
	73	59	59	73
AVERAGE	73	59	59	73

DESCRIPTION	PANEL NUMBER	P50		
ROLL NUMBER		1005-066962		
DEPLOYED LENGTH		27.3m		
AMBIENT AIR TEMP.		23		
OBSERVED OVERLAP		150 mm		
REMARKS		_____ _____		
MONITOR		RM		
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	58	60	73
	73	59	58	73
	73	59	59	74
AVERAGE	73	59	59	73

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 18-Jul-23
 SHEET NUMBER: 10

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P51			
ROLL NUMBER	1005-066962			
DEPLOYED LENGTH	28.3			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	59	72
	72	60	59	73
	74	59	59	74
AVERAGE	73	60	59	73

DESCRIPTION				
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS				
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 25-Jun-21
 SHEET NUMBER: 11

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P52		
ROLL NUMBER	117813			
DEPLOYED LENGTH	91.2			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	63 62 62 62			
	64 63 63 63			
	63 63 64 61			
AVERAGE	63 63 63 62			

DESCRIPTION	PANEL NUMBER	P53		
ROLL NUMBER	117513			
DEPLOYED LENGTH	66.9			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	63 62 62 62			
	62 63 61 61			
	61 61 63 61			
AVERAGE	62 62 62 61			

DESCRIPTION	PANEL NUMBER	P54		
ROLL NUMBER	117516			
DEPLOYED LENGTH	23.4			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	62 62 60 63			
	61 61 61 61			
	61 60 62 62			
AVERAGE	61 61 61 62			

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: CONDARY **PRIMARY**

SUBGRADE CONDITIONS: Good

REMARKS: _____

DATE: 21-Jul-23

SHEET NUMBER: 12

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P55		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	44.6M			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	62	61	61
	61	61	60	60
	61	60	60	61
AVERAGE	61	61	60	61

DESCRIPTION	PANEL NUMBER	P56		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	45.3M			
AMBIENT AIR TEMP.	20C			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	59	60
	60	61	59	58
	61	62	60	60
AVERAGE	60	61	59	59

DESCRIPTION	PANEL NUMBER	TEXTURED P57		
ROLL NUMBER	1002-066951			
DEPLOYED LENGTH	27.2			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	76	59	60	74
	73	58	60	73
	70	60	58	71
AVERAGE	73	59	59	73

DESCRIPTION	PANEL NUMBER	P58		
ROLL NUMBER	1005-066951			
DEPLOYED LENGTH	28.1			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	74	58	59	76
	71	59	59	72
	65	61	60	71
AVERAGE	70	59	59	73

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____ _____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____ _____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 27-Jul-23
 SHEET NUMBER: 13

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P59		
ROLL NUMBER	1002-117528			
DEPLOYED LENGTH	71.5M			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	58	59	60
	61	60	60	60
	59	60	63	61
AVERAGE	60	59	61	60

DESCRIPTION	PANEL NUMBER	P60		
ROLL NUMBER	1002-117528			
DEPLOYED LENGTH	71.8			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	60	58
	62	58	60	59
	61	59	59	60
AVERAGE	61	59	60	59

DESCRIPTION	PANEL NUMBER	P61		
ROLL NUMBER	1002-117528			
DEPLOYED LENGTH	18.8M			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	63	61	59
	60	61	62	60
	59	60	60	59
AVERAGE	60	61	61	59

DESCRIPTION	PANEL NUMBER	P62		
ROLL NUMBER	1002-117504			
DEPLOYED LENGTH	54.3			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	63
	61	58	61	58
	61	59	61	59
AVERAGE	61	59	60	60

DESCRIPTION	PANEL NUMBER	P63		
ROLL NUMBER	1002-117504			
DEPLOYED LENGTH	72.6M			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	62	60	60	63
	61	60	61	61
	60	61	60	59
AVERAGE	61	60	60	61

DESCRIPTION	PANEL NUMBER	P64		
ROLL NUMBER	1002-117504			
DEPLOYED LENGTH	33.4			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	60
	60	60	63	60
	61	62	60	61
AVERAGE	60	60	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 27-Jul-23
 SHEET NUMBER: 14

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P65			
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	39.7			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	60	61
	59	59	59	60
	60	60	60	59
AVERAGE	59	59	60	60

DESCRIPTION	PANEL NUMBER P66			
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	70.9			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	60
	61	59	59	59
	60	60	59	59
AVERAGE	60	59	59	59

DESCRIPTION	PANEL NUMBER P67			
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	1.8M			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	59	60	60	60
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: CELL17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 28-Jul-23
 SHEET NUMBER: 15

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P68			
ROLL NUMBER	1002-117506			
DEPLOYED LENGTH	72.8M			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	60	58
	61	60	60	60
	60	60	60	59
AVERAGE	60	60	60	59

DESCRIPTION	PANEL NUMBER P69			
ROLL NUMBER	1002-117506			
DEPLOYED LENGTH	72.6			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	61
	61	61	60	60
	61	59	60	60
AVERAGE	61	60	60	60

DESCRIPTION	PANEL NUMBER P70			
ROLL NUMBER	1002-117506			
DEPLOYED LENGTH	11			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	61
	60	61	59	60
	61	59	59	59
AVERAGE	60	60	59	60

DESCRIPTION	PANEL NUMBER P71			
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	6.7			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	61	62
	61	59	60	60
	59	60	59	60
AVERAGE	60	60	60	61

DESCRIPTION	PANEL NUMBER P72			
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	20			
AMBIENT AIR TEMP.	24			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	61	61
	62	60	59	59
	61	59	60	60
AVERAGE	61	60	60	60

DESCRIPTION	PANEL NUMBER P73			
ROLL NUMBER	1002-117505			
DEPLOYED LENGTH	49.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	61	61	61	60
	60	59	59	61
AVERAGE	60	60	60	60

REVIEWED BY: AFK
 DATE: September 6, 2021



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 28-Jul-23
 SHEET NUMBER: 16

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P74		
ROLL NUMBER	1002-117505			
DEPLOYED LENGTH	72.5			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	60 58 59 60			
	59 59 59 61			
	59 60 59 60			
AVERAGE	59 59 59 60			

DESCRIPTION	PANEL NUMBER	P75		
ROLL NUMBER	1002-117505			
DEPLOYED LENGTH	36.9			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	60 59 59 60			
	60 58 60 60			
	61 58 61 61			
AVERAGE	60 58 60 60			

DESCRIPTION	PANEL NUMBER	P76		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	36.4			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	60 59 60 61			
	60 58 60 62			
	61 61 59 60			
AVERAGE	60 59 60 61			

DESCRIPTION	PANEL NUMBER	P77		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	72.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
	60 58 59 60			
	59 59 58 60			
	60 60 60 59			
AVERAGE	60 59 59 60			

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
SHEET THICKNESS	LEAD L SIDE R SIDE TRAIL			
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 29-Jul-23
 SHEET NUMBER: 17

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P78				PANEL NUMBER P79				PANEL NUMBER P80			
	ROLL NUMBER	1002-117510				1002-117524				1002-117524		
DEPLOYED LENGTH	20.8				51.5				71.8			
AMBIENT AIR TEMP.	20				20				20			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	59	60	59	60	59	60	59	60	60
	59	60	59	59	60	62	61	59	61	59	60	59
	59	60	60	62	59	60	61	60	60	62	60	59
AVERAGE	59	60	60	60	60	60	61	59	60	60	60	59

DESCRIPTION	PANEL NUMBER P81				PANEL NUMBER P82				PANEL NUMBER P83			
	ROLL NUMBER	1002-117524				1002-117517				1002-117517		
DEPLOYED LENGTH	36.7				36.5				72.5			
AMBIENT AIR TEMP.	20				20				20			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	59	60	58	60	60	60	60	59	58	59	59	60
	59	59	59	60	60	61	60	59	59	59	59	60
	62	59	61	62	63	60	59	61	61	60	62	59
AVERAGE	60	59	59	61	61	60	60	60	59	59	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 29-Jul-23
 SHEET NUMBER: 18

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P84				PANEL NUMBER P85				PANEL NUMBER			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1002-117517				1002-117524							
DEPLOYED LENGTH	51.2				20.7							
AMBIENT AIR TEMP.	21				20							
OBSERVED OVERLAP	150 mm				150 mm							
REMARKS												
MONITOR	RM				RM							
SHEET THICKNESS	60	59	59	60	60	59	59	60				
	61	59	59	60	59	59	59	60				
	60	59	62	61	59	60	62	58				
AVERAGE	60	59	60	60	59	59	60	59				

DESCRIPTION	PANEL NUMBER				PANEL NUMBER				PANEL NUMBER			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER												
DEPLOYED LENGTH												
AMBIENT AIR TEMP.												
OBSERVED OVERLAP												
REMARKS												
MONITOR												
SHEET THICKNESS												
AVERAGE												

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 30-Jul-23
 SHEET NUMBER: 19

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P86				PANEL NUMBER P87				PANEL NUMBER P87			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1002-117520				1002-117522				1002-117522			
DEPLOYED LENGTH	12.4				58.1				45.5			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	60	59	59	60	60	59	59	59	60	60	60	60
	60	59	60	62	60	60	60	60	59	61	60	59
	60	60	60	62	61	60	61	61	62	59	60	59
AVERAGE	60	59	60	61	60	60	60	60	60	60	60	59

DESCRIPTION	PANEL NUMBER P89				PANEL NUMBER P90				PANEL NUMBER P91			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1002-117508				1002-117508				1002-117508			
DEPLOYED LENGTH	26.4				71.4				61			
AMBIENT AIR TEMP.	26				26				26			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	59	60	58	60	60	60	60	59	58	59	59	60
	59	59	59	60	60	61	60	59	59	59	59	60
	62	59	61	62	63	60	59	61	61	60	62	59
AVERAGE	60	59	59	61	61	60	60	60	59	59	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 30-Jul-23
 SHEET NUMBER: 20

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P92				PANEL NUMBER P93				PANEL NUMBER P94			
	ROLL NUMBER	1002-117507				1002-117507				1002-117507		
DEPLOYED LENGTH	13				72.4				72			
AMBIENT AIR TEMP.	26				27				27			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	60	60	59	60	60	60	60	60	59	60	61
	60	61	61	59	61	59	59	60	61	59	59	59
	59	60	60	60	60	59	59	59	60	62	60	60
AVERAGE	60	60	60	59	60	59	59	60	60	60	60	60

DESCRIPTION	PANEL NUMBER				PANEL NUMBER				PANEL NUMBER			
	ROLL NUMBER											
DEPLOYED LENGTH												
AMBIENT AIR TEMP.												
OBSERVED OVERLAP												
REMARKS												
MONITOR												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE												

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 01-Aug-23
 SHEET NUMBER: 21

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER		PANEL NUMBER	PANEL NUMBER
ROLL NUMBER	P95	1005-066962		
DEPLOYED LENGTH		27.5		
AMBIENT AIR TEMP.		17		
OBSERVED OVERLAP		150 mm		
REMARKS				
MONITOR		RM		
<hr/>				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	72	62	62	73
	71	61	51	72
	70	60	60	71
<hr/>				
AVERAGE	71	61	58	72

DESCRIPTION	PANEL NUMBER		PANEL NUMBER	PANEL NUMBER
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS				
MONITOR				
<hr/>				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
<hr/>				
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 06-Aug-23
 SHEET NUMBER: 22

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P96				PANEL NUMBER P97				PANEL NUMBER P98			
	ROLL NUMBER	1005-006962				1005-006962				1005-006960		
DEPLOYED LENGTH	28				28.6				28.6			
AMBIENT AIR TEMP.	20				20				20			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	LB				LB				LB			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	63	62	59	62	61	63	60	62	61	63	60
	61	61	61	60	60	61	61	59	61	60	61	59
	59	63	60	62	63	62	62	61	60	61	62	61
	62	62	60	61	61	60	59	60	62	62	60	61
AVERAGE	61	62	61	61	62	61	61	60	61	61	62	60

DESCRIPTION	PANEL NUMBER P99				PANEL NUMBER P100				PANEL NUMBER P101			
	ROLL NUMBER	1005-006960				1005-006960				1005-006960		
DEPLOYED LENGTH	28.5				28.5				28.8			
AMBIENT AIR TEMP.	20				20				20			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	LB				LB				LB			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	62	61	61	61	63	62	61	60	60	61	60	61
	59	64	60	60	60	60	61	59	59	60	61	62
	60	62	58	60	60	63	61	61	61	59	62	60
	61	60	60	60	61	60	60	62	62	60	63	63
AVERAGE	61	62	60	60	61	61	61	61	61	60	62	62

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 07-Aug-23
 SHEET NUMBER: 23

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P102				PANEL NUMBER P103				PANEL NUMBER P104			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1002-117503				1002-117503				1002-117521			
DEPLOYED LENGTH	71.6				12.3				59.8			
AMBIENT AIR TEMP.	26				26				26			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	60	59	59	60	59	59	60	60	59	61	61
	61	60	60	59	61	58	58	59	60	59	60	61
	59	60	61	60	59	60	59	60	60	60	60	60
AVERAGE	60	60	60	59	60	59	59	60	60	59	60	61

DESCRIPTION	PANEL NUMBER P105				PANEL NUMBER P106				PANEL NUMBER P107			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1002-117521				1002-117521				1002-117523			
DEPLOYED LENGTH	71.8				21.5				52			
AMBIENT AIR TEMP.	26				26				27			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	60	59	59	60	60	60	61	60	60	59	60
	59	61	59	59	59	61	59	60	61	61	59	61
	59	61	59	60	59	62	60	61	59	59	60	60
AVERAGE	59	61	59	59	59	61	60	61	60	60	59	60

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 10-Aug-23
 SHEET NUMBER: 24

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P108				PANEL NUMBER P109				PANEL NUMBER P110			
	ROLL NUMBER	1005-066960				1005-066960				1005-066955		
DEPLOYED LENGTH	28.7				6.9				22.5			
AMBIENT AIR TEMP.	18				18				18			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	73	60	59	72	71	60	70	71	60	60	73	73
	69	61	60	74	72	61	72	72	61	61	74	74
	72	60	60	69	70	61	69	70	59	60	71	71
AVERAGE	71	60	60	72	71	61	70	71	60	60	73	73

DESCRIPTION	PANEL NUMBER P111				PANEL NUMBER P112				PANEL NUMBER P113			
	ROLL NUMBER	1005-066955				1005-066955				1005-066955		
DEPLOYED LENGTH	8.2				21				13.5			
AMBIENT AIR TEMP.	18				18				18			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
		60	68	71	70	60	60	71		68	60	71
		59	69	70	70	61	59	68		70	59	69
		60	70	68	68	59	60	69		69	60	69
AVERAGE		60	69	70	69	60	60	69		69	60	70

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 10-Aug-23
 SHEET NUMBER: 25

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P114	PANEL NUMBER	P115	PANEL NUMBER	P116							
ROLL NUMBER		1005-066955		1005-066955		1005-066955							
DEPLOYED LENGTH		8.9		24.2		3.9							
AMBIENT AIR TEMP.		17		18		18							
OBSERVED OVERLAP		150 mm		150 mm		150 mm							
REMARKS													
MONITOR		RM		RM		RM							
<hr/>													
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL					
		70	60	70		68	68	60					
		69	60	71		70	70	61					
		71	59	68		69	70	59					
<hr/>													
AVERAGE		70	60	70		69	69	60		71	69	73	71

DESCRIPTION	PANEL NUMBER	P117	PANEL NUMBER		PANEL NUMBER			
ROLL NUMBER		1005-066955						
DEPLOYED LENGTH		28.5						
AMBIENT AIR TEMP.		21						
OBSERVED OVERLAP		150 mm						
REMARKS								
MONITOR		RM						
<hr/>								
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
		71	60	59	69			
		70	61	60	68			
		68	59	60	70			
<hr/>								
AVERAGE		70	60	60	69			

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 14-Aug-23
 SHEET NUMBER: 26

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P118				PANEL NUMBER P119				PANEL NUMBER P120			
	ROLL NUMBER	1002-117519				1002-117519				1002-117519		
DEPLOYED LENGTH	21.4				21.6				20.8			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	59	59	60	60	61	59	60	60	59
	61	59	59	62	59	60	60	60	59	60	60	62
	59	60	60	59	61	59	60	60	60	59	60	59
AVERAGE	60	59	59	60	60	60	60	60	59	60	60	60

DESCRIPTION	PANEL NUMBER P121				PANEL NUMBER P122				PANEL NUMBER P123			
	ROLL NUMBER	1002-117519				1002-117519				1002-117519		
DEPLOYED LENGTH	28.5				10				10			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60	60	59	60	59	59	62	60	60
	60	58	60	60	59	61	60	59	60	62	60	60
	60	59	59	60	60	60	62	61				
AVERAGE	60	59	60	60	60	60	61	60	60	62	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 15-Aug-23
 SHEET NUMBER: 27

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P124				PANEL NUMBER P125				PANEL NUMBER P126			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1005-066955				1005-066952				1005-066952			
DEPLOYED LENGTH	29				29				29			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	72	57	58	72	69	59	59	71	69	59	59	68
	68	57	59	71	68	60	59	70	72	62	62	68
	69	62	59	68	70	59	59	70	68	59	62	69
AVERAGE	70	59	59	70	69	59	59	70	70	60	61	68

DESCRIPTION	PANEL NUMBER P127				PANEL NUMBER P128				PANEL NUMBER P129			
	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
ROLL NUMBER	1005-066952				1005-066952				1005-066951			
DEPLOYED LENGTH	36.5				37				36.5			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	70	59	59	69	71	59	60	71	71	59	60	71
	70	59	59	68	70	59	60	70	70	59	59	71
	69	59	62	69	68	62	59	69	69	59	59	70
AVERAGE	70	59	60	69	70	60	60	70	70	59	59	71

REVIEWED BY: AFK
 DATE: September 6, 2023

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **PRIMARY**
 SUBGRADE CONDITIONS: Good
 REMARKS:

DATE: 15-Aug-23
 SHEET NUMBER: 28

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER P130				PANEL NUMBER P131				PANEL NUMBER P132			
	ROLL NUMBER	1005-066951				1005-066951				1005-066952		
DEPLOYED LENGTH	34				31				28.5			
AMBIENT AIR TEMP.	25				25				25			
OBSERVED OVERLAP	150 mm				150 mm				150 mm			
REMARKS												
MONITOR	RM				RM				RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	70	59	59	70	68	59	59	70	68	59	59	68
	68	59	60	68	66	59	59	66	69	59	59	68
	69	59	61	68	67	62	62	68	69	62	63	69
AVERAGE	69	59	60	69	67	60	60	68	69	60	60	68

DESCRIPTION	PANEL NUMBER				PANEL NUMBER				PANEL NUMBER			
	ROLL NUMBER											
DEPLOYED LENGTH												
AMBIENT AIR TEMP.												
OBSERVED OVERLAP												
REMARKS												
MONITOR												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE												

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Aug-23
 SHEET NUMBER: 29

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	P133		
ROLL NUMBER	1002-117519			
DEPLOYED LENGTH	50.0m			
AMBIENT AIR TEMP.	17c			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	59
	60	60	59	59
	59	60	59	58
AVERAGE	60	60	59	59

DESCRIPTION	PANEL NUMBER	P134		
ROLL NUMBER	1002-117515			
DEPLOYED LENGTH	50.5m			
AMBIENT AIR TEMP.	18c			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	59	60
	59	60	58	60
	58	59	59	60
AVERAGE	59	60	59	60

DESCRIPTION	PANEL NUMBER	P135		
ROLL NUMBER	1002-117515			
DEPLOYED LENGTH	50.5m			
AMBIENT AIR TEMP.	18c			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	58
	59	59	60	59
	60	58	60	59
AVERAGE	60	59	60	59

DESCRIPTION	PANEL NUMBER	P136		
ROLL NUMBER	1002-117515			
DEPLOYED LENGTH	50m			
AMBIENT AIR TEMP.	19c			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	59
	59	59	60	58
	60	59	58	59
AVERAGE	60	59	59	59

DESCRIPTION	PANEL NUMBER	P137		
ROLL NUMBER	1002-117515			
DEPLOYED LENGTH	9mx3m			
AMBIENT AIR TEMP.	19c			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	58	59	58	59
	59	59	59	59
	_____	_____	_____	_____
AVERAGE	59	59	59	59

DESCRIPTION	PANEL NUMBER	P138		
ROLL NUMBER	1002-117519			
DEPLOYED LENGTH	13.8m x 4.2m			
AMBIENT AIR TEMP.	19c			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	58	59	59	59
	58	58	59	59
	_____	_____	_____	_____
AVERAGE	58	59	59	59

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: SECONDARY **Double Composite**
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 18-Aug-23
 SHEET NUMBER: 1

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	D1		
ROLL NUMBER	1002-117			
DEPLOYED LENGTH	32.5			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS				
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	60
	59	59	59	59
	59	59	60	59
AVERAGE	59	59	59	59

DESCRIPTION	PANEL NUMBER	D2			
ROLL NUMBER	1002-117526				
DEPLOYED LENGTH	32				
AMBIENT AIR TEMP.	18				
OBSERVED OVERLAP	150 mm				
REMARKS					
MONITOR	RM				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	
	60	59	58	60	
	60	59	59	59	
	60	59	60	59	
AVERAGE	60	59	59	59	

DESCRIPTION	PANEL NUMBER	D3			
ROLL NUMBER	1005-05510				
DEPLOYED LENGTH	12				
AMBIENT AIR TEMP.	18				
OBSERVED OVERLAP	150 mm				
REMARKS					
MONITOR	AB				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	
	62	62	63	63	
	62	63	61	62	
AVERAGE	62	63	62	63	

DESCRIPTION	PANEL NUMBER	D4			
ROLL NUMBER	1002-117526				
DEPLOYED LENGTH	33.7				
AMBIENT AIR TEMP.	19				
OBSERVED OVERLAP	150mm				
REMARKS					
MONITOR	RM				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	
	60	59	59	60	
	58	58	59	60	
	59	59	58	59	
AVERAGE	59	59	59	60	

DESCRIPTION	PANEL NUMBER				
ROLL NUMBER					
DEPLOYED LENGTH					
AMBIENT AIR TEMP.					
OBSERVED OVERLAP					
REMARKS					
MONITOR					
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	

DESCRIPTION	PANEL NUMBER				
ROLL NUMBER					
DEPLOYED LENGTH					
AMBIENT AIR TEMP.					
OBSERVED OVERLAP					
REMARKS					
MONITOR					
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 13-Jul-23
 SHEET NUMBER: 1

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER S1			
ROLL NUMBER	1002-117509			
DEPLOYED LENGTH	9.8			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	61	60	61	60
	60	60	62	61
	62	60	63	60
AVERAGE	61	60	62	60

DESCRIPTION	PANEL NUMBER S2			
ROLL NUMBER	1002-117509			
DEPLOYED LENGTH	4.2			
AMBIENT AIR TEMP.	23			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	60	62	61	62
	61	60	61	62
	60	61	61	61
AVERAGE	60	61	61	62

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS	LEAD	R SIDE	L SIDE	TAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 14-Jul-23
 SHEET NUMBER: 2

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

	PANEL NUMBER S3			
DESCRIPTION				
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	5.7			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	61	61
	60	61	61	62
	61	60	61	62
AVERAGE	60	60	61	62

	PANEL NUMBER S4			
DESCRIPTION				
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	4.7			
AMBIENT AIR TEMP.	22			
OBSERVED OVERLAP	150mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	59	62
	62	60	61	62
	62	60	60	61
AVERAGE	62	60	60	62

DESCRIPTION	
ROLL NUMBER	_____
DEPLOYED LENGTH	_____
AMBIENT AIR TEMP.	_____
OBSERVED OVERLAP	_____
REMARKS	_____
MONITOR	_____
SHEET THICKNESS	
AVERAGE	

	61+L14:O50			
DESCRIPTION				
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____			
MONITOR	_____			
SHEET THICKNESS				
AVERAGE				

DESCRIPTION	
ROLL NUMBER	_____
DEPLOYED LENGTH	_____
AMBIENT AIR TEMP.	_____
OBSERVED OVERLAP	_____
REMARKS	_____
MONITOR	_____
SHEET THICKNESS	
AVERAGE	

DESCRIPTION	
ROLL NUMBER	_____
DEPLOYED LENGTH	_____
AMBIENT AIR TEMP.	_____
OBSERVED OVERLAP	_____
REMARKS	_____
MONITOR	_____
SHEET THICKNESS	
AVERAGE	

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY

SUBGRADE CONDITIONS: Good

REMARKS: _____

DATE: 15-Jul-23

SHEET NUMBER: 3

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S5		
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	4.5			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	60	61
	61	62	60	61
AVERAGE	61	62	60	61

DESCRIPTION	PANEL NUMBER	S6		
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	4.6			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	60	59
	61	61	59	61
AVERAGE	61	61	60	60

DESCRIPTION	PANEL NUMBER	S7		
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	4.7			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	60	61
	61	60	60	60
AVERAGE	60	60	60	61

DESCRIPTION	PANEL NUMBER	S8		
ROLL NUMBER	1002-112516			
DEPLOYED LENGTH	4.7			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	62	61	61
	60	61	61	61
AVERAGE	61	62	61	61

DESCRIPTION	PANEL NUMBER	S9		
ROLL NUMBER	1002-112516			
DEPLOYED LENGTH	5.1			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	61	62
	61	60	60	60
AVERAGE	61	60	61	61

DESCRIPTION	PANEL NUMBER	S10		
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____ _____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY

SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Jul-23
 SHEET NUMBER: 4

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S10		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	5			
AMBIENT AIR TEMP.	26			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	3			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	63	59	59	59
	61	60	60	60
	60	61	60	59
AVERAGE	61	60	60	59

DESCRIPTION	PANEL NUMBER	S11		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	5.5			
AMBIENT AIR TEMP.	26			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	60	59	59	60
	60			62
AVERAGE	60	59	60	61

DESCRIPTION	PANEL NUMBER	S12		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	6.3			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	62	61	61	59
	60	61	60	60
	60	60	60	61
AVERAGE	61	61	60	60

DESCRIPTION	PANEL NUMBER	S13		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	7.5			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	61	60
	60	60	61	60
	61	61	60	61
AVERAGE	60	60	61	60

DESCRIPTION	PANEL NUMBER	S14		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	7.3			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	61	61
	60	62	61	60
	61	60	62	60
AVERAGE	60	60	61	60

DESCRIPTION	PANEL NUMBER	S15		
ROLL NUMBER	1002-117525			
DEPLOYED LENGTH	7.9			
AMBIENT AIR TEMP.	27			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	59	60	60
	60	60	61	60
	60	62	60	60
AVERAGE	60	60	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 28-Jul-23
 SHEET NUMBER: 5

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S16		
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	8.4			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	61	63
	60	62	58	64
	61	59	60	66
AVERAGE	61	60	60	64

DESCRIPTION	PANEL NUMBER	S17		
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	9.1			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	62	60	61	61
	61	60	60	60
	61	60	62	61
AVERAGE	61	60	61	61

DESCRIPTION	PANEL NUMBER	S18		
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	9.9			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	61	61
	60	60	61	62
	61	60	60	59
AVERAGE	61	60	61	61

DESCRIPTION	PANEL NUMBER	S19		
ROLL NUMBER	1002-117512			
DEPLOYED LENGTH	11.2			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	61	60	61	60
	62	60	61	60
	59	60	62	60
AVERAGE	61	60	61	60

DESCRIPTION	PANEL NUMBER	S20		
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	11.1			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	62	60
	60	60	60	61
	60	59	59	60
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER	S21		
ROLL NUMBER	1002-117516			
DEPLOYED LENGTH	11.9			
AMBIENT AIR TEMP.	18			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	61	60	60	61
	60	61	61	60
AVERAGE	60	60	60	60

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 17-Jul-23
 SHEET NUMBER: 6

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S22		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	12.3			
AMBIENT AIR TEMP.	16			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	58	60
	58	50	59	59
	58	59		
AVERAGE	58	56	59	60

DESCRIPTION	PANEL NUMBER	S23		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	12.3			
AMBIENT AIR TEMP.	16			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	60	60
	59	60	58	59
AVERAGE	59	60	59	60

DESCRIPTION	PANEL NUMBER	S24		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	11.6			
AMBIENT AIR TEMP.	17			
OBSERVED OVERLAP	150mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	60
	59	61	59	60
AVERAGE	60	60	59	60

DESCRIPTION	PANEL NUMBER	S25		
ROLL NUMBER	1002-117502			
DEPLOYED LENGTH	11.6			
AMBIENT AIR TEMP.	17			
OBSERVED OVERLAP	150mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	60	58
	59	59	61	59
AVERAGE	59	60	61	59

DESCRIPTION	PANEL NUMBER	S26		
ROLL NUMBER	1002-117510			
DEPLOYED LENGTH	12.3			
AMBIENT AIR TEMP.	17			
OBSERVED OVERLAP	150mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	58	60	60
	59	58	59	60
AVERAGE	59	58	60	60

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER				
DEPLOYED LENGTH				
AMBIENT AIR TEMP.				
OBSERVED OVERLAP				
REMARKS	_____			
MONITOR				
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
AVERAGE				

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 30-Jul-23
 SHEET NUMBER: 7

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S27		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	13.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	60	61
	58	59	60	59

AVERAGE	59	59	60	60

DESCRIPTION	PANEL NUMBER	S28		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	14.6			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	59	59	68
	58	60	59	60

AVERAGE	59	60	59	64

DESCRIPTION	PANEL NUMBER	S29		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	14.6			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	58
	60	59	60	59

AVERAGE	60	59	60	59

DESCRIPTION	PANEL NUMBER	S30		
ROLL NUMBER	1002-117520			
DEPLOYED LENGTH	14.9			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	61	61
	59	59	60	58
	59	59	59	58
AVERAGE	59	59	60	59

DESCRIPTION	PANEL NUMBER	S31		
ROLL NUMBER	1002-117522			
DEPLOYED LENGTH	15.4			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	59	59
	58	59	59	60

AVERAGE	59	60	59	60

DESCRIPTION	PANEL NUMBER	S32		
ROLL NUMBER	1002-117522			
DEPLOYED LENGTH	16.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	59	60	60	59
	59	59	61	62

AVERAGE	59	60	61	61

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 07-Aug-23
 SHEET NUMBER: 8

TRANSPORT EQUIPMENT Excavator and Spreader Bar Textured
 MATERIAL: Plastic

DESCRIPTION	PANEL NUMBER	S33		
ROLL NUMBER	1002-117503			
DEPLOYED LENGTH	15.7			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	60	60
	59	59	61	59
	60	59	58	60
AVERAGE	60	59	60	60

DESCRIPTION	PANEL NUMBER	S34		
ROLL NUMBER	1002-117503			
DEPLOYED LENGTH	16.0			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	73	60	60	74
	75	60	61	74
	73	60	58	73
AVERAGE	74	60	60	74

DESCRIPTION	PANEL NUMBER	S35		
ROLL NUMBER	1002-117503			
DEPLOYED LENGTH	17.6			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	59
	60	58	59	60
	61	59	60	60
AVERAGE	60	59	59	60

DESCRIPTION	PANEL NUMBER	S36		
ROLL NUMBER	1002-117503			
DEPLOYED LENGTH	19.2			
AMBIENT AIR TEMP.	19			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	59	60
	61	58	60	60
	60	59	60	60
AVERAGE	60	59	60	60

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____ _____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

DESCRIPTION	PANEL NUMBER			
ROLL NUMBER	_____			
DEPLOYED LENGTH	_____			
AMBIENT AIR TEMP.	_____			
OBSERVED OVERLAP	_____			
REMARKS	_____ _____			
MONITOR	_____			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
AVERAGE	_____	_____	_____	_____

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY**

SUBGRADE CONDITIONS: Good

REMARKS: _____

DATE: 09-Aug-23

SHEET NUMBER: 9

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S37		
ROLL NUMBER	1002-117523			
DEPLOYED LENGTH	41.1			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	60
	61	59	59	61
	60	60	59	60
AVERAGE	60	59	59	60

DESCRIPTION	PANEL NUMBER	S38		
ROLL NUMBER	1002-117523			
DEPLOYED LENGTH	43			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	58	58
	61	60	59	60
	59	61	59	59
AVERAGE	60	60	59	59

DESCRIPTION	PANEL NUMBER	S39		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	42.5			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	59	59
	61	60	60	59
	60	60	60	60
AVERAGE	60	60	60	59

DESCRIPTION	PANEL NUMBER	S40		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	10.6 x 5.6			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	59	58	61
	60	60	60	61
	61	60	61	59
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER	S41		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	4.2 x 3.6			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	61	58	61
	60	59	60	61
	60	60	61	59
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER	S42		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	11.4 x 4.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____ _____			
MONITOR	RM			
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL
	60	60	61	59
	59	60	61	58
	59	60	60	60
AVERAGE	59	60	61	59

REVIEWED BY: AFK
 DATE: September 6, 2021



GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF

GEOMEMBRANE: **SECONDARY** PRIMARY
 SUBGRADE CONDITIONS: Good
 REMARKS: _____

DATE: 09-Aug-23
 SHEET NUMBER: 10

TRANSPORT EQUIPMENT Excavator and Spreader Bar
 MATERIAL: 60 mil HDPE

DESCRIPTION	PANEL NUMBER	S43		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	5.2 x 3.5			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	60	60	58	61
	59	60	60	60
	60	60	61	60
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER	S44		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	9			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	60	61	60	61
	59	59	60	60
	60	59	60	60
AVERAGE	60	60	60	60

DESCRIPTION	PANEL NUMBER	S45		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	12.3			
AMBIENT AIR TEMP.	21			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	59	60	59	62
	59	61	58	61
	60	60	59	59
AVERAGE	59	60	59	61

DESCRIPTION	PANEL NUMBER	S46		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	12.3			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	59	59	61	58
	60	60	60	59
	60	59	60	59
AVERAGE	60	59	60	59

DESCRIPTION	PANEL NUMBER	S47		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	12.1			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	60	61	59	60
	60	59	59	61
	60	60	58	60
AVERAGE	60	60	59	60

DESCRIPTION	PANEL NUMBER	S48		
ROLL NUMBER	1002-117527			
DEPLOYED LENGTH	8.2			
AMBIENT AIR TEMP.	20			
OBSERVED OVERLAP	150 mm			
REMARKS	_____			
MONITOR	RM			
SHEET THICKNESS				
	LEAD	L SIDE	R SIDE	TRAIL
	60	60	62	59
	61	59	60	59
	60	59	59	59
AVERAGE	60	59	60	59

REVIEWED BY: AFK
 DATE: September 6, 2022

Appendix B-5

Geomembrane Trial Seam Summary



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 13, 2023
 SHEET NUMBER: 1

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF1	809	12	EP	14	600		860	FTB	FTB	FTB	PASS	DS	
								126,133,120,136	139,109,119,122	148,141			
TF2	1300	12	EP	25	600		860	FTB	FTB	FTB	PASS	DS	
								105,113,111,99	102,103,101,114	129,130			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 14, 2023
 SHEET NUMBER: 2

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF3	650	12	EP	160	650		860	FTB	FTB	FTB	PASS	DS	
								114,130,134,123	121,104,126,114	140,142			
TF4	1308	12	EP	230	650		860	FTB	FTB	FTB	PASS	DS	
								104,112,112,100	103,100,110,112	132,139			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 15, 2023
 SHEET NUMBER: 3

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF5	700	12	EP	140	600		860	FTB	FTB	FTB	PASS	DS	
								116,109,126,123	124,124,140,131	142,150			
TF6	1310	12	EP	190	600		860	FTB	FTB	FTB	PASS	DS	
								116,114,105,111	112,102,118,105	139,142			
TF7	1315	8	CM	190	600		860	FTB	FTB	FTB	PASS	DS	
								116,209,111,114	116,113,120,110	134,139			
TF8	1410	15	WW	190	600		860	FTB	FTB	FTB	PASS	DS	
								111,201,117,110	127,118,124,114	134,140			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 13, 2023
 SHEET NUMBER: 4

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF9	657	12	EP	13	600		860	FTB	FTB	FTB	PASS	DS	
								139,134,143,121	122,191,123,130	150,146			
TF10	1250	12	EP	21	600		860	FTB	FTB	FTB	PASS	DS	
								118,111,110,109	118,109,111,105	146,135			
TF11	1357	8	CM	22	600		860	FTB	FAIL		FAIL	DS	peel
								123,105,126	118,125				
TF11A	1409	8	CM	22	600		860	FTB	FTB	FTB	PASS	DS	
								107,103,103,100	104,108,107,102	147,148			

TF11A is passing trial seam for TF11

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 17, 2023
 SHEET NUMBER: 5

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF-12	650	12	EP	12	600		860	FTB	FTB	FTB	PASS	DS	
								131,118,140,118	137,125,130,131	157,157			
TF-13	712	12	EP	12	500		860	FTB	FTB	FTB	PASS	DS	sm/tx
								127,124,128,121	188,133,139,123	162,151			
TF-14	1246	12	EP	21	600		860	FTB	FTB	FTB	PASS	DS	
								114,109,115,113	128,110,119,115	142,147			
TF-15	1518	8	CM	23	600		860	FTB	FTB	FTB	PASS	DS	
								104,100,105,101	104,104,101,102	136,136			

tx/sm: texture and smooth trial seam

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 19, 2023
 SHEET NUMBER: 6

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF-16	658	12	EP	15	600		860	FTB	FTB	FTB	PASS	DS	
								122,112,122,123	120,117,120,121	140,143			
TF-17	1010	8	EP	19	600		860	FTB	FTB	FTB	PASS	DS	
								103,106,107,107	103,105,105,109	141,142			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 22, 2023
 SHEET NUMBER: 7

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF22	931	8	EP	20	500		860	FTB 106,104,101,104	FTB 101,100,104,106	FTB 144,146	PASS	AFK	TX/SM

tx/sm : textured and smooth trial seam

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 27, 2023
 SHEET NUMBER: 8

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF22A	1115	12	EP	23	600		860	FTB	FTB	FTB	PASS	AFK	
								102,100,105,103	107,100,108,101	136,137			
TF23	1535	8	CM	26	600		860	FTB	FTB	FTB	PASS	AFK	
								107,109,102,108	104,106,108,108	136,138			
TF24	1555	12	EP	26	600		860	FTB	FTB	FTB	PASS	AFK	
								104,104,108,108	111,107,105,104	132,130			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 28, 2023
 SHEET NUMBER: 9

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF25	1050	12	EP	17	600		860	FTB	FTB	FTB	PASS	AFK	
								108,105,107,109	100,107,102,108	137,141			
TF26	1537	12	EP	18	600		860	FTB	FTB	FTB	PASS	AFK	
								102,106,108,111	102,112,108,109	134,136			
TF27	1550	8	CM	18	600		860	FTB	FTB	FTB	PASS	AFK	
								101,109,107,109	101,113,106,108	131,137			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 29, 2023
 SHEET NUMBER: 10

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF28	1006	12	EP	16	600		860	FTB	FTB	FTB	PASS	AFK	
								109,104,118,104	105,102,106,105	149,145			
TF29	1255	8	CM	20	600		860	FTB	FTB	FTB	PASS	AFK	
								104,110,104,119	108,108,109,110	134,137			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 30, 2023
 SHEET NUMBER: 11

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF30	1001	12	EP	18	600		860	FTB	FTB	FTB	PASS	AFK	
								103,109,105,100	108,103,103,108	139,142			
TF31	1348	8	CM	25	600		860	FTB	FTB	FTB	PASS	AFK	
								105,104,102,108	109,100,108,109	138,132			
TF31	1500	12	EP	25	600		860	FTB	FTB	FTB	PASS	AFK	
								109,109,111,102	102,111,111,112	133,137			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 31, 2023
 SHEET NUMBER: 12

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF33	705	8	EP	12	500		860	FTB	FTB	FTB	PASS	AFK	SM/SM
								113,119,113,117	112,110,110,116	157,156			
TF34	708	8	EP	12	500		860	FTB	(PEEL)FAIL		FAIL	AFK	SM/TX
								132,137,135,121	133,119,118,112				
TF34A	708	8	EP	12	450		860	FTB	FTB	FTB	PASS	AFK	
								119,126,119,129	119,125,131,114	162,153			

TF34A is passing trial seam for TF 34

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 2, 2023
 SHEET NUMBER: 13

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF35	1215	12	EP	28	600		860	FTB 112,105,110,108	FTB 107,104,106,100	FTB 132,134	PASS	AFK	

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 6, 2023
 SHEET NUMBER: 14

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF37	12:55	12	EP	24	600		860	FTB 114, 105, 102, 99	FTB 103, 93, 93, 90	FTB 127	PASS	AFK	

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 7, 2023
 SHEET NUMBER: 15

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF38	1027	12	EP	21	600		860	FTB	FTB	FTB	PASS	AFK	
								110, 104, 116, 95	108, 104, 100, 119	137, 141			
TF39	1450	8	CM	25	600		860	FTB	FTB	FTB	PASS	AFK	
								110, 104, 106, 106	100, 108 106, 99	137, 135			

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 9, 2023
 SHEET NUMBER: 16

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF40	705	12	EP	12	500		860	FTB	FTB	FTB	PASS	AFK	TX/SM
								135,135,129,109	129, 121, 133, 160	162, 152			
TF41	705	12	EP	12	500		860	FTB	FTB	FTB	PASS	AFK	
								119,134,113,123	111, 124, 124, 123	155, 141			
TF42	1255	12	EP	20	500		860	FTB	FTB	FTB	PASS	AFK	
								133,127,128,122	134, 127, 124, 111	143, 134			

tx/sm: texture and smooth trial seam

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 10, 2023
 SHEET NUMBER: 17

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF43	702	12	EP	6	400		860	FTB	FTB	FTB	PASS	AFK	
								113,112,109,119	112,102,124,120	143,150			
TF44	707	12	EP	6	400		860	FTB	FTB	FTB	PASS	AFK	TX/TX
								137,139,136,132	125,140,137,141	165, 168			
TF45	1204	12	EP	20	400		860	FTB	FTB	FTB	PASS	AFK	TX,TX
								122,116,122,116	124,115,108,108	144, 143			
TF46	1202	12	EP	20	600			FTB	FTB	FTB	PASS	AFK	
								108,102,103,105	103,110,114,101	152,142			

tx/tx: textured and textured trial seam

REVIEWED BY: AFK
 DATE: August 24,2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 14, 2023
 SHEET NUMBER: 18

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF-47	1238	12	CM	23	600		860	FTB 116,105,107,101	FTB 110,111,112,111	FTB 120,135	PASS	AFK	

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 15, 2023
 SHEET NUMBER: 19

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF48	720	12	CM	15	400		860	FTB	FTB	FTB	PASS	AFK	TX/SM
								118,121,127,121	136,134,129,117	152,142			
TF49	1313	12	CM	25	500		860	FTB	FTB	FTB	PASS	AFK	TX/SM
								115,108,113,93	127,96,107,96	120,120			
TF50	1300	12	CM	25	600		860	FTB	FTB	FTB	PASS	AFK	
								115,103,114,109	115,97,116,93	122,124			

tx/sm: texture and smooth trial seam

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 17, 2023
 SHEET NUMBER: 20

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF51	958	12	CM	16	600		860	FTB	FTB	FTB	PASS	AFK	
								122,111,117,123	121,110,115,112	136,135			
TF52	1042	8	RB	16	500		860	FTB	FTB	FTB	PASS	AFK	TX/SM
								114,120,114,106	114,109,108,118	132,132			
TF53	1043	8	RB	16	400		860	FTB	FTB	FTB	PASS	AFK	
								100,100,103,109	104,102,108,100	129,134			

tx/sm: texture and smooth trial seam

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 Mil HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: August 18, 2023
 SHEET NUMBER: 21

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TF54	856	8	KW	17	600		460	FTB 126,111,113,114	FTB 122,122,119,109	FTB 141,134	PASS	DS	

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 PROJECT NUMBER: Waste Connections
 PROJECT NUMBER: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 14/23

SHEET NUMBER: 1

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX1	720	18	GM	16	450	445		FAIL			FAIL	DS	
								82,84					
TX2	830	PX2	GM	18	250	460		FTB		FTB	PASS	DS	
								108,111,109,104		137,133			
TX3	1315	PX2	GM	23	250	460		FTB		FTB	PASS	DS	
								101,103,107,105		136,130			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 15/2023

SHEET NUMBER: 2

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX4	720	PX-2	GM	14	250	460		FTB		FTB	PASS	DS	
								111,109,110,120		161,159			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 17/2023

SHEET NUMBER: 3

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX5	730	PX-2	CM	14	250	460		FTB		FTB	PASS	DS	
								106,104,96,106		144,149			
TX6	1255	PX-2	CM	21	250	460		FTB		FTB	PASS	DS	
								100,106,103,113		134,134			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 18/2023

SHEET NUMBER: 4

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX-7	715	PX-2	GM	12	250	460		FTB		FTB	PASS	DS	
								105,109,112,118		133,134			
TX-8	1300	PX-2	GM	21	250	460		FTB		FTB	PASS	DS	
								89,97,95,93		134,133			

**TX10 is the passing trial seam for TX9

REVIEWED BY: AFK
 DATE:



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-089
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: MTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 19, 2023

SHEET NUMBER: 5

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX9	7:35	PX-2	GM	17	250		460	FTB 103,105,104,104,		FTB 141,148	PASS	DS	

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE:
 CONTRACTOR:
 MATERIAL:

Cell 17
 MTL
 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 20/2023
 SHEET NUMBER: 6

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX10	9:10	PX2	GM	20	250	460		FTB		FTB	PASS	DS	
								109,101,105,97,106		144,144			
TX11	13:05	PX2	GM	23	250	460		FTB		FTB	PASS	DS	
								115,108,102,118,111		139,139			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 21/2023
 SHEET NUMBER: 7

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX12	7:30	PX2	GM	15	250	460		FTB		FTB	PASS	AFK	
								111,114,118,117		147,142			
TX13	1:20	PX2	GM	27	250	460		FTB		FTB	PASS	AFK	
								108,107,103,107		139,121			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-89
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 22/2023

SHEET NUMBER: 8

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX-14	940	PX2	GM	20	250	460		FTB 105,98,100,100		FTB 134,141	PASS	AFK	

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: Titan Environmental
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 5, 2021

SHEET NUMBER: 9

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX21	1200	EXT5	RN	25	475	470		FTB		FTB	PASS	AFK	
								119,121,120,113		139,138			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: Titan Environmental
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 7, 2021
 SHEET NUMBER: 10

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX22	1405	EXT5	RN	24	475	470		FTB 105,100,106,108		FTB 139,120	PASS	AB	

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: Titan Environmental
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 9, 2021
 SHEET NUMBER: 11

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX23	817	EXT5	RN	21	465	475		FTB		FTB	PASS	AFK	
								86,108,103,110		139,139			
TX24	1501	EXT5	RN	28	465	475		FTB		FTB	PASS	AFK	
								121,100,124,122		120,124			
TX25	1545	EXT9	DP	28	470	475		FTB		FTB	PASS	AFK	
								110,113,98,112,95		120,122			

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: Titan Environmental
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 10, 2021
 SHEET NUMBER: 12

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX26	841	EXT5	RN	22	470	475		FTB 108,86,91,132		FTB 149,145	PASS	AFK	

REVIEWED BY: AFK
 DATE: August 26, 2021



GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 16
 CONTRACTOR: Titan Environmental
 MATERIAL: 60 mil smooth HDPE

TF - # = FUSION
 TX - # = EXTRUSION

DATE: July 12, 2021

SHEET NUMBER: 13

SAMPLE NUMBER	APROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
TX27	1020	EXT5	RN	22	485	480		FTB		FTB	PASS	AFK	
								81,109,90,130		135,133			

REVIEWED BY: AFK
 DATE: August 26, 2021

Appendix B-6

Geomembrane Seam Welding Inspection



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: July 13/23

SHEET NUMBER 1

PASSING TRIAL SEAMS

X FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF1	809	EP
TF2	1300	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P1/P2	NEOS SEOS	1150	24	EP	600	860		0	6		DS		7/13/23	DS
2	S1/S2	NEOS WEOS	1135	24	EP	600			3.9	9.9		DS		7/13/23	RM
3	P3/P4	NEOS SEOS	1328	25	EP	600			6.8	16.7		DS		7/13/23	LB
4	P1/P3	WEOS WEOS	1338	25	EP	600			65.7	82.4		DS		7/13/23	LB
5	P1/P4	WEOS WEOS	1350	25	EP	600			17.0	99.4		DS		7/13/23	LB
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

93.4

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 14, 2023

SHEET NUMBER 2

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF3	650	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					WEDGE OR BARREL	INDICATOR NOZZLE						TEST DATE	MON.
1	ETI/P6	1G	NEOS	745	17	EP	600	860	31.2	130.6		DS		7/14/23	LB
2	ETI/P3	1M	1J	806	17	EP	600	860	4	134.6		DS		7/14/23	LB
3	ETI/P3	1J	NEOS	808	17	EP	600	860	0.6	135.2		DS		7/14/23	LB
4	ETI/P1	SEOS	1K	808	17	EP	600	860	1	136.2	DSF-1	DS		7/14/23	LB
5	ETI/P1	1K	1L	809	17	EP	600	860	0.5	1.5		DS		7/14/23	LB
6	Ntie/P2	1L	NEOP	810	17	EP	600	860	3.3	4.8		DS		7/20/23	RM
7	Ntie/P2	1N	NEOP	812	17	EP	600	860	4.8	9.6		DS		7/20/23	RM
8	Ntie/P1	1N	1Q	815	17	EP	600	860	5.9	15.5		DS		7/20/23	RM
9	Ntie/P1	1R	15	820	18	EP	600	860	20.2	35.7		DS		7/20/23	RM
10	Ntie/P1	1T	WEOS	824	18	EP	600	860	42.3	78.0		DS		7/20/23	RM
11	S2/S3	EEOS	WBOS	1017	21	EP	600	860	4.2	82.2		DS		7/14/23	LB
12	S3/S4	EEOS	WBOS	1021	21	EP	600	860	5.5	86.7		DS		7/14/23	LB
13	P3/P7	EEOS	WEOS	1100	21	EP	600	860	60.2	246.9		DS		7/18/23	LB
14	P4/P7	EEOS	SEOS	1120	21	EP	600	860	18	150/10	DSF2	DS		7/18/23	LB
15	P8/P9	NEOS	SEOS	1131	22	EP	600	860	6.7	21.7		DS		7/18/23	LB
16	P7/P8	EEOS	WEOS	1140	22	EP	600	860	53.3	75.0		DS		7/18/23	LB
17	P7/P9	EEOS	WEOS	1145	22	EP	600	860	24.5	99.5		DS		7/18/23	LB

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

286.2
 99.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 203



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 14, 2023

SHEET NUMBER 3

PASSING TRIAL SEAMS

X FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF4	1308	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL NOZZLE	WEDGE OR BARREL NOZZLE						WEDGE OR BARREL NOZZLE	WEDGE OR BARREL NOZZLE		
1	P6/P10	EEOS	WEOS	1330	21	EP	600	860	6	105.8				7/18/23	LB		
2	P10/P11	SEOS	NEOS	1340	20	EP	600	860	89	150/44.7	DSF-3			7/18/23	LB		
3	P6/P11	SEOS	3A	1610	20	EP	600	860	3	47.5				7/18/23	LB		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

98.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 15, 2023

SHEET NUMBER 4

X FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF5	700	EP
TF6	1310	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE						TEST DATE	MON.
1	ETI/P10	IT	745	15	EP	600	860		27.7	75.2				7/18/23	LB
2	ETI/P10	313	750	15	EP	600	860		15.7	90.9				7/18/23	LB
3	ETI/P10	3D	755	15	EP	600	860		34	124.9				7/18/23	LB
4	ETI/P6	SEOS	815	15	EP	600	860		0.3	125.2				7/18/23	LB
5	S4/S5	EEOS	1130	18	EP	600	860		4.4	129.6				7/18/23	LB
6	S5/S6	EEOS	1133	18	EP	600	860		4.5	134.1				7/18/23	LB
7	S6/S7	EEOS	1137	18	EP	600	860		4.6	138.7				7/18/23	LB
8	S7/S8	EEOS	1141	18	EP	600	860		4.6	143.3				7/18/23	LB
9	S8/S9	EEOS	1144	18	EP	600	860		4.6	147.9				7/18/23	LB
10	P6/P7	SEOS	718	15	EP	600	860		6.9	154.8				7/18/23	RM
11	P6/P8	SEOS	718	15	EP	600	860		5.4	160.2				7/18/23	RM
12	P3/P6	EEOS	725	15	EP	600	860		6.5	166.7				7/18/23	LB
13	P3/P6	3F	725	15	EP	600	860		2.5	169.2				7/18/23	LB
14	P8/P12	EEOS	1340	19	EP	600	860		48.9	173.4/44.7	DSF4			7/18/23	LB
15	P9/P12	EEOS	1350	19	EP	600	860		24.6	69.3				7/18/23	LB
16	P13/P15	EEOS	1411	19	EP	600	860		31.7	101				7/18/23	LB
17	P14/P15	EEOS	1420	19	EP	600	860		46	147				7/18/23	LB

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

272.9

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE July 15, 2023

SHEET NUMBER 5

PASSING TRIAL SEAMS

X FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF5	700	EP
TF6	1310	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST	
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE	DATE	MON.
1	P15/P16	EEOS	WEOS	1445	19	EP	600	860	33	150/30	DSF - 5	DS		7/18/23	LB		
2	P15/P17	EEOS	WEOS	1455	19	EP	600	860	38.7	68.7		DS		7/18/23	LB		
3	P18/P19	NEOS	SEOS	1505	19	EP	600	860	6.7	75.4		DS		7/18/23	LB		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17									78.4								

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

78.4
75.4

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 17, 2023

SHEET NUMBER 6

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF - 9	657	EP
TF - 10	1250	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P11/P18	4C	NEOS	730	14	EP	600	860	5.1	80.5		DS		7/18/23	LB
2	P11/P16	SEOS	NEOS	733	14	EP	600	860	6.6	87.1		DS		7/18/23	LB
3	P11/P15	SEOS	NEOS	736	14	EP	600	860	5.6	92.7		DS		7/18/23	LB
4	P6/P15	SEOS	NEOS	739	14	EP	600	860	4	96.7		DS		7/18/23	LB
5	P6/P13	SEOS	NEOS	741	14	EP	600	860	6.7	103.4		DS		7/18/23	LB
6	P6/P12	SEOS	NEOS	745	14	EP	600	860	5.8	109.2		DS		7/18/23	LB
7	P5/P20	EEOS	WEOS	1348	22	EP	600	860	26.3	135.5		DS		7/18/23	LB
8	P20/P21	EEOS	WEOS	1400	22	EP	600	860	26.1	150/11.6	DSF - 7	DS		7/18/23	LB
9	P21/P22	EEOS	WEOS	1412	22	EP	600	860	26.3	37.9		DS		7/18/23	LB
10	P24/P25	EEOS	WEOS	1430	22	EP	600	860	25.7	63.6		DS		7/18/23	LB
11	P25/P26	EEOS	WEOS	1442	22	EP	600	860	25.5	89.1		DS		7/18/23	LB
12	P26/P27	EEOS	WEOS	1454	22	EP	600	860	25.5	114.6		DS		7/18/23	LB
13	P29/P30	EEOS	WEOS	1510	22	EP	600	860	26.8	141.4		DS		7/18/23	LB
14	P30/P31	EEOS	WEOS	1522	22	EP	600	860	26.7	150/18.1	DSF - 8	DS		7/18/23	LB
15	P33/P34	EEOS	WEOS	1540	22	EP	600	860	27	45.1		DS		7/18/23	LB
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

269.7

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 18, 2023

SHEET NUMBER 7

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF - 12	6:50	EP
TF - 13	7:12	EP
TF - 14	12:46	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE						TEST DATE	MON.
1	P1/5	NEOS SEOS	745	12	EP	500	860		5.4	50.5		DS		7/18/23	LB
2	P4/5	NEOS SEOS	746	12	EP	500	860		1.5	52		DS		7/18/23	LB
3	P4/20	NEOS SEOS	748	12	EP	500	860		5.6	57.6		DS		7/18/23	LB
4	P7/20	NEOS SEOS	750	12	EP	500	860		1.3	58.9		DS		7/18/23	LB
5	P7/21	NEOS SEOS	753	12	EP	500	860		5.5	64.4		DS		7/18/23	LB
6	P9/21	NEOS SEOS	754	12	EP	500	860		1.3	65.7		DS		7/18/23	LB
7	P9/22	NEOS SEOS	756	12	EP	500	860		5.4	71.1		DS		7/18/23	LB
8	P12/22	NEOS SEOS	757	12	EP	500	860		1.0	72.3		DS		7/18/23	LB
9	P12/23	NEOS SEOS	759	12	EP	500	860		5.0	77.7		DS		7/20/23	LB
10	P14/23	NEOS SEOS	801	12	EP	500	860		1.0	78.9		DS		7/20/23	LB
11	P14/24	NEOS SEOS	803	12	EP	500	860		5.0	84.3		DS		7/20/23	LB
12	P15/24	NEOS SEOS	804	12	EP	500	860		1.0	85.5		DS		extruded	
13	P15/25	NEOS SEOS	807	12	EP	500	860		5.0	90.8		DS		7/20/23	LB
14	P17/25	NEOS SEOS	810	12	EP	500	860		1.0	92.1		DS		7/20/23	LB
15	P17/26	NEOS SEOS	813	12	EP	500	860		5.0	97.4		DS		7/20/23	LB
16	P19/26	NEOS SEOS	814	12	EP	500	860		1.0	98.7		DS		7/20/23	LB
17	P19/27	NEOS 3Q	817	12	EP	500	860		3.0	101.7				7/20/23	LB

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

54.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 18, 2023

SHEET NUMBER 8

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF12	650	EP
TF13	712	EP
TF14	1246	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P35/36	EEOS	WEOS	954	18	EP	600	860	26.7	128.4		DS		07-19-23	LB
2	P36/37	EEOS	WEOS	1005	18	EP	600	860	26.7	151.4/3.7	DSF10	DS		07-19-23	LB
3	P37/38	EEOS	WEOS	1018	18	EP	600	860	27.3	31		DS		07-19-23	LB
4	P38/39	EEOS	WEOS	1030	18	EP	600	860	26.7	57.7		DS		07-19-23	LB
5	P39/40	EEOS	WEOS	1042	18	EP	600	860	26.7	84.4		DS		07-19-23	LB
6	P40/41	EEOS	WEOS	1054	18	EP	600	860	26.3	110.7		DS		07-19-23	LB
7	P41/42	EEOS	WEOS	1106	18	EP	600	860	26.4	137.1		DS		07-19-23	LB
8	P42/43	EEOS	WEOS	1120	18	EP	600	860	27.7	164.8		DS		07-19-23	LB
9	P43/44	EEOS	WEOS	1515	23	EP	600	860	26.6	191.4		DS		07-19-23	LB
10	P44/45	EEOS	WEOS	1528	23	EP	600	860	27	218.4		DS		07-19-23	LB
11	P46/47	EEOS	WEOS	1540	23	EP	600	860	26.9	245.3		DS		07-19-23	LB
12	P48/49	EEOS	WEOS	1557	23	EP	600	860	27	251/21.3	DSF11	DS		07-19-23	LB
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

27.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: _____



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 19, 2023

SHEET NUMBER 9

X FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF16	658	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P53/54	EEOS	WEOS	955	19	EP	600	860	7	28		DS		07-21-23	AFK
2	P52/54	SEOS	3T	958	19	EP	600	860	12	40		DS		07-22-23	
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

18.7

40.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 27, 2023

SHEET NUMBER 10

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF22A	1115	EP
TF24	1555	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	S9/S10	EEOS	WEOS	1333	25	EP	600	860		5	45		AFK		7/27/23	RM
2	S10/S11	EEOS	WEOS	1338	25	EP	600	860		5	50		AFK		7/27/23	RM
3	S11/12	EEOS	WEOS	1340	25	EP	600	860		5.5	55.5		AFK		7/27/23	RM
4	S12/13	EEOS	WEOS	1344	25	EP	600	860		6	61.5		AFK		7/27/23	RM
5	S13/14	EEOS	WEOS	1347	25	EP	600	860		6.5	68		AFK		7/27/23	RM
6	S14/15	EEOS	WEOS	1350	25	EP	600	860		70	75		AFK		7/27/23	RM
7	P59/60	EEOS	WEOS	1530	26	EP	600	860		71	156		AFK		7/31/23	RM
8	P61/63	EEOS	WEOS	1610	26	EP	600	800		18	164		AFK		7/31/23	RM
9	P62/63	EEOS	WEOS	1620	26	EP	600	800		54	218		AFK		7/31/23	RM
10	P63/64	EEOS	WEOS	1644	26	EP	600	800		33.5	238/135	DSF18	AFK		8/2/23	RM
11	P63/65	EEOS	WEOS	1702	26	EP	600	800		39	52.5		AFK		8/2/23	RM
12	P66/67	NEOS	SEOS	1708	26	EP	600	800		6.5	59		AFK		8/2/23	RM
13	P18/59	EEOS	WEOS	1713	26	EP	600	800		65	124		AFK		7/31/23	RM
14	P19/59	EEOS	WEOS	1730	26	EP	600	800		2.5	126.5		AFK		8/2/23	RM
15																
16																
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

387.5

126.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 28, 2023

SHEET NUMBER 11

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF25	1050	EP
TF26	1537	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	S15/16	EEOS	WEOS	1130	17	EP	600	860	8.0	134.5		AFK		07-28-23	RM
2	S16/17	EEOS	WEOS	1133	17	EP	600	860	9.0	143.5		AFK		07-28-23	RM
3	S17/18	EEOS	WEOS	1137	17	EP	600	860	10.0	153.5		AFK		07-28-23	RM
4	S18/19	EEOS	WEOS	1143	17	EP	600	860	11.0	164.5		AFK		07-28-23	RM
5	S19/20	EEOS	WEOS	1150	17	EP	600	860	11.0	175.5		AFK		07-28-23	RM
6	S20/21	EEOS	WEOS	1200	17	EP	600	860	11.0	186.5		AFK		07-28-23	RM
7	P68/69	EEOS	WEOS	1510	18	EP	600	860	73.0	259.5		AFK		08-02-23	RM
8	P72/73	EEOS	WEOS	1547	18	EP	600	860	6.5	263/3.0	DSF16	AFK		07-31-23	RM
9	P70/71	EEOS	WEOS	1555	18	EP	600	860	6.5	9.5		AFK		07-31-23	RM
10	P71/72	EEOS	WEOS	1602	18	EP	600	860	6.5	16		AFK		07-31-23	RM
11	P69/70	EEOS	WEOS	1611	18	EP	600	860	11.0	27		AFK		07-31-23	RM
12	P69/71	EEOS	WEOS	1615	18	EP	600	860	7.0	34		AFK		07-31-23	RM
13	P69/72	EEOS	WEOS	1618	18	EP	600	860	7.0	41		AFK		08-02-23	RM
14	P69/73	EEOS	WEOS	1620	18	EP	600	860	48.0	89		AFK		08-02-23	RM
15	P75/76	NEOS	SEOS	1645	18	EP	600	860	6.5	95.5		AFK		08-02-23	RM
16	P74/75	EEOS	WEOS	1700	18	EP	600	860	35.0	130.5		AFK		08-02-23	RM
17	P74/76	EEOS	WEOS	1715	18	EP	600	860	36.0	166.5		AFK		08-02-23	RM
									DAILY TOTAL	303.0					
														** COLUMNS TO BE USED BY THE DATA REVIEWED ONLY	
														REVIEWED BY: AFK	
														DATE: August 24, 2023	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

303.0
 166.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 28, 2023

SHEET NUMBER 12

X FUSION

EXTRUSION

MACHINE # _____

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF26	1537	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P76/77	EEOS	WEOS	1725	18	EP	600	860		36	202.5		AFK	8/2/23	RM	
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

36.0

202.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 29, 2023

SHEET NUMBER 13

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF28	1006	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	S21/22	EEOS	WEOS	1018	16	EP	600	860		11.5	214		AFK		7/29/23	RM
2	S22/23	EEOS	WEOS	1023	16	EP	600	860		11.5	225.5		AFK		7/29/23	RM
3	S23/24	EEOS	WEOS	1030	16	EP	600	860		11.0	236.5		AFK		7/29/23	RM
4	S24/25	EEOS	WEOS	1035	16	EP	600	860		11.0	247.5		AFK		7/29/23	RM
5	S25/26	EEOS	WEOS	1042	16	EP	600	860		11.5	259		AFK		7/29/23	RM
6	P78/79	SEOS	NEOS	1322	20	EP	600	860		6.5	262.5/3.0	DSF17	AFK		7/31/23	RM
7	P78/80	EEOS	WEOS	1331	20	EP	600	860		21.0	24		AFK		8/2/23	RM
8	P79/80	EEOS	WEOS	1340	20	EP	600	860		51.0	75		AFK		8/2/23	RM
9	P81/82	NEOS	SEOS	1402	20	EP	600	860		6.5	81.5		AFK		8/2/23	RM
10	P80/81	EEOS	WEOS	1415	20	EP	600	860		36.0	117.5		AFK		8/2/23	RM
11	P80/82	EEOS	WEOS	1425	20	EP	600	860		36.0	153.5		AFK		8/2/23	RM
12	P84/85	NEOS	SEOS	1445	20	EP	600	860		6.5	160		AFK		8/2/23	RM
13																
14																
15																
16																
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

220.0

160.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 30, 2023

SHEET NUMBER 14

X FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF30	1001	EP
TF32	1500	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	S26/27	EEOS	WEOS	1020	18	EP	600	860	13.0	173		AFK		7/30/23	RM
2	S27/28	EEOS	WEOS	1029	18	EP	600	860	13.0	186		AFK		7/30/23	RM
3	S28/29	EEOS	WEOS	1035	18	EP	600	860	13.5	199.5		AFK		7/30/23	RM
4	S29/30	EEOS	WEOS	1043	18	EP	600	860	14.0	213.5		AFK		7/30/23	RM
5	S30/31	EEOS	WEOS	1050	18	EP	600	860	14.5	228		AFK		7/30/23	RM
6	S31/32	EEOS	WEOS	1056	18	EP	600	860	15.0	243		AFK		7/30/23	RM
7	P86/87	SEOS	WEOS	1340	25	EP	600	860	6.5	249.5		AFK		7/31/23	RM
8	P84/87	8G	WEOS	1350	25	EP	600	860	29.0	278.5		AFK		8/2/23	RM
9	P85/87	EEOS	WEOS	1405	25	EP	600	860	20.0	280.5/18	DSF19	AFK		8/2/23	RM
10	P84/86	EEOS	WEOS	1413	25	EP	600	860	12.0	30		AFK		7/31/23	RM
11	P84/87	EEOS	8G	1417	25	EP	600	860	95.0	39.5		AFK		7/31/23	RM
12	P86/88	EEOS	WEOS	1433	25	EP	600	860	12.0	51.5		AFK		8/2/23	RM
13	P87/88	EEOS	WEOS	1437	25	EP	600	860	32.5	84		AFK		8/2/23	RM
14	P87/89	EEOS	WEOS	1447	25	EP	600	860	26.0	110		AFK		8/2/23	RM
15	P90/93	EEOS	WEOS	1509	25	EP	600	860	60.0	170		AFK		8/2/23	RM
16	P92/93	EEOS	WEOS	1532	25	EP	600	860	10.0	180		AFK		8/2/23	RM
17	P93/94	EEOS	8Q	1533	25	EP	600	860	36.0	216		AFK		8/2/23	RM
									DAILY TOTAL	422.0					
														** COLUMNS TO BE USED BY THE DATA REVIEWED ONLY	
														REVIEWED BY: AFK	
														DATE: August 24, 2023	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

422.0
 216.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 2, 2023

SHEET NUMBER 15

PASSING TRIAL SEAMS

X FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF35	1215	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P51/95	EEOS	WEOS	1320	28	EP	600	860	270	243		AFK		8/12/23	RM
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

270.0
243.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 6, 2023

SHEET NUMBER 16

X FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF37	1255	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P95/96	EEOS	WEOS	2:55	25	EP	600	860		27.0	270		AFK	8/12/23	RM		
2	P96/97	EEOS	WEOS	3:15	25	EP	600	860		27.0	280/17	DSF22	AFK	8/12/23	RM		
3	P97/98	EEOS	WEOS	3:24	25	EP	600	860		28.0	45		AFK	8/12/23	RM		
4	P98/99	EEOS	WEOS	3:36	25	EP	600	860		28.0	73		AFK	8/12/23	RM		
5	P99/100	EEOS	WEOS	3:47	25	EP	600	860		28.5	101.5		AFK	8/12/23	RM		
6	P100/101	EEOS	WEOS	3:56	25	EP	600	860		29.0	130.5		AFK	8/12/23	RM		
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

167.5

130.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 7, 2023

SHEET NUMBER 17

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF38	1027	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	S33/34	EEOS	WEOS	1048	21	EP	600	860	15.0	145.5		AFK		8/7/23	RM
2	S34/35	EEOS	WEOS	1057	21	EP	600	860	16.0	11.5		AFK		8/7/23	RM
3	S32/33	EEOS	WEOS	1111	21	EP	600	860	15.0	176.5		AFK		8/7/23	RM
4	S35/36	EEOS	WEOS	1118	21	EP	600	860	17.0	193.5		AFK		8/7/23	RM
5	P103/104	SEOS	NEOS	1403	25	EP	600	860	6.5	200		AFK		8/12/23	RM
6	P102/103	EEOS	WEOS	1412	25	EP	600	860	12.0	212		AFK		8/12/23	RM
7	P102/104	EEOS	WEOS	1417	25	EP	600	860	59.0	262/9	DSF23	AFK		8/12/23	RM
8	P103/105	EEOS	WEOS	1438	25	EP	600	860	12.0	21		AFK		8/12/23	RM
9	P104/105	EEOS	WEOS	1443	25	EP	600	860	59.0	80		AFK		8/12/23	RM
10	P106/107	SEOS	NEOS	1510	25	EP	600	860	6.5	86.5		AFK		8/12/23	RM
11	P105/106	EEOS	WEOS	1515	25	EP	600	860	21.0	107.5		AFK		8/12/23	RM
12	P105/107	EEOS	WEOS	1520	25	EP	600	860	50.0	157.5		AFK		8/12/23	RM
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

289.0

157.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 9, 2023

SHEET NUMBER 18

FUSION

EXTRUSION

MACHINE # 12

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF40	710	EP
TF41	710	EP
TF42	1255	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P50/102	NEOS SEOS	754	14	EP	500	860		1.0	158.5		AFK		EXTUDED	RM
2	P51/102	NEOS SEOS	754	14	EP	500	860		5.5	164		AFK		8/12/23	RM
3	P51/104	NEOS SEOS	757	14	EP	500	860		1.0	165		AFK		8/12/23	RM
4	P95/104	NEOS SEOS	757	14	EP	500	860		5.5	170.5		AFK		8/12/23	RM
5	P95/105	NEOS SEOS	800	14	EP	500	860		1.0	171.5		AFK		8/12/23	RM
6	P96/105	NEOS SEOS	800	14	EP	500	860		5.5	177		AFK		8/12/23	RM
7	P96/107	NEOS SEOS	803	14	EP	500	860		1.0	178		AFK		8/12/23	RM
8	P97/107	NEOS SEOS	803	14	EP	500	860		5.5	183.5		AFK		8/12/23	RM
9	P56/106	SEOS NEOS	810	14	EP	500	860		6.5	190		AFK		8/12/23	RM
10	P56/105	SEOS NEOS	813	14	EP	500	860		5.5	195.5		AFK		8/12/23	RM
11	P54/105	SEOS NEOS	815	14	EP	500	860		1.0	196.5		AFK		8/12/23	RM
12	P54/103	SEOS NEOS	816	14	EP	500	860		6.5	203		AFK		8/12/23	RM
13	P54/102	SEOS NEOS	819	14	EP	500	860		3.5	206.5/2.0	DSF24	AFK		8/12/23	RM
14	S37/38	EEOS WEOS	1337	20	EP	500	860		43.0	45		AFK		8/9/23	RM
15	S38/39	EEOS WEOS	1344	20	EP	500	860		43.0	88		AFK		8/9/23	RM
16	S39/42	EEOS WEOS	1405	20	EP	500	860		15.0	103		AFK		8/9/23	RM
17	S42/43	EEOS WEOS	1415	20	EP	500	860		7.0	110		AFK		8/9/23	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

157.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 9, 2023

SHEET NUMBER 19

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF42	1255	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	S39/40	EEOS WEOS	1423	20	EP	600	860	860	12.0	122		AFK		8/9/23	RM	
2	S40/41	EEOS WEOS	1429	20	EP	600	860		4.0	126		AFK		8/9/23	RM	
3	S36/37	EEOS WEOS	1438	20	EP	600	860		17.0	143		AFK		8/9/23	RM	
4	S44/45	SEOS NEOS	1455	20	EP	600	860		7.0	150		AFK		8/9/23	RM	
5	S45/46	SEOS NEOS	1505	20	EP	600	860		11.0	161		AFK		8/9/23	RM	
6	S46/47	SEOS NEOS	1520	20	EP	600	860		11.0	172		AFK		8/9/23	RM	
7	S47/48	SEOS NEOS	1527	20	EP	600	860		6.0	178		AFK		8/9/23	RM	
8	S43/48	SEOS NEOS	1528	20	EP	600	860		3.0	181		AFK		8/9/23	RM	
9	S42/48	SEOS NEOS	1549	20	EP	600	860		6.0	187		AFK		8/9/23	RM	
10	S42/47	WEOS EEOS	1550	20	EP	600	860		3.0	190		AFK		8/9/23	RM	
11	S39/47	WEOS EEOS	1552	20	EP	600	860		4.5	194.5		AFK		8/9/23	RM	
12	S39/46	WEOS EEOS	1554	20	EP	600	860		6.5	201		AFK		8/9/23	RM	
13	S39/45	WEOS EEOS	1557	20	EP	600	860		5.0	206		AFK		8/9/23	RM	
14	S40/45	NEOS SEOS	1600	20	EP	600	860		2.0	208		AFK		8/9/23	RM	
15	S40/44	NEOS SEOS	1602	20	EP	600	860		8.0	216		AFK		8/9/23	RM	
16	S41/44	NEOS SEOS	1605	20	EP	600	860		3.0	219		AFK		8/9/23	RM	
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS),
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

109.0

219.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

PASSING TRIAL SEAMS

DATE August 10, 2023

SHEET NUMBER 20

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF43	702	EP
TF44	704	EP
TF45	1204	EP
TF46	1202	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	INDICATOR NOZZLE							
1	P108/109	EEOS WEOS	1104	20	EP	600	860		10.0	229		AFK		8/12/23	RM
2	P110/111	NEOS WEOS	1120	20	EP	600	860		10.5	239.5		AFK		8/12/23	RM
3	P112/113	EEOS WEOS	1130	20	EP	600	860		14.0	253.5		AFK		8/12/23	RM
4	P113/116	NEOS SEOS	1140	20	EP	600	860		3.5	257		AFK		8/12/23	RM
5	P110/112	EEOS WEOS	1157	20	EP	500	860		22.0	279		AFK		8/12/23	RM
6	P101/108	EEOS WEOS	1308	20	EP	600	860		26.0	289/16	DSF25	AFK		8/12/23	RM
7	P114/115	NEOS SEOS	1325	20	EP	600	860		9.0	25		AFK		8/12/23	RM
8	P109/116	WEOS EEOS	1335	20	EP	600	860		3.0	28		AFK		8/12/23	RM
9	P109/113	WEOS EEOS	1336	20	EP	600	860		7.0	35		AFK		8/12/23	RM
10	P108/113	WEOS EEOS	1339	20	EP	600	860		5.0	40		AFK		8/12/23	RM
11	P108/112	WEOS EEOS	1343	20	EP	600	860		11.0	51		AFK		8/12/23	RM
12	P108/110	WEOS EEOS	1347	20	EP	600	860		2.0	53		AFK		8/12/23	RM
13	P111/114	SEOS NEOS	1351	20	EP	500	860		8.0	61		AFK		8/12/23	RM
14	P111/115	SEOS NEOS	1356	20	EP	500	860		2.5	63.5		AFK		8/12/23	RM
15	P110/115	SEOS NEOS	1400	20	EP	500	860		16.0	79.5		AFK		8/12/23	RM
16	P115/117	NEOS SEOS	1410	20	EP	600	860		28.5	108		AFK		8/12/23	RM
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS),
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

178.0

108.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 14, 2023

SHEET NUMBER 21

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF47	1238	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P118/119	EEOS WEOS	1430	25	CM	600	860		21.0	129		AFK		8/15/23	RM
2	P119/120	EEOS WEOS	1440	25	CM	600	860		21.0	150		AFK		8/15/23	RM
3	P120/121	WEOS EEOS	1453	25	CM	600	860		21.0	171		AFK		8/15/23	RM
4	P122/123	NEOS SEOS	1502	25	CM	600	860		3.0	174		AFK		8/15/23	RM
5	P121/123	WEOS EEOS	1507	25	CM	600	860		10.0	184		AFK		8/15/23	RM
6	P121/122	WEOS EEOS	1509	25	CM	600	860		11.0	195		AFK		8/15/23	RM
7	P107/118	EEOS WEOS	1518	25	CM	600	860		21.0	216		AFK		8/15/23	RM
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

108.0

216.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections of Canada
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
CONTRACTOR: WTL
MATERIAL: 60 mil HDPE

PASSING TRIAL SEAMS

DATE August 15, 2023

SHEET NUMBER 22

FUSION
 EXTRUSION

NO.	TIME	TECH ID
TF48	720	CM
TF49	1313	CM
TF50	1300	CM

MACHINE # 12

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE						TEST DATE	MON.
1	P97/118	NEOS SEOS	752	15	CM	400	860	860	1.0	217		AFK		8/15/23	RM
2	P98/118	NEOS SEOS	752	15	CM	400	860		5.5	222.5		AFK		8/15/23	RM
3	P98/119	NEOS SEOS	755	15	CM	400	860		1.0	223.5		AFK		8/15/23	RM
4	P99/119	NEOS SEOS	756	15	CM	400	860		5.5	229		AFK		8/15/23	RM
5	P99/120	NEOS SEOS	758	15	CM	400	860		1.0	230		AFK		8/15/23	RM
6	P100/120	NEOS SEOS	758	15	CM	400	860		5.5	235.5		AFK		8/15/23	RM
7	P100/121	NEOS SEOS	800	15	CM	400	860		1.0	236.5		AFK		8/15/23	RM
8	P101/121	NEOS SEOS	801	15	CM	400	860		5.5	242		AFK		8/15/23	RM
9	P101/123	NEOS SEOS	803	15	CM	400	860		1.0	243		AFK		8/15/23	RM
10	P108/123	NEOS SEOS	805	15	CM	400	860		2.0	245		AFK		8/15/23	RM
11	P117/124	NEOS SEOS	1348	25	CM	600	860		28.0	273		AFK		8/15/23	RM
12	P124/125	NEOS SEOS	1406	25	CM	600	860		28.0	283/18	DSF26	AFK		8/15/23	RM
13	P125/126	NEOS SEOS	1415	25	CM	600	860		30.0	48		AFK		8/15/23	RM
14	P126/127	NEOS SEOS	1435	25	CM	600	860		31.0	79		AFK		8/15/23	RM
15	P127/128	NEOS SEOS	1450	25	CM	600	860		37.5	116.5		AFK		8/15/23	RM
16	P128/129	NEOS SEOS	1507	25	CM	600	860		36.5	153		AFK		8/15/23	RM
17	P129/130	NEOS SEOS	1525	25	CM	600	860		34.0	187		AFK		8/15/23	RM
18	P130/131	NEOS SEOS	1535	25	CM	600	860		31.0	218		AFK		8/15/23	AFK

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
DESTRUCTIVE LENGTH CARRY - OVER

285.0

218.0

** COLUMNS TO BE USED
BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 15, 2023

SHEET NUMBER 23

PASSING TRIAL SEAMS

X FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF48	720	CM
TF49	1313	CM
TF50	1300	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE							
1	P131/132	NEOS	1552	25	CM	600	860		29	246.5		AFK		8/15/23	RM
2	P58/132	NEOS	1412	25	CM	600	860		28	274.5		AFK		8/15/23	RM
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

56.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 17, 2023

SHEET NUMBER 24

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 12

NO.	TIME	TECH ID
TF51	958	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P133/134	EEOS WEOS	1027	16	CM	600	860		50.0	279/45.5	DSF27	AFK		8/15/23	RM
2	P134/135	EEOS WEOS	1047	16	CM	600	860		50.0	95.4		AFK		8/17/23	RM
3	P106/133	EEOS WEOS	1109	16	CM	600	860		20.0	115		AFK		8/17/23	AFK
4	P107/133	EEOS WEOS	1120	16	CM	600	860		29.0	144		AFK		8/17/23	AFK
5	P118/133	EEOS WEOS	1155	16	CM	600	860		0.5	144.5		AFK		8/17/23	RM
6	P118/134	NEOS SEOS	1155	16	CM	600	860		6.0	150.5		AFK		8/17/23	RM
7	P119/134	NEOS SEOS	1157	16	CM	600	860		0.5	151		AFK		8/17/23	RM
8	P119/135	NEOS SEOS	1157	16	CM	600	860		6.0	157		AFK		8/17/23	RM
9	P120/135	NEOS SEOS	1158	16	CM	600	860		0.5	157.5		AFK		8/17/23	RM
10	P120/136	NEOS SEOS	1159	16	CM	600	860		6.0	153.5		AFK		8/17/23	RM
11	P121/136	NEOS SEOS	1202	16	CM	600	860		0.5	164		AFK		8/17/23	RM
12	P121/137	NEOS SEOS	1204	16	CM	600	860		6.0	170		AFK		8/17/23	RM
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

175.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 15, 2023

SHEET NUMBER 1

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF7	1315	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	INDICATOR NOZZLE							
1	P12/P13	EEOS WE	1345	19	CM	600	860		31.6	31.6		DS		07-18-23	LB
2	P12/P14	EEOS 14	1355	19	CM	600	860		3	34.6		DS		07-18-23	LB
3	P12/P14	3M WEOS	1400	19	CM	600	860		43	77.6		DS		07-18-23	LB
4	P13/P14	NEOS SEOS	1410	19	CM	600	860		6.7	84.3		DS		07-18-23	LB
5	P16/P17	NEOS SEOS	1420	19	CM	600	860		6.6	90.9		DS		07-18-23	LB
6	P16/P18	EEOS 4B	1451	19	CM	600	860		16.1	107		DS		07-18-23	LB
7	P16/P18	4B WEOS	1451	19	CM	600	860		17.2	124.2		DS		07-18-23	LB
8	P17/P18	EEOS NEOS	1510	19	CM	600	860		34.7	146/12.9	DSF - 6	DS	146/12.9	07-18-23	LB
9	P17/P19	EEOS WEOS	1515	19	CM	600	860		3.8	16.7		DS		07-18-23	LB
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

162.7

16.7

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 17, 2023

SHEET NUMBER 2

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-11	1409	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	INDICATOR NOZZLE							
1	P22/23	EEOS	WEOS	1417	22	CM	600	860	25.5	42.2		DS		07-18-23	LB
2	P23/24	EEOS	WEOS	1430	22	CM	600	860	25.8	68		DS		07-18-23	LB
3	P27/28	EEOS	WEOS	1446	22	CM	600	860	26.5	94.5		DS		07-18-23	LB
4	P28/29	EEOS	WEOS	1502	22	CM	600	860	27	121		DS		07-18-23	LB
5	P31/32	EEOS	WEOS	1516	22	CM	600	860	27	147.7		DS		07-18-23	LB
6	P32/33	EEOS	WEOS	1533	22	CM	600	860	27	157.3/ 16.9	DSF - 9	DS		07-18-23	LB
7	P34/35	EEOS	WEOS	1548	22	CM	600	860	26	43.1		DS		07-18-23	LB
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
DAILY TOTAL									183.5						
DESTRUCTIVE LENGTH CARRY - OVER										43.1					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

183.5

43.1

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 18, 2023

SHEET NUMBER 3

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-15	1518	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P45/P46	EEOS WEOS	1536	23	CM	600	860		26.6	69.7		DS		7/19/23	LB
2	P47/P48	EEOS WEOS	1551	23	CM	600	860		27.4	97.1		DS		7/19/23	LB
3	P49/P50	EEOS WEOS	1609	23	CM	600	860		27.5	124.6		DS		7/19/23	LB
4	P50/P51	EEOS WEOS	1624	23	CM	600	860		27	151.6		DS		7/19/23	LB
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
DAILY TOTAL									108.5						
A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM															
DESTRUCTIVE LENGTH CARRY - OVER										151.6					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

108.5

151.6

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 19, 2023

SHEET NUMBER 4

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-17	1010	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P52/P54	3T	NEOS	1015	19	EP	600	860	12	163.2		DS		07-21-23	AFK
2	P52/P53	SOES	NEOS	1020	19	EP	600	860	67	170.5		DS		07-21-23	RW
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

78.9

170.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 20, 2023

SHEET NUMBER 5

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-18	928	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P10/P52	EEOS WEOS	1010	20	EP	600	860		5.9	157.5		AFK		7/22/23	AFK
2	P11/P52	EEOS WEOS	1013	20	EP	600	860		0.5	158		AFK		7/22/23	AFK
3	P11/P53	EEOS WEOS	1014	20	EP	600	860		6.3	164.3		AFK		7/22/23	AFK
4	ETI/P52	5E NEOS	1021	23	EP	600	860		6.5	170.8		AFK		7/22/23	AFK
5									79	249.8		AFK		7/21/23	RM
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

98.2
 249.8

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 21, 2023

SHEET NUMBER 6

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF19	655	EP
TF20	1311	EP
TF21	1316	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P55/56	SEOS	NEOS	1038	26	EP	600	860		43	259.8/33	DSF13	AFK		07-21-23	RG	
2	P54/56	WEOS	EEOS	1110	26	EP	600	860		5.5	38.5		AFK		07-22-23	AFK	
3	P52/56	WEOS	EEOS	1113	26	EP	600	860		2	40.5		AFK	Covered by 5H			
4	P52/55	WEOS	EEOS	1118	26	EP	600	860		5.5	46		AFK		07-22-23	AFK	
5	P57/58	NEOS	SEOS	1130	26	EP	600	860		26.5	72.5		AFK		07-22-23	AFK	
6	P57/ETI	NEOS	SQ	1145	26	EP	600	860		19	91.5		AFK		07-22-23	AFK	
7	P55/ETI	SEOS	SL	1340	26	EP	600	860		22	113.5		AFK		07-22-23	AFK	
8	P55/ETI	SM	NEOS	1350	26	EP	600	860		12	125.5		AFK		07-22-23	AFK	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

135.5

125.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 22, 2023

SHEET NUMBER 7

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF22	931	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P56/58	WEOS	EEOS	959	20	EP	500	860		4.0	129.5		AFK		07-22-23	AFK	
2	P56/57	WEOS	EEOS	1003	20	EP	500	860		2.5	132.0		AFK		07-22-23	AFK	
3	P55/57	WEOS	EEOS	1005	20	EP	500	860		5.0	137.0		AFK		07-22-23	AFK	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

11.5
 137.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 27, 2023

SHEET NUMBER 8

FUSION

EXTRUSION

MACHINE # _____

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF23	1535	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P61/62	SEOS NEOS	1550	26	CM	600	860		16.5	143.5		AFK		07-31-23	RM	
2	P60/60	EEOS WEOS	1600	26	CM	600	860		18.0	161.5		AFK		07-31-23	RM	
3	P60/62	EEOS WEOS	1610	26	CM	600	860		54.0	215.5		AFK		07-31-23	RM	
4	P64/65	NEOS SEOS	1632	26	CM	600	860		6.5	222		AFK		08-02-23	RM	
5	P64/66	EEOS WEOS	1642	26	CM	600	860		33.5	242/13.5	DSF14	AFK		08-02-23	RM	
6	P65/66	EEOS WEOS	1700	26	CM	600	860		39.0	42.5		AFK		08-02-23	RM	
7	P65/67	EEOS WEOS	1708	26	CM	600	860		1.0	43.5		AFK		08-02-23	RM	
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

168.5

43.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: Augst 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 28, 2023

SHEET NUMBER 9

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF27	1550	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P70/74	EEOS	WEOS	1621	18	CM	600	860		11.0	54.5		AFK		08-02-23	RM	
2	P71/74	EEOS	WEOS	1625	18	CM	600	860		7.0	61.5		AFK		08-02-23	RM	
3	P72/74	EEOS	WEOS	1627	18	CM	600	860	860	7.0	68.5		AFK		08-02-23	RM	
4	P73/74	EEOS	WEOS	1630	18	CM	600	860		48.0	116.5		AFK		08-02-23	RM	
5	P66/68	EEOS	WEOS	1650	18	CM	600	860		70.0	186.5		AFK		08-02-23	RM	
6	P67/68	EEOS	WEOS	1720	18	CM	600	860		1.0	187.5		AFK		08-02-23	RM	
7	P75/77	EEOS	WEOS	1722	18	CM	600	860		35.0	222.5		AFK		08-02-23	RM	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

179.0

222.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 10

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF29	1255	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P77/78	EEOS WEOS	1334	20	CM	600	860		21.0	243.5		AFK		08-02-23	RM		
2	P77/79	EEOS WEOS	1342	20	CM	600	860	858	51.0	263.5/31	DSF18	AFK		08-02-23	RM		
3	P81/83	EEOS WEOS	1410	20	CM	600	860		36.0	67		AFK		08-02-23	RM		
4	P82/83	EEOS WEOS	1425	20	CM	600	860		36.0	103		AFK		08-02-23	RM		
5	P83/84	EEOS WEOS	1447	20	CM	600	860		51.0	154		AFK		08-02-23	RM		
6	P83/85	EEOS WEOS	1505	20	CM	600	860		21.0	175		AFK		08-02-23	RM		
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

216.0

175.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 30, 2023

SHEET NUMBER 11

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF31	1308	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P88/89	NEOS SEOS	1405	25	CM	600	860		6.5	181.5		AFK		08-02-23	RM
2	P88/90	EEOS WEOS	1421	25	CM	600	860		44.0	225.5		AFK		08-02-23	RM
3	P89/90	EEOS WEOS	1443	25	CM	600	860		26.0	228.5/23.5	DSF20	AFK		08-02-23	RM
4	P91/92	NEOS SEOS	1452	25	CM	600	860	845	6.5	30		AFK		08-02-23	RM
5	P90/91	EEOS WEOS	1505	25	CM	600	860		60.0	90		AFK		08-02-23	RM
6	P90/92	EEOS WEOS	1530	25	CM	600	860		10.0	100		AFK		08-02-23	RM
7	P93/94	8Q WEOS	1538	25	CM	600	860		35.0	135		AFK		08-02-23	RM
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

188.0

135.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 12

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF33	705	EP
TF34A	708	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P54/94	SEOS	NEOS	740	12	EP	500	860		6.5	141.5		AFK	08-02-23	LB	
2	P54/93	SEOS	NEOS	743	12	EP	500	860		2.0	143.5		AFK	08-02-23	LB	
3	P53/93	SEOS	NEOS	746	12	EP	500	860		4.5	148		AFK	08-02-23	LB	
4	P53/91	SEOS	NEOS	749	12	EP	500	860		6.5	154.5		AFK	COVERED	11C	
5	P53/90	SEOS	NEOS	750	12	EP	500	860		3.0	157.5		AFK	EXTRUDED		
6	P53/88	SEOS	NEOS	752	12	EP	500	860		6.5	164		AFK	07-31-23	RM	
7	P53/86	SEOS	NEOS	756	12	EP	500	860		2.0	166		AFK	07-31-23	RM	
8	P53/86	SEOS	NEOS	758	12	EP	500	860		4.5	170.5		AFK	08-12-23	RM	
9	P53/84	SEOS	NEOS	800	12	EP	500	860		6.5	177		AFK	08-12-23	RM	
10	P53/83	SEOS	NEOS	802	14	EP	500	860		6.5	183.5		AFK	08-12-23	RM	
11	P53/81	SEOS	NEOS	805	14	EP	500	860		6.5	190		AFK	08-12-23	RM	
12	P53/80	SEOS	NEOS	808	14	EP	500	860		2.0	192		AFK	08-12-23	RM	
13	P53/78	SEOS	NEOS	813	14	EP	500	860		3.0	195		AFK	07-31-23	RM	
14	P53/78	<u>7</u>	NEOS	814	14	EP	500	860		3.5	198.5		AFK	07-31-23	RM	
15	P53/77	SEOS	NEOS	816	14	EP	500	860		3.0	201.5		AFK	07-31-23	RM	
16	P11/77	SEOS	NEOS	817	14	EP	500	860		3.5	205		AFK	07-31-23	RM	
17	P11/75	SEOS	NEOS	819	14	EP	500	860		6.5	211.5		AFK	07-31-23	RM	
									DAILY TOTAL	76.5						
											211.5	** COLUMNS TO BE USED BY THE DATA REVIEWED ONLY				

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 13

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # 8

NO.	TIME	TECH ID
TF33	705	EP
TF34A	708	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P11/74	SEOS	NEOS	821	16	EP	500	860		6.5	218		AFK		07-31-23	RM
2	P11/70	SEOS	NEOS	825	16	EP	500	860		6.5	224.5		AFK		07-31-23	RM
3	P11/69	SEOS	NEOS	828	16	EP	500	860		6.5	231		AFK		07-31-23	RM
4	P11/68	SEOS	NEOS	830	16	EP	500	860		6.5	237.5		AFK		07-31-23	RM
5	P11/66	SEOS	NEOS	834	16	EP	500	860		6.5	244		AFK		07-31-23	RM
6	P11/64	SEOS	NEOS	837	16	EP	500	860		6.5	250.5		AFK		07-31-23	RM
7	P11/63	SEOS	NEOS	840	16	EP	500	860		6.5	257		AFK		07-31-23	RM
8	P11/61	SEOS	NEOS	843	16	EP	500	860		6.5	260/3.5	DSF21	AFK		07-31-23	RM
9	P11/60	SEOS	NEOS	846	16	EP	500	860		6.5	10		AFK		07-31-23	RM
10	P11/59	SEOS	NEOS	849	16	EP	500	860		6.5	16.5		AFK		07-31-23	RM
11	P27/59	NEOS	SEOS	937	17	EP	450	860		1.0	17.5		AFK		EXTRUDED	
12	P28/59	NEOS	SEOS	938	17	EP	450	860		5.5	23		AFK		08-02-23	RM
13	P28/60	NEOS	SEOS	941	17	EP	450	860		1.0	24		AFK		08-02-23	RM
14	P29/60	NEOS	SEOS	941	17	EP	450	860		5.5	29.5		AFK		08-02-23	RM
15	P29/62	NEOS	SEOS	943	17	EP	450	860		1.0	30.5		AFK		08-02-23	RM
16	P30/62	NEOS	SEOS	943	17	EP	450	860		5.5	36		AFK		08-02-23	RM
17	P30/63	NEOS	SEOS	943	17	EP	450	860		1.0	37		AFK		08-02-23	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

85.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 14

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF33	705	EP
TF34A	708	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P31/63	NEOS SEOS	948	17	EP	450	860		5.5	42.5		AFK		08-02-23	RM	
2	P31/65	NEOS SEOS	951	17	EP	450	860		1.0	43.5		AFK		08-02-23	RM	
3	P32/65	NEOS SEOS	951	17	EP	450	860		5.5	49		AFK		08-02-23	RM	
4	P33/68	NEOS SEOS	957	17	EP	450	860		1.0	50		AFK		08-02-23	RM	
5	P34/68	NEOS SEOS	957	17	EP	450	860		5.5	55.5		AFK		08-02-23	RM	
6	P35/69	NEOS SEOS	1000	17	EP	450	860		1.0	56.5		AFK		08-02-23	RM	
7	P35/69	NEOS SEOS	1000	17	EP	450	860		5.5	62		AFK		08-02-23	RM	
8	P35/73	NEOS SEOS	1003	17	EP	450	860		1.0	63		AFK		08-02-23	RM	
9	P36/73	NEOS SEOS	1003	17	EP	450	860		5.5	68.5		AFK		08-02-23	RM	
10	P36/74	NEOS SEOS	1006	17	EP	450	860		1.0	69.5		AFK		08-02-23	RM	
11	P37/74	NEOS SEOS	1007	17	EP	450	860		5.5	75		AFK		08-02-23	RM	
12	P37/76	NEOS SEOS	1010	17	EP	450	860		1.0	76		AFK		08-02-23	RM	
13	P38/76	NEOS SEOS	1010	17	EP	450	860		5.5	81.5		AFK		08-02-23	RM	
14	P38/77	NEOS SEOS	1013	17	EP	450	860	858	1.0	82.5		AFK		08-02-23	RM	
15	P39/79	NEOS SEOS	1019	17	EP	450	860		1.0	83.5		AFK		08-02-23	RM	
16	P40/79	NEOS SEOS	1019	17	EP	450	860		5.5	89		AFK		08-02-23	RM	
17	P40/80	NEOS SEOS	1022	21	EP	450	860		1.0	90		AFK		08-02-23	RM	
									DAILY TOTAL	53.0						
									DESTRUCTIVE LENGTH CARRY - OVER		90.0					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 15

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF33	705	EP
TF34A	708	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
								WEDGE OR BARREL								WEDGE OR NOZZLE
1	P41/80	NEOS SEOS	1022	21	EP	450	860		5.5	95.5		AFK		08-02-23	RM	
2	P41/82	NEOS SEOS	1025	21	EP	450	860		1.0	96.5		AFK		08-02-23	RM	
3	P42/82	NEOS SEOS	1026	21	EP	450	860		5.5	102		AFK		08-02-23	RM	
4	P42/83	NEOS SEOS	1029	21	EP	450	860		1.0	103		AFK		08-02-23	RM	
5	P43/83	NEOS SEOS	1030	21	EP	450	860		5.5	108.5		AFK		08-02-23	RM	
6	P43/85	NEOS SEOS	1033	21	EP	450	860		1.0	109.5		AFK		08-02-23	RM	
7	P44/85	NEOS SEOS	1033	21	EP	450	860		5.5	115		AFK		08-02-23	RM	
8	P44/87	NEOS SEOS	1036	21	EP	450	860		1.0	116		AFK		08-02-23	RM	
9	P45/87	NEOS SEOS	1036	21	EP	450	860		5.5	121.5		AFK		08-02-23	RM	
10	P45/89	NEOS SEOS	1039	21	EP	450	860		1.0	122.5		AFK		08-02-23	RM	
11	P46/89	NEOS SEOS	1039	21	EP	450	860		5.5	128		AFK		08-02-23	RM	
12	P46/90	NEOS SEOS	1042	21	EP	450	860		1.0	129		AFK		08-02-23	RM	
13	P47/90	NEOS SEOS	1042	21	EP	450	860		5.5	134.5		AFK		08-02-23	RM	
14	P47/92	NEOS SEOS	1045	21	EP	450	860	858	1.0	135.5		AFK		08-02-23	RM	
15	P48/92	NEOS SEOS	1045	21	EP	450	860		5.5	141		AFK		08-02-23	RM	
16	P48/93	NEOS SEOS	1048	21	EP	450	860		1.0	142		AFK		08-02-23	RM	
17	P49/93	NEOS SEOS	1048	21	EP	450	860		5.5	147.5		AFK		08-02-23	RM	
									DAILY TOTAL	57.5						
														** COLUMNS TO BE USED BY THE DATA REVIEWED ONLY		
														REVIEWED BY: AFK		
														DATE: August 24, 2023		

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

147.5

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 16

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF33	705	EP
TF34A	708	EP

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL	WEDGE OR NOZZLE							
1	P49/94	NEOS	SEOS	1051	21	EP	450	860	1.0	148.5		AFK		08-02-23	
2	P50/94	NEOS	SEOS	1051	21	EP	450	860	5.5	154		AFK		08-02-23	
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

6.5

154.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 31, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 7, 2023

SHEET NUMBER 17

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF39	850	CM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P94/102	EEOS	WEOS	3:08	25	CM	600	860		72	226		AFK		08-12-23	RM	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

72.0
226.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 17, 2023

SHEET NUMBER 18

FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF52	1042	RB
TF53	1043	RB

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P135/136	EEOS WEOS	1050	16	RB	600	860	848	50.0	274/2	DSF28	AFK		8/17/23	RM
2	P136/137	WEOS EEOS	1110	16	RB	600	860		9.0	11		AFK		8/17/24	RM
3	P136/138	EEOS WEOS	1119	16	RB	600	860		14.0	25		AFK	covered by 15L		
4	P125/137	WEOS EEOS	1130	16	RB	500	860		1.0	26		AFK		8/17/23	RM
5	P126/137	WEOS EEOS	1130	16	RB	500	860		6.5	32.5		AFK		8/17/23	RM
6	P127/137	WEOS EEOS	1134	16	RB	500	860		1.0	33.5		AFK		8/17/23	RM
7	P127/137	WEOS EEOS	1137	16	RB	500	860		7.5	41		AFK		8/17/23	RM
8	P127/136	WEOS EEOS	1139	16	RB	500	860		7.0	48		AFK		8/17/23	RM
9	P128/136	WEOS EEOS	1143	16	RB	500	860		7.5	55.5		AFK		8/17/23	AFK
10	P129/136	WEOS EEOS	1146	16	RB	500	860		5.5	61		AFK		8/17/23	AFK
11	P130/136	WEOS EEOS	1149	16	RB	500	860		2.0	63		AFK		8/17/23	AFK
12	11X/130	WEOS EEOS	1150	16	RB	500	860		7.0	70		AFK		8/17/23	AFK
13	P131/138	WEOS EEOS	1154	16	RB	500	860		7.0	77		AFK		8/17/23	AFK
14	P132/138	WEOS EEOS	1156	16	RB	500	860		1.0	78		AFK		extruded	
15	P56/138	SEOS NEOS	1311	25	RB	500	860		6.5	84.5		AFK		8/17/23	AFK
16	P56/136	SEOS NEOS	1314	25	RB	500	860		6.5	81		AFK		8/17/23	AFK
17	P56/135	SEOS NEOS	1316	25	RB	500	860		6.5	97.5		AFK		8/17/23	AFK

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS),
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

145.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 17, 2023

SHEET NUMBER 19

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF52	1042	RB
TF53	1043	RB

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P56/134	SEOS	NEOS	1318	25	RB	600	860		6.5	104		AFK		8/17/23	AFK	
2	P56/133	SEOS	NEOS	1322	25	RB	600	860		6.5	110.5		AFK		8/17/24	AFK	
3	P117/123	WEOS	EEOS	1342	25	RB	600	860		6.5	117.5		AFK		8/17/23	RM	
4	P123/124	WEOS	EEOS	1344	25	RB	500	860		6.5	123.5		AFK		8/17/23	RM	
5	P122/124	WEOS	EEOS	1347	25	RB	500	860		6.5	130		AFK		8/17/23	RM	
6	P122/125	WEOS	EEOS	1350	25	RB	500	860		5.0	135		AFK		8/17/23	RM	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

37.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 18, 2023

SHEET NUMBER 20

X FUSION

EXTRUSION

MACHINE # 8

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF54	856	KW

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	D3/D4	EEOS	WEOS	944	19	KW	600	860		33.3	168.3		AFK		8/17/23	AFK	
2	D2/D3	WEOS	EEOS	1000	19	KW	600	860		33.3	201.6		AFK		8/17/24	AFK	
3	D1/D2	WEOS	EEOS	1015	19	KW	600	860		32.9	234.5		AFK		8/17/23	RM	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
DAILY TOTAL										99.5							
A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM																	
DESTRUCTIVE LENGTH CARRY - OVER											234.5						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

99.5
 234.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE August 15, 2023

SHEET NUMBER 1

FUSION

EXTRUSION

MACHINE # PX-31

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TX-28A	820	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P97/107	NEOS SEOS	1100	17	GM	470	465		1	1		AFK		8/17/23	RM
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

1.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 25, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE August 17, 2023

SHEET NUMBER 2

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX-31

NO.	TIME	TECH ID
TX-29	1130	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
	BARREL NOZZLE	BARREL NOZZLE					WEDGE OR BARREL NOZZLE	WEDGE OR BARREL NOZZLE							
1	P58/138	EEOS WEOS	3:52	25	GM				1	2		AFK		8/17/23	RM
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

1.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE August 18, 2023

SHEET NUMBER 3

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX31

NO.	TIME	TECH ID
TX30	1040	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE						TEST DATE	MON.
1	D1/P130	EEOS	WEOS	1055	22	GM	460	460	7	8.9		DS	EXT	8/19/23	RM
2	D1/P129	EEOS	WEOS	1104	22	GM	460	460	7	15.7		DS	EXT	8/19/23	RM
3	D1/P128	EEOS	WEOS	1113	22	GM	460	460	7	22.5		DS	EXT	8/19/23	RM
4	D1/P127	EEOS	WEOS	1123	22	GM	460	460	7	29.3		DS	EXT	8/19/23	RM
5	D1/P126	EEOS	WEOS	1132	22	GM	460	460	5	34.0		DS	EXT	8/19/23	RM
6	D1/P125	SEOS	NEOS	1138	22	GM	460	460	2	36.3		DS	EXT	8/19/23	RM
7	D1/P137	SEOS	NEOS	1143	22	GM	460	460	2	38.2		DS	EXT	8/19/23	RM
8	D1/P136	SEOS	NEOS	1144	22	GM	460	460	3	40.8		DS	EXT	8/19/23	RM
9	D2/P136	SEOS	NEOS	1151	22	GM	460	460	4	45.0		DS	EXT	8/19/23	RM
10	D2/P135	SEOS	NEOS	1258	25	GM	460	460	3	47.6		DS	EXT	8/19/23	RM
11	D3/P135	SEOS	NEOS	1301	25	GM	460	460	4	51.4		DS	EXT	8/19/23	RM
12	D3/P134	SEOS	NEOS	1306	25	GM	460	460	3	54.4		DS	EXT	8/19/23	RM
13	D4/P134	SEOS	NEOS	1311	25	GM	460	460	4	58.3		DS	EXT	8/19/23	RM
14	D4/P133	SEOS	NEOS	1316	25	GM	460	460	3	61.2		DS	EXT	8/19/23	RM
15	D4/P133	WEOS	EEOS	1319	27	GM	460	460	33.7	87.4/7.5	DSX29	DS	EXT	8/19/23	RM
16	D4/P133	NEOS	SEOS	1427	27	GM	460	460	1.9	9.4		DS	EXT	8/19/23	RM
17	D4/P134	NEOS	SEOS	1429	27	GM	460	460	4.6	14.0		DS	EXT	8/19/23	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

99.3

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 25, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE August 18, 2023

SHEET NUMBER 4

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX31

NO.	TIME	TECH ID
TX30	1040	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	D3/P134	NEOS SEOS	1434	27	GM		460	460	2	16.1		DS		8/19/23	RM
2	D3/P135	NEOS SEOS	1436	27	GM		460	460	5	208		DS		8/19/23	RM
3	D2/P135	NEOS SEOS	1441	27	GM		460	460	2	22.8		DS		8/19/23	RM
4	D2/P136	NEOS SEOS	1443	27	GM		460	460	5	27.3		DS		8/19/23	RM
5	D1/P136	NEOS SEOS	1447	27	GM		460	460	2	29.5		DS		8/19/23	RM
6	D1/P138	NEOS SEOS	1453	27	GM		460	460	2	31.5		DS		8/19/23	RM
7	D1/P131	NEOS SEOS	1455	27	GM		460	460	3	34.0		DS		8/19/23	RM
8	D1/P131	EEOS WEOS	1457	27	GM		460	460	1	35.3		DS		8/19/23	RM
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

21.3
35.3

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 25, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE August 3, 2023

SHEET NUMBER 1

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX-15

NO.	TIME	TECH ID
TX-19	710	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
	BARREL NOZZLE	BARREL NOZZLE													
1	P53/59	NEOS SEOS	825	17	GM	450		460	3	3				8/9/23	RM
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

3.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 14, 2023

SHEET NUMBER 1

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX-2

NO.	TIME	TECH ID
TX-2	830	GM
TX-3	1315	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET							TEST DATE	MON.
							WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE							
1	Ntie/P2	EEOS	1N	1045	21	GM	450	460	3	3				7/20/23	RM
2	Ntie/P5	1W	WEOS	1515	21	GM	450	460	23.5	26.5				7/20/23	RM
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

26.5

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-03
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE July 15, 2023

SHEET NUMBER 2

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX2

NO.	TIME	TECH ID
TX4	7:20	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	NTI/P5	1M	1B	10:30	20	GM	450	460		6	32.5		DS		7/20/23	RW	
2	NTI/P2	1B	1N	10:35	20	GM	450	460		4	36		DS		7/20/23	RW	
3	NTI/P5	1P	1A	11:50	20	GM	450	460		2	38		DS		7/20/23	RW	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

11.5
 38.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: CELL 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 17, 2023

SHEET NUMBER 3

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX2

NO.	TIME	TECH ID
TX5	7:30	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE		
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.	
	BARREL NOZZLE	BARREL NOZZLE					WEDGE OR BARREL NOZZLE	WEDGE OR BARREL NOZZLE								
1	ETI/P10	3B	3A	11:10	14	GM	450	460		13	51		AFK		07-21-23	LB
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

13.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE July 20, 2023

SHEET NUMBER 4

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX2

NO.	TIME	TECH ID
TX11	1305	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	ETI/P52	6G	5E	1430	23	GM	450	460	2	53		DS		7/20/23	LB
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

2.0
53.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 21, 2023

SHEET NUMBER 5

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX2

NO.	TIME	TECH ID
TX12	730	GM
TX13	1320	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE	
	START POINT	FINISH POINT					DIGITAL SET	INDICATOR						TEST DATE	MON.
1	P57/ETI	SEOS	5Q	1420	27	GM	450	460	5	53/5	DSX-12	AFK		7/21/23	LB
2	P55/ETI	SL	5M	1510	27	GM	450	460	8	13		AFK		7/21/23	LB
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

13.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE July 31, 2023

SHEET NUMBER 6

PASSING TRIAL SEAMS

FUSION

EXTRUSION

MACHINE # PX2

NO.	TIME	TECH ID
TX16	1305	GM

SEAM NUMBER	SEAM SECTION *		APPROX. START TIME	AMB. AIR TEMP. C	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON - DESTRUCTIVE			
	START POINT	FINISH POINT					DIGITAL SET							INDICATOR		TEST DATE	MON.
							WEDGE OR BARREL	NOZZLE						WEDGE OR BARREL	NOZZLE		
1	P27/59	NEOS SEOS	1305	28	GM	450	460		1.0	15.0		AFK		8/2/23	RM		
2	P33/68	NEOS SEOS	1355	28	GM	450	460		1.0	16.0		AFK		8/2/23	RM		
3	P34/38	NEOS 9P	1600	28	GM	450	460		2.0	18.0		AFK		8/2/23	RM		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS).
 A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

DAILY TOTAL
 DESTRUCTIVE LENGTH CARRY - OVER

4.0

** COLUMNS TO BE USED
 BY THE DATA REVIEWED ONLY

REVIEWED BY: AFK
 DATE: August 24, 2023

Appendix B-7

Geomembrane Seam Destructive Test Summary

- **Seam Destructive Test Summary**
-



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IW MF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: July 17, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF1	2023-07-12	ETI/P1 1m N of SEOS	IK	FTB 116,120,119,120,128	FTB 117,117,137,112,114	FTB 157,152,164,146,161	PASS	DS	

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 100-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: MTL
 MATERIAL: 60 mil HDPE

DATE: July 18 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF4	2023-07-15	P8/10	3G	FTB	FTB	FTB	PASS	DS	
		6m W OF SEOS		103,105,107,100,109	110,104,102,108,112	141,149,149,145,142			
DSF2	2023-07-14	P4/7	IV	FTB	FTB	FTB	PASS	DS	
		3.3m W OF EEOS		123,112,109,108,118	112,107,101,121,114	146,142,146,140,144			
DSF3	2023-07-14	P10/11	IX	FTB	FTB	FTB	PASS	DS	
		44m N OF SEOS		106,106,101,105,108,	17,104,109,109,109	147,141,147,141,150			

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: July 20, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF5	2023-07-15	P15/16 3m W of EEOS	3J	FTB	FTB	FTB	PASS	DS	
				114,100,107,119,112	104,100,112,102,105	148,145,139,139,144			
DSF6	2023-07-15	P17/18 21.8m W of EEOS	3K	FTB	FTB	FTB	PASS	DS	
				103,108,107,107,108	100,101,104,103,103	148,139,142,138,147			
DSF7	2023-07-17	P20/21 14.5m W of EEOS	3M	FTB	FTB	FTB	PASS	DS	
				105,103,112,109,107	104,103,102,101,105	149,149,154,145,151			
DSF8	2023-07-17	P30/31 8.6m W of EEOS	3N	FTB	FTB	FTB	PASS	DS	
				112,122,103,101,107	105,109,115,124,108	140,144,145,142,149			
DSF9	2023-07-17	P32/33 9.6m W of EEOS	3P	FTB	FTB	FTB	PASS	DS	
				100,118,108,102,102	100,106,116,106,110	143,147,151,143,140			
DSF10	2023-07-18	P36/37 23m W of EEOS	3R	FTB	FTB	FTB	PASS	DS	
				114,117,123,101,104	108,106,103,105,106	147,149,150,144,144			
DSF11	2023-07-18	P48/49 6m W of EEOS	3S	FTB	FTB	FTB	PASS	DS	
				117,108,109,107,109	105,104,100,115,102	146,144,147,141,149			

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: July 21, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
PSX12	2023-07-21	6D/P12 3m W OF EEOS	5F	FTB 95,93,96,97,92		FTB 147,142,142,143,139	PASS	AFK	

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: July 22, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL <u>MODE</u> STRENGTH	OUTSIDE PEEL <u>MODE</u> STRENGTH	SHEAR <u>MODE</u> STRENGTH			
DSF13	2023-07-23	P55/P56 10m N OF SEOS	5G	FTB 105,104,129,102,113	FTB 124,101,109,105,107	FTB 148,143,142,145,147	PASS	AFK	

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2023



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: August 2, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF14	2023-07-28	P55/P56 20m W of EEOS	6P	FTB	FTB	FTB	PASS	AFK	
				105,105,101,102,109	105,94,96,96,105	130,130,140,133,144			
DSF15	2023-07-28	P63/64 20m W of EEOS	6N	FTB	FTB	FTB	PASS	AFK	
				106,103,104,113,104	106,111,101,102,107	141,134,142,141,145			
DSF16	2023-07-28	P72/73 3m N of SEOS	8A	FTB	FTB	FTB	PASS	AFK	
				121,124,119,114,116	112,110,108,110,122	132,131,138,138,131			
DSF17	2023-07-29	P78/79 3m S of NEOS	8B	FTB	FTB	FTB	PASS	AFK	
				113,102,119,105,118	117,100,111,101,109	137,133,138,135,135			
DSF18	2023-07-29	P77/79 20m W of EEOS	8C	FTB	FTB	FTB	PASS	AFK	
				101,103,103,102,107	107,105,105,103,106	137,138,138,139,134			
DSF20	2023-07-31	P85/87 2m W of EEOS	8H	FTB	FTB	FTB	PASS	AFK	
				104,100,105,107,108	103,101,101,108,107	133,138,134,129,137			
DSF20	2023-07-31	P89/90 25m W of EEOS	8M	FTB	FTB	FTB	PASS	AFK	
				104,109,106,103,117	121,105,114,108,103	133,138,134,129,137			
DSF21	2023-07-31	P11/61 3m N of SEOS	8V	FTB	FTB	FTB	PASS	AFK	
				123,117,119,102,115	106,106,115,111,108	134,139,136,134,132			

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2022



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: August 16, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF22	2023-08-06	P96/97 10m W of EEOS	11D	FTB	FTB	FTB	PASS	AFK	
				110,103,124,105,115	110,103,101,106,107	152,152,154,147,153			
DSF23	2023-08-07	P102/103 9m E of WEOS	11E	FTB	FTB	FTB	PASS	AFK	
				105,106,103,95,102	123,106,124,109,112	152,144,157,142,152			
DSF24	2023-08-09	P54/102 2m S of NEOS	14A	FTB	FTB	FTB	PASS	AFK	
				121,114,120,113,118	125,123,118,117,124	140,146,155,145,148			
DSF25	2023-08-10	P101/108 10m W of EEOS	14G	FTB	FTB	FTB	PASS	AFK	
				112,115,109,108,96	111,99,105,99,97	132,153,157,151,156			

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2022



GEOMEMBRANE DESTRUCTIVE TESTING SUMMARY LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connection of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

DATE: August 18, 2023

SAMPLE NUMBER	DATE	APPROXIMATE LOCATION	REPAIR CODE	TEST RESULTS			PASS OR FAIL	MON.	REMARKS
				INSIDE PEEL MODE STRENGTH	OUTSIDE PEEL MODE STRENGTH	SHEAR MODE STRENGTH			
DSF26	2023-08-15	P124/125 10m S of NEOS	15A	FTB	FTB	FTB	PASS	AFK	
				95,95,119,122,102	97,110,108,108,119	167,165,171,169,166			
DSF27	2023-08-17	P133/134 4.5m W of EEOS	11V	FTB	FTB	FTB	PASS	AFK	
				111,117,126,128	135,115,113,109,128	152,154,166,157,160			
DSF28	2023-08-17	P135/136 2m W of EEOS	11W	FTB	FTB	FTB	PASS	AFK	
				112,110,106,110	116,104,108,100,107	157,154,158,155,159			
DSX29	2023-08-23	D41/P133 26.2m E of WEOS	17K	FTB		FTB	PASS	AFK	
				102,103,97,105		139,131,135,135,130			

**Pass: Peel: 91 lb/in
 Sheer: 120 lb/in

REVIEWED BY: AFK
 DATE: September 6, 2022

Appendix B-8

Geomembrane Seam Pressure Test Summary



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 13-Jul-23
 Sheet Number 1

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/ P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S1/S2	EEOS	WEOS	1	CW	12:00	12:05	40	38	Y	P		YES	RM	
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER,
 OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 14-Jul-23
 Sheet Number 2

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S2-S3	EEOS	WEOS	1	KW	10:24	10:29	40	39	Y	P		X	RM	
2	S3-S4	EEOS	WEOS	2	KW	10:24	10:29	40	40	Y	P		X	RM	
3	ETI-P6	IB	NEOS	1	KW	3:56	4:01	40	39	Y	P		X	LB	
4	ETI/P6	IU	1H	1	KW	4:16	4:15	40	37	Y	P		X	LB	
5	ETI/P3	IH	1J	1	KW	4:17	4:22	40	35	Y	P		X	LB	
6	ETI/P1	IL	NEOS	2	KW	4:19	4:24	40	37	Y	P		X	LB	
7	ETI/P1	IL	SEOS	1	KW	4:25	4:30	40	37	Y	P		X	LB	
8	ETI/P1	IH	NEOS	2	KW	4:27	4:32	40	37	Y	P		X	LB	
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 15-Jul-23
 Sheet Number 3

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S4/S5	WEOS	EEOS	1	KW	11:41	11:46	40	38	Y	P		X	LB	
2	S5/S6	WEOS	EEOS	2	KW	11:43	11:48	40	39	Y	P		X	LB	
3	S6/S7	WEOS	EEOS	3	KW	11:44	11:49	40	39	Y	P		X	LB	
4	S7/S8	WEOS	EEOS	1	KW	11:47	11:52	42	39	Y	P		X	LB	
5	S8/S9	WEOS	EEOS	2	KW	11:51	11:56	45	43	Y	P		X	LB	
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 18-Jul-23
 Sheet Number 4

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P34/35	EEOS	WEOS	1	CM	8:00	8:05	32	31	Y	P		X	LB	
2	P33/34	EEOS	WEOS	2	CM	8:00	8:05	33	33	Y	P		X	LB	
3	P32/33	EEOS	WEOS	3	CM	8:01	8:06	32	32	Y	P		X	LB	
4	P30/31	EEOS	WEOS	1	CM	8:14	8:19	32	32	Y	P		X	LB	
5	P29/30	EEOS	WEOS	2	CM	8:16	8:21	33	32	Y	P		X	LB	
6	P28/29	EEOS	WEOS	3	CM	8:16	8:21	33	32	Y	P		X	LB	
7	P29/30	EEOS	WEOS	1	CM	8:30	8:35	34	34	Y	P		X	LB	
8	P27/28	EEOS	WEOS	2	CM	8:33	8:38	33	33	Y	P		X	LB	
9	P8/9	NEOS	SEOS	1	CM	8:51	8:56	32	31	Y	P		X	LB	
10	P3/4	NEOS	SEOS	2	CM	8:52	8:57	33	32	Y	P		X	LB	
11	ETI/P10	SEOS	3A	1	CM	9:02	9:07	33	31	Y	P	X		LB	
12	ETI/P10	3B	3D/3C	2	CM	9:04	9:09	33	31	Y	P	X		LB	
13	ETI/P10	3D/3C	NEOS	3	CM	9:07	9:12	33	32	Y	P		X	LB	
14	ETI/P6	SEOS	IG	3	CM	9:07	9:12	33	28	Y	P	X		LB	
15	ETI/P6	IG	IM	4	CM	9:08	9:13	33	28	Y	P		X	LB	
16	ETI/P1	IN	IA	1	CM	9:54	9:59	32	31	Y	P	X		LB	
17	ETI/P1	IP	IQ	2	CM	9:56	10:01	32	31	Y	P	X		LB	
18	P3/6	3F	3F	2	CM	10:11	10:16	34	30	Y	P	X		LB	
19														LB	
20														LB	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2021-09-02



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 18-Jul-23
 Sheet Number 5

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P3/6	EEOS	3F	1	CM	10:22	10:27	33	30	YES	PASS	X		LB	
2	P3/6	3F	WEOS	2	CM	10:24	10:29	32	29	YES	PASS		X	LB	
3	P13/15	EEOS	3L	1	CM	10:38	10:43	33	32	YES	PASS	X		LB	
4	P11/18	4L	NEOS	1	CM	11:06	11:11	33	30	YES	PASS		X	LB	
5	P6/11	NEOS	SEOS	2	CM	11:14	11:19	36	36	YES	PASS		X	LB	
6	P10/11	NEOS	SEOS	2	CM	11:14	11:19	36	36	YES	PASS		X	LB	
7	P6/P10	WEOS	EEOS	1	CM	11:22	11:27	35	34	YES	PASS		X	LB	
8	P16/P19	NEOS	SEOS	3	CM	11:34	11:39	39	37	YES	PASS		X	LB	
9	P13/14	SEOS	WEOS	4	CM	11:36	11:41	40	38	YES	PASS		X	LB	
10	P5/20	EEOS	WEOS	1	CM	12:51	12:56	33	31	YES	PASS		X	LB	
11	P20/21	EEOS	WEOS	2	CM	12:52	12:57	33	33	YES	PASS		X	LB	
12	P21/22	EEOS	WEOS	3	CM	12:53	12:58	33	32	YES	PASS		X	LB	
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 18-Jul-23
 Sheet Number 6

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P22/23	EEOS	WEOS	1	CM	13:00	13:05	34	33	YES	PASS		X	LB	
2	P23/24	EEOS	WEOS	2	CM	13:02	13:07	34	33	YES	PASS		X	LB	
3	P24/25	EEOS	WEOS	3	CM	13:03	13:08	34	33	YES	PASS		X	LB	
4	P25/26	EEOS	WEOS	1	CM	13:11	13:16	33	32	YES	PASS		X	LB	
5	P26/27	EEOS	WEOS	2	CM	13:12	13:17	33	32	YES	PASS		X	LB	
6	P1/5	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
7	P4/5	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
8	P4/20	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
9	P7/20	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
10	P7/21	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
11	P9/21	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
12	P9/22	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
13	P12/22	NEOS	SEOS	1	CM	13:22	13:27	34	34	YES	PASS		X	LB	
14	P16/18	EEOS	4B	1	KW	15:18	15:23	35	33	YES	PASS	X		LB	
15	P12/14	3H	EEOS	1	KW	16:02	16:07	41	38	YES	PASS		X	LB	
16	P12/13	WEOS	EEOS	1	KW	16:02	16:07	41	38	YES	PASS		X	LB	
17	P11/16	SEOS	NEOS	1	CM	11:06	11:11	33	30	YES	PASS		X	LB	
18	P11/15	SEOS	NEOS	1	CM	11:06	11:11	33	30	YES	PASS		X	LB	
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 18-Jul-23
 Sheet Number 7

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P1/3	EEOS	WEOS	1	CM	10:10	10:15	34	33	Y	P		X	LB	
2	P1/4	EEOS	WEOS	1	CM	10:10	10:15	34	33	Y	P		X	LB	
3	P3/7	EEOS	WEOS	3	CM	10:13	10:18	34	34	Y	P		X	LB	
4	P4/7	EEOS	WEOS	3	CM	10:13	10:18	34	34	Y	P		X	LB	
5	P7/8	EEOS	WEOS	4	CM	10:14	10:19	33	33	Y	P		X	LB	
6	P7/9	EEOS	WEOS	4	CM	10:14	10:19	33	33	Y	P		X	LB	
7	P12/13	EEOS	WEOS	4	CM	10:38	10:43	33	33	Y	P		X	LB	
8	P12/14	EEOS	3H	4	CM	10:38	10:43	33	33	Y	P		X	LB	
9	P13/15	3L	WEOS	1	CM	10:48	10:53	32	31	Y	P		X	LB	
10	P14/15	EEOS	WEOS	1	CM	10:48	10:53	32	31	Y	P		X	LB	
11	P15/16	EEOS	WEOS	2	CM	10:40	10:45	32	31	Y	P		X	LB	
12	P15/17	EEOS	WEOS	2	CM	10:40	10:45	32	31	Y	P		X	LB	
13	P16/18	4B	WEOS	2	CM	11:33	11:38	36	35	Y	P		X	LB	
14	P17/18	EEOS	WEOS	2	CM	11:33	11:38	36	35	Y	P		X	LB	
15	P17/19	EEOS	WEOS	2	CM	11:33	11:38	36	35	Y	P		X	LB	
16	P8/12	EEOS	WEOS	3	CM	10:26	10:31	34	34	Y	P		X	LB	
17	P9/12	EEOS	WEOS	3	CM	10:26	10:31	34	34	Y	P		X	LB	
18	P6/15	SEOS	NEOS	3	CM	11:19	11:24	34	32	Y	P		X	LB	
19	P6/13	SEOS	NEOS	3	CM	11:19	11:24	34	32	Y	P		X	LB	
20	P6/12	SEOS	NEOS	3	CM	11:19	11:24	34	32	Y	P		X	LB	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 19-Jul-23
 Sheet Number 8

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P35/36	EEOS	WEOS	1	CM	8:03	8:08	33	32	Y	P		X	LB	
2	P36/37	EEOS	WEOS	2	CM	8:05	8:10	33	33	Y	P		X	LB	
3	P37/38	EEOS	WEOS	3	CM	8:06	8:11	37	32	Y	P		X	LB	
4	P38/39	EEOS	WEOS	4	CM	8:08	8:13	34	33	Y	P		X	LB	
5	P39/40	EEOS	WEOS	1	CM	8:16	8:21	33	33	Y	P		X	LB	
6	P40/41	EEOS	WEOS	2	CM	8:17	8:22	33	33	Y	P		X	LB	
7	P41/42	EEOS	WEOS	3	CM	8:18	8:23	33	33	Y	P		X	LB	
8	P42/43	EEOS	WEOS	4	CM	8:20	8:25	32	31	Y	P		X	LB	
9	P43/44	EEOS	WEOS	1	CM	8:27	8:32	35	35	Y	P		X	LB	
10	P44/45	EEOS	WEOS	2	CM	8:28	8:33	33	33	Y	P		X	LB	
11	P45/46	EEOS	WEOS	3	CM	8:29	8:34	33	33	Y	P		X	LB	
12	P46/47	EEOS	WEOS	4	CM	8:32	8:37	33	32	Y	P		X	LB	
13	P47/48	EEOS	WEOS	1	CM	8:41	8:46	33	33	Y	P		X	LB	
14	P48/49	EEOS	WEOS	2	CM	8:42	8:47	33	33	Y	P		X	LB	
15	P49/50	EEOS	WEOS	3	CM	8:43	8:48	33	33	Y	P		X	LB	
16	P50/51	EEOS	WEOS	4	CM	8:46	8:51	33	33	Y	P		X	LB	
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-24



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 20-Jul-23
 Sheet Number 9

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P1 NTI	IR	IS	1	CW	9:34	9:39	36	35	YES	PASS	X		RM	
2	P1 NTI	IT	NEOS	2	CW	9:35	9:40	39	38	YES	PASS	X		RM	
3	P1 NTI	IN	IQ	3	CW	9:58	10:03	31	29	YES	PASS		X	RM	
4	P1/2	EEOS	WEOS	4	CW	10:31	10:36	40	38	YES	PASS		X	RM	
5	P12/23	NEOS	SEOS	5	CW	10:47	10:52	38	38	YES	PASS		X	RM	
6	P14/23	NEOS	SEOS	5	CW	10:47	10:52	38	38	YES	PASS		X	RM	
7	P14/24	NEOS	SEOS	5	CW	10:47	10:52	38	38	YES	PASS		X	RM	
8	NTI/P2	IL	NEOS	1	CW	9:58	10:03	29	29	YES	PASS		X	RM	
9	NTI/P2	IN	NEOS	1	CW	9:58	10:03	29	29	YES	PASS		X	RM	
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 20-Jul-23
 Sheet Number 10

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P15/25	NEOS	SEOS	1	CW	10:45	10:50	39	37	YES	PASS		X	LB	
2	P17/25	NEOS	SEOS	1	CW	10:45	10:50	39	37	YES	PASS		X	LB	
3	P17/26	NEOS	SEOS	1	CW	10:45	10:50	39	37	YES	PASS		X	LB	
4	P19/26	NEOS	SEOS	1	CW	10:45	10:50	39	37	YES	PASS		X	LB	
5	P19/27	NEOS	3Q	1	CW	10:45	10:50	39	37	YES	PASS		X	LB	
6	P12/14	5A	3H	1	CW	2:40	2:45	39	36	YES	PASS	X		RM	
7	P6/7	NEOS	SEOS	1	CW	2:47	2:52	34	33	YES	PASS	X		RM	
8	P12/14	7D	WEOS	1	CW	3:01	3:06	40	39	YES	PASS		X	RM	
9	P6/8	NEOS	SEOS	1	CW	2:47	2:52	34	33	YES	PASS		X	RM	
10	P15/24	NEOS	SEOS	1	CW	10:45	10:50	35	33	YES	PASS		X		
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 21-Jul-23
 Sheet Number 11

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P52/ETI	5E	7E	1	CW	1:48	1:53	37	36	YES	PASS	X		RM	
2	P52/ETI	7E	7A	1	CW	1:55	2:00	46	45	YES	PASS	X		RM	
3	P52/ETI	7A	7B	1	CW	2:05	2:10	41	40	YES	PASS	X		RM	
4	P52/ETI	7B	7D	1	CW	2:09	2:14	41	39	YES	PASS		X	RM	
5	P52/P53	EEOS	WEOS	1	CW	2:14	2:19	38	36	YES	PASS		X	RM	
6	P56/P55	NEOS	SEOS	1	CW	2:26	2:31	48	46	YES	PASS		X	RM	
7	P52/54	EEOS	WEOS	1	CW	2:14	2:19	38	36	YES	PASS		X	RM	
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 22-Jul-23
 Sheet Number 12

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P57/58	NEOS	SEOS	1	KW	10:25	10:30	43	40	YES	PASS		X	AFK	
2	P57/ETI	SEOS	WEOS	2	KW	10:23	10:28	36	35	YES	PASS		X	AFK	
3	P56/58	WEOS	EEOS	1	KW	10:31	10:36	43	41	YES	PASS		X	AFK	
4	P56/57	WEOS	EEOS	1	KW	10:31	10:36	43	41	YES	PASS		X	AFK	
5	P55/57	WEOS	EEOS	1	KW	10:31	10:36	43	41	YES	PASS		X	AFK	
6	P55/ETI	SEOS	5L	2	KW	10:34	10:39	58	55	YES	PASS	X		AFK	
7	P55/ETI	5M	5N	1	KW	10:50	10:55	38	35	YES	PASS	X		AFK	
8	P55/ETI	5N	NEOS	2	KW	10:42	10:47	41	39	YES	PASS		X	AFK	
9	P52/55	EEOS	WEOS	1	KW	10:48	10:53	36	35	YES	PASS		X	AFK	
10	P54/56	EEOS	WEOS	2	KW	10:49	10:54	36	34	YES	PASS		X	AFK	
11	P52/54	3T	SEOS	1	KW	11:14	11:19	31	30	YES	PASS		X	AFK	
12	P52/54	3T	NEOS	2	KW	11:14	11:19	35	34	YES	PASS	X		AFK	
13	P52/53	SEOS	NEOS	2	KW	11:14	11:19	35	34	YES	PASS		X	AFK	
14	P10-52	EEOS	WEOS	1	KW	11:25	11:30	36	33	YES	PASS		X	AFK	
15	P11/52	EEOS	WEOS	1	KW	11:25	11:30	36	33	YES	PASS		X	AFK	
16	P11/53	EEOS	WEOS	1	KW	11:25	11:30	36	33	YES	PASS		X	AFK	
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 22-Jul-23
 Sheet Number 12

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P71/P75	NEOS	SEOS	3	DP	1205	1210	40	38	Y	P		X	DS	
2	P71/P74	SEOS	NEOS	4	DP	1205	1210	40	37	Y	P		X	DS	
3	P71/P73	NEOS	SEOS	1	DP	1214	1219	36	35	Y	P		X	DS	
4	P71/P72	SEOS	NEOS	2	DP	1214	1219	39	37	Y	P		X	DS	
5	P72/P73	WEOS	EEOS	3	DP	1217	1222	40	39	Y	P		X	DS	
6	P70/P71	EEOS	WEOS	1	DP	1623	1628	40	37	Y	P		X	DS	
7	P70/P80	NEOS	SEOS	2	DP	1623	1631	40	37	Y	P		X	DS	
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 27-Jul-23
 Sheet Number 13

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S10/S11	WEOS	EEOS	1	KW	1:45	1:50	36	33	YES	PASS		X	RM	
2	S9/S10	WEOS	EEOS	2	KW	1:48	1:53	32	30	YES	PASS		X	RM	
3	S11/S12	WEOS	EEOS	1	KW	1:53	1:58	35	33	YES	PASS		X	RM	
4	S12/S13	WEOS	EEOS	2	KW	1:53	1:58	36	34	YES	PASS		X	RM	
5	S13/14	WEOS	EEOS	3	KW	1:59	2:04	50	49	YES	PASS		X	RM	
6	S14/15	WEOS	EEOS	4	KW	1:59	2:04	41	40	YES	PASS		X	RM	
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 28-Jul-23
 Sheet Number 14

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S15/16	EEOS	WEOS	1	KW	1201	1206	40	39	YES	PASS		X	RM	
2	S16/17	EEOS	WEOS	2	KW	1158	1203	53	51	YES	PASS		X	RM	
3	S17/18	EEOS	WEOS	3	KW	1159	1204	50	49	YES	PASS		X	RM	
4	S18/19	EEOS	WEOS	4	KW	1200	1205	46	45	YES	PASS		X	RM	
5	S19/20	EEOS	WEOS	2	KW	1205	1210	44	41	YES	PASS		X	RM	
6	S20/21	EEOS	WEOS	3	KW	1206	1211	54	51	YES	PASS		X	RM	
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 29-Jul-23
 Sheet Number 15

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S21/22	EEOS	WEOS	1	KW	1045	1050	46	45	YES	PASS		X	RM	
2	S22/23	EEOS	WEOS	2	KW	1046	1051	44	43	YES	PASS		X	RM	
3	S23/24	EEOS	WEOS	3	KW	1046	1051	44	44	YES	PASS		X	RM	
4	S24/25	EEOS	WEOS	4	KW	1047	1052	44	42	YES	PASS		X	RM	
5	S25/26	EEOS	WEOS	5	KW	1055	1100	40	38	YES	PASS		X	RM	
6															
7															
8															
9															
10															
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12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 30-Jul-23
 Sheet Number 16

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S26/27	EEOS	WEOS	1	CM	1045	1049	35	32	YES	PASS		X	RM	
2	S27/28	EEOS	WEOS	2	CM	1046	1051	38	35	YES	PASS		X	RM	
3	S28/29	EEOS	WEOS	3	CM	1053	1058	37	36	YES	PASS		X	RM	
4	S29/30	EEOS	WEOS	1	CM	1055	1100	39	37	YES	PASS		X	RM	
5	S30/31	EEOS	WEOS	2	CM	1107	1112	35	34	YES	PASS		X	RM	
6	S31/32	EEOS	WEOS	1	CM	1108	1113	38	35	YES	P		X	RM	
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 31-Jul-23
 Sheet Number 17

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P86/87	SEOS	NEOS	1	KW	1100	1105	46	45	YES	PASS		X	RM	
2	P84/86	WEOS	EEOS	2	KW	1102	1107	42	40	YES	PASS		X	RM	
3	P84/87	EEOS	8G	3	KW	1102	1107	38	37	YES	PASS		X	RM	
4	P53/88	SEOS	10T	1	KW	1320	1325	33	32	YES	PASS	X		RM	
5	P53/88	10T	NEOS	2	KW	1320	1325	34	33	YES	PASS		X	RM	
6	P53/78	SEOS	8S	1	KW	1330	1335	40	35	YES	PASS	X		RM	
7	P78/79	NEOS	SEOS	2	KW	1331	1336	34	32	YES	PASS		X	RM	
8	P72/73	SEOS	NEOS	1	KW	1341	1346	36	35	YES	PASS		X	RM	
9	P70/71	SEOS	NEOS	2	KW	1341	1346	40	39	YES	PASS		X	RM	
10	P71/72	SEOS	NEOS	3	KW	1341	1346	44	43	YES	PASS		X	RM	
11	P69/70	WEOS	EEOS	1	KW	1351	1356	46	46	YES	PASS		X	RM	
12	P69/71	WEOS	EEOS	1	KW	1351	1356	46	46	YES	PASS		X	RM	
13	P53/86	SEOS	8T	2	KW	1320	1325	34	33	YES	PASS		X	RM	
14	P61/63	EEOS	WEOS	3	KW	1533	1327	56	55	YES	PASS		X	RM	
15	P62/63	EEOS	WEOS	3	KW	1533	1327	56	55	YES	PASS		X	RM	
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 31-Jul-23
 Sheet Number 18

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P53/78	8S	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
2	P53/77	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
3	P11/77	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
4	P11/75	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS	X		RM	
5	P11/74	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
6	P11/70	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS	X		RM	
7	P11/69	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
8	P11/68	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
9	P11/66	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
10	P11/64	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
11	P11/63	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
12	P11/61	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
13	P11/60	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
14	P11/59	SEOS	NEOS	1	KW	1507	1512	42	41	YES	PASS		X	RM	
15	P61/62	SEOS	NEOS	2	KW	1510	1327	37	35	YES	PASS		X	RM	
16	P18/59	EEOS	13G	3	KW	1513	1518	38	35	YES	PASS	X		RM	
17	P59/60	EEOS	WEOS	5	KW	1531	1526	57	56	YES	PASS		X	RM	
18	P60/61	EEOS	WEOS	4	KW	1531	1526	44	42	YES	PASS		X	RM	
19	P60/62	EEOS	WEOS	4	KW	1531	1526	44	42	YES	PASS		X	RM	
20	P18/59	13G	WEOS	5	KW	1534	1539	36	33	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 19

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P63/64	EEOS	WEOS	1	KW	803	808	49	49	YES	PASS		X	RM	
2	P64/66	EEOS	WEOS	2	KW	803	808	49	47	YES	PASS		X	RM	
3	P65/66	EEOS	WEOS	3	KW	803	808	49	47	YES	PASS		X	RM	
4	P66/68	EEOS	WEOS	3	KW	804	808	49	48	YES	PASS		X	RM	
5	P67/68	EEOS	WEOS	4	KW	804	809	49	48	YES	PASS		X	RM	
6	P68/69	EEOS	WEOS	5	KW	804	809	45	45	YES	PASS		X	RM	
7	P69/72	EEOS	WEOS	5	CM	817	822	45	44	YES	PASS		X	RM	
8	P69/73	EEOS	WEOS	6	KW	817	822	45	44	YES	PASS		X	RM	
9	P70/74	EEOS	WEOS	6	CM	818	823	50	49	YES	PASS		X	RM	
10	P71/74	EEOS	WEOS	6	CM	818	823	50	49	YES	PASS		X	RM	
11	P72/74	EEOS	WEOS	6	CM	818	823	50	49	YES	PASS		X	RM	
12	P73/74	EEOS	WEOS	7	CM	818	823	50	49	YES	PASS		X	RM	
13	P74/75	EEOS	WEOS	8	CM	820	825	52	54	YES	PASS		X	RM	
14	P75/77	EEOS	WEOS	9	KW	821	826	54	54	YES	PASS		X	RM	
15	P78/80	EEOS	WEOS	9	KW	832	837	35	35	YES	PASS		X	RM	
16	P79/80	EEOS	WEOS	10	KW	832	837	35	35	YES	PASS		X	RM	
17	P83/84	8G	WEOS	11	KW	1030	1035	43	42	YES	PASS		X	RM	
18	P84/87	8G	WEOS	12	KW	1030	1035	39	38	YES	PASS		X	RM	
19	P81/83	EEOS	WEOS	12	CM	1106	1111	44	44	YES	PASS		X	RM	
20	P82/83	EEOS	WEOS	11	CM	1106	1111	44	44	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 20

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P28/59	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
2	P28/60	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
3	P29/60	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
4	P29/62	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
5	P30/62	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
6	P30/63	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
7	P31/63	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
8	P31/65	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
9	P32/65	NEOS	SEOS	1	CM	845	850	49	49	YES	PASS		X	RM	
10	P64/65	SEOS	NEOS	2	CM	847	852	41	38	YES	PASS		X	RM	
11	P66/67	NEOS	SEOS	3	CM	854	859	51	50	YES	PASS		X	RM	
12	P76/77	EEOS	WEOS	4	CM	913	918	49	47	YES	PASS		X	RM	
13	P75/76	NEOS	SEOS	5	CM	914	919	48	47	YES	PASS		X	RM	
14	P81/82	NEOS	SEOS	6	CM	926	931	49	46	YES	PASS		X	RM	
15	P84/85	NEOS	SEOS	7	CM	930	935	48	45	YES	PASS		X	RM	
16	P88/89	NEOS	SEOS	8	CM	938	943	47	44	YES	PASS		X	RM	
17	P91/92	NEOS	SEOS	9	CM	939	944	47	46	YES	PASS		X	RM	
18	P89/90	EEOS	SEOS	10	CM	954	959	40	40	YES	PASS		X	RM	
19	P72/78	EEOS	SEOS	11	CM	1008	1013	49	48	YES	PASS		X	RM	
20	P77/79	EEOS	SEOS	11	CM	1008	1013	49	48	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 21

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P80/81	EEOS	WEOS	1	CM	1030	1035	53	52	YES	PASS		X	RM	
2	P81/82	EEOS	WEOS	1	CM	1030	1035	53	52	YES	PASS		X	RM	
3	P83/85	EEOS	WEOS	2	CM	1030	1035	43	42	YES	PASS		X	RM	
4	P83/84	8G	WEOS	2	CM	1030	1035	43	42	YES	PASS		X	RM	
5	P63/65	EEOS	WEOS	2	CM	803	808	49	49	YES	PASS		X	RM	
6	P18/19	SEOS	NEOS	1	CM	1458	1503	38	35	YES	PASS		X	AFK	
7	P87/89	EEOS	WEOS	2	CM	1109	1114	46	45	YES	PASS		X	AFK	
8	P92/93	EEOS	WEOS	1	CM	1121	1126	40	37	YES	PASS		X	AFK	
9	P85/87	EEOS	WEOS	1	CM	1030	1035	39	38	YES	PASS		X	AFK	
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

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REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 22

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P83/P84	EEOS	8G	1	CM	1107	1112	53	40	YES	PASS	X		RM	
2	P93/94	EEOS	8Q	7	CM	1122	1127	44	53	YES	PASS	X		RM	
3	P86/88	EEOS	WEOS	3	CM	1109	1114	46	45	YES	PASS		X	RM	
4	P87/88	EEOS	WEOS	3	CM	1109	1114	46	45	YES	PASS		X	RM	
5	P90/91	EEOS	WEOS	4	CM	1116	1121	44	42	YES	PASS		X	RM	
6	P90/92	EEOS	WEOS	5	CM	1116	1121	44	42	YES	PASS		X	RM	
7	P88/90	EEOS	WEOS	6	CM	1120	1125	44	44	YES	PASS		X	RM	
8	P91/92	EEOS	WEOS	6	CM	1121	1126	40	37	YES	PASS		X	RM	
9	P91/93	EEOS	WEOS	8	CM	1121	126	40	37	YES	PASS		X	RM	
10	P93/94	8Q	WEOS	1	CM	1134	1139	41	40	YES	PASS		X	RM	
11	P89/90	EEOS	WEOS	1	CM	954	959	40	40	YES	PASS		X	RM	
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 23

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P34/68	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
2	P34/68	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
3	P35/59	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
4	P35/73	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
5	P36/73	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
6	P36/74	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
7	P37/74	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
8	P37/76	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
9	P38/76	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
10	P38/77	NEOS	SEOS	1	CM	1150	1155	43	43	YES	PASS		X	RM	
11	P39/79	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
12	P40/79	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
13	P40/80	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
14	P41/80	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
15	P41/82	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
16	P42/82	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
17	P42/83	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
18	P43/83	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
19	P43/85	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	
20	P44/85	NEOS	SEOS	2	CM	1149	1154	40	40	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 02-Aug-23
 Sheet Number 24

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P44/87	NEOS	SEOS	1	CM	1149	1154	40	40	YES	PASS		X	RM	
2	P45/87	NEOS	SEOS	1	CM	1149	1154	40	40	YES	PASS		X	RM	
3	P47/90	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
4	P47/92	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
5	P48/92	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
6	P48/93	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
7	P49/93	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
8	P49/94	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
9	P50/94	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
10	P45/89	NEOS	SEOS	4	CM	1357	1402	41	39	YES	PASS		X	RM	
11	P46/89	NEOS	SEOS	44	CM	1357	1402	41	39	YES	PASS		X	RM	
12	P46/90	NEOS	SEOS	4	CM	1357	1402	41	39	YES	PASS		X	RM	
13	P74/76	EEOS	WEOS	1	CM	820	825	52	51	YES	PASS		X	RM	
14	P19/59	EEOS	WEOS	5	CM	1534	1539	36	33	YES	PASS		X	RM	
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 03-Aug-23
 Sheet Number 25

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P53/86	NEOS	SEOS	1	CM	1149	1154	40	40	YES	PASS		X	RM	
2	P53/84	NEOS	SEOS	1	CM	1149	1154	40	40	YES	PASS		X	RM	
3	P53/83	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
4	P53/81	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
5	P53/80	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
6	P53/91	NEOS	SEOS	2	CM	1356	1401	40	39	YES	PASS		X	RM	
7	P53/93	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
8	P54/93	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
9	P54/94	NEOS	SEOS	3	CM	1352	1157	38	36	YES	PASS		X	RM	
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 07-Aug-23
 Sheet Number 26

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S33/34	EEOS	WEOS	1	CM	1114	1119	42	40	YES	PASS		X	RM	
2	S34/35	EEOS	WEOS	2	CM	1115	1120	35	32	YES	PASS		X	RM	
3	S35/36	EEOS	WEOS	3	CM	1129	1134	33	30	YES	PASS		X	RM	
4	S32/33	EEOS	WEOS	4	CM	1120	1125	34	31	YES	PASS		X	RM	
5															
6															
7															
8															
9															
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17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 09-Aug-23
 Sheet Number 27

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	S36/37	EEOS	WEOS	1	CM	1508	1513	37	35	YES	PASS		X	RM	
2	S37/38	EEOS	WEOS	2	CM	1513	1517	35	35	YES	PASS		X	RM	
3	S38/39	EEOS	WEOS	3	CM	1546	1551	45	44	YES	PASS	X		RM	
4	S38/39	14C	WEOS	4	CM	1524	1529	35	35	YES	PASS		X	RM	
5	S39/40	EEOS	WEOS	1	CM	1619	1624	40	37	YES	PASS		X	RM	
6	S40/41	EEOS	WEOS	1	CM	1622	1627	39	36	YES	PASS		X	RM	
7	S44/45	SEOS	NEOS	2	CM	1624	1629	36	35	YES	PASS		X	RM	
8	S45/46	SEOS	NEOS	3	CM	1626	1631	34	32	YES	PASS		X	RM	
9	S46/47	SEOS	NEOS	4	CM	1628	1633	38	36	YES	PASS		X	RM	
10	S47/48	SEOS	NEOS	1	CM	1631	1636	41	39	YES	PASS		X	RM	
11	S42/43	WEOS	EEOS	2	CM	1636	1641	38	37	YES	PASS		X	RM	
12	S39/42	WEOS	EEOS	3	CM	1638	1643	40	38	YES	PASS		X	RM	
13	S43/48	WEOS	EEOS	1	CM	1643	1648	35	35	YES	PASS		X	RM	
14	S42/48	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
15	S42/47	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
16	S39/47	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
17	S39/46	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
18	S39/45	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
19	S40/45	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
20	S40/44	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	
21	S41/44	WEOS	EEOS	2	CM	1643	1648	35	35	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 12-Aug-23
 Sheet Number 28

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P94/102	EEOS	13X	1	CM	816	821	36	35	YES	PASS	X		RM	
2	P94/102	13X	WEOS	2	CM	817	822	37	34	YES	PASS		X	RM	
3	P102/103	EEOS	WEOS	3	CM	821	826	32	32	YES	PASS		X	RM	
4	P102/104	EEOS	WEOS	4	CM	821	821	32	32	YES	PASS		X	RM	
5	P103/105	EEOS	WEOS	4	CM	854	859	35	32	YES	PASS		X	RM	
6	P104/105	EEOS	WEOS	5	CM	854	859	35	32	YES	PASS		X	RM	
7	P105/106	EEOS	NEOS	5	CM	836	841	41	39	YES	PASS		X	RM	
8	P105/107	EEOS	NEOS	65	CM	836	841	41	39	YES	PASS		X	RM	
9	P103/104	SEOS	NEOS	7	CM	837	842	41	38	YES	PASS		X	RM	
10	P54/102	SEOS	NEOS	7	CM	908	913	39	36	YES	PASS		X	RM	
11	P54/103	SEOS	NEOS	7	CM	908	913	39	36	YES	PASS		X	RM	
12	P54/105	SEOS	NEOS	7	CM	908	913	39	36	YES	PASS		X	RM	
13	P56/105	SEOS	NEOS	8	CM	908	913	39	36	YES	PASS		X	RM	
14	P56/106	SEOS	NEOS	9	CM	908	913	39	36	YES	PASS		X	RM	
15	P101/108	EEOS	WEOS	10	CM	947	952	44	41	YES	PASS		X	RM	
16	P96/97	EEOS	WEOS	11	CM	951	956	48	45	YES	PASS		X	RM	
17	P50/51	EEOS	WEOS	2	CM	959	1004	36	36	YES	PASS		X	RM	
18	P51/95	EEOS	WEOS	1	CM	1002	1007	36	35	YES	PASS		X	RM	
19	P95/96	EEOS	WEOS	3	CM	1011	1016	41	38	YES	PASS		X	RM	
20	P97/98	EEOS	WEOS	4	CM	1014	1019	38	36	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY:
DATE:

AFK
2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 12-Aug-23
 Sheet Number 29

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P98/99	EEOS	WEOS	1	CM	1023	1028	34	33	YES	PASS		X	RM	
2	P99/100	EEOS	WEOS	2	CM	1025	1030	40	39	YES	PASS		X	RM	
3	P100/101	EEOS	WEOS	3	CM	1027	1032	34	37	YES	PASS		X	RM	
4	P115/117	NEOS	SEOS	4	CM	1047	1052	34	34	YES	PASS		X	RM	
5	P110/115	NEOS	SEOS	5	CM	1404	1409	56	54	YES	PASS		X	RM	
6	P111/115	NEOS	SEOS	13	CM	1320	1325	37	37	YES	PASS		X	RM	
7	P108/110	EEOS	WEOS	6	CM	1338	1343	33	33	YES	PASS		X	RM	
8	P108/112	EEOS	WEOS	14	CM	1338	1343	33	33	YES	PASS		X	RM	
9	P108/113	EEOS	WEOS	15	CM	1341	1346	54	53	YES	PASS		X	RM	
10	P109/113	EEOS	WEOS	15	CM	1341	1346	54	53	YES	PASS		X	RM	
11	P109/116	NEOS	SEOS	12	CM	1341	1346	54	53	YES	PASS		X	RM	
12	P114/115	NEOS	SEOS	7	CM	1130	1135	36	35	YES	PASS		X	RM	
13	P110/111	NEOS	SEOS	8	CM	1131	1136	45	43	YES	PASS		X	RM	
14	P112/113	NEOS	SEOS	9	CM	1137	1142	34	34	YES	PASS		X	RM	
15	P108/109	EEOS	WEOS	10	CM	1138	1143	32	31	YES	PASS		X	RM	
16	P110/112	NEOS	SEOS	11	CM	1157	1202	39	39	YES	PASS		X	RM	
17	P111/114	NEOS	SEOS	16	CM	1409	1414	43	43	YES	PASS		X	RM	
18	P113/116	EEOS	WEOS	1	CM	1258	1303	41	40	YES	PASS		X	RM	
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 12-Aug-23
 Sheet Number 30

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P97/107	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
2	P96/107	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
3	P96/105	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
4	P95/105	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
5	P95/104	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
6	P51/104	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
7	P51/102	SEOS	NEOS	1	CM	1414	1419	39	38	YES	PASS		X	RM	
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 15-Aug-23
 Sheet Number 31

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P107/118	WEOS	EEOS	1	CM	1014	1419	39	38	YES	PASS		X	RM	
2	P97/118	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
3	P98/118	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
4	P98/119	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
5	P99/119	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
6	P99/120	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
7	P100/120	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
8	P100/121	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
9	P101/121	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
10	P101/123	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
11	P108/123	SEOS	NEOS	2	CM	1110	1115	41	41	YES	PASS		X	RM	
12	P118/119	WEOS	EEOS	3	CM	1027	1032	39	39	YES	PASS		X	RM	
13	P119/120	WEOS	EEOS	4	CM	1033	1038	39	39	YES	PASS		X	RM	
14	P120/121	WEOS	EEOS	5	CM	1101	1106	37	37	YES	PASS		X	RM	
15	P121/123	WEOS	EEOS	6	CM	1043	1048	33	33	YES	PASS		X	RM	
16	P122/123	NEOS	SEOS	7	CM	1049	1054	39	39	YES	PASS		X	RM	
17	P121/122	WEOS	EEOS	6	CM	1043	1048	33	33	YES	PASS		X	RM	
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 15-Aug-23
 Sheet Number 32

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P117/124	NEOS	SEOS	1	KW	1519	1524	47	46	YES	PASS		X	RM	
2	P124/125	NEOS	SEOS	2	KW	1519	1524	44	42	YES	PASS		X	RM	
3	P125/126	NEOS	SEOS	3	KW	1520	2525	46	46	YES	PASS		X	RM	
4	P125/127	NEOS	SEOS	4	KW	1521	1526	43	42	YES	PASS		X	RM	
5	P127/128	NEOS	SEOS	5	KW	1550	1555	40	39	YES	PASS		X	RM	
6	P128/129	NEOS	SEOS	6	KW	1550	1555	44	43	YES	PASS		X	RM	
7	P129/130	NEOS	SEOS	7	KW	1550	1555	39	38	YES	PASS		X	RM	
8	P130/131	NEOS	SEOS	1	KW	1647	1652	44	42	YES	PASS		X	AFK	
9	P131/132	NEOS	SEOS	2	KW	1647	1652	46	44	YES	PASS		X	AFK	
10	P58/132	NEOS	SEOS	3	KW	1648	1653	46	44	YES	PASS		X	AFK	
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 17-Aug-23
 Sheet Number 33

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P135/136	WEOS	EEOS	1	KW	1437	1524	44	46	YES	PASS		X	RM	
2	P134/135	WEOS	EEOS	2	KW	1436	1524	50	42	YES	PASS		X	RM	
3	P133/134	WEOS	EEOS	3	KW	1436	2525	55	46	YES	PASS		X	RM	
4	P118/133	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
5	P118/134	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
6	P119/134	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
7	P119/135	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
8	P120/135	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
9	P120/136	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
10	P121/136	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
11	P121/137	NEOS	SEOS	4	KW	1438	1443	44	43	YES	PASS		X	RM	
12	P136/137	WEOS	EEOS	5	KW	1445	1450	50	49	YES	PASS		X	RM	
13	P126/137	WEOS	EEOS	6	KW	1448	1453	41	38	YES	PASS		X	RM	
14	P122/125	EEOS	WEOS	7	KW	1506	1511	40	38	YES	PASS		X	RM	
15	P122/124	EEOS	WEOS	7	KW	1506	1511	40	38	YES	PASS		X	RM	
16	P123/124	EEOS	WEOS	7	KW	1506	1511	40	38	YES	PASS		X	RM	
17	P117/123	EEOS	WEOS	7	KW	1506	1511	40	38	YES	PASS		X	RM	
18	P127/137	WEOS	EEOS	8	KW	1509	1514	45	44	YES	PASS		X	RM	
19	P127/136	WEOS	EEOS	8	KW	1509	1514	45	44	YES	PASS		X	RM	
20	P128/136	NEOS	SEOS	1	KW	1516	1521	49	46	YES	PASS		X	RM	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 17-Aug-23
 Sheet Number 34

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	TO			START	FINISH	INITIAL	FINAL			NO	YES		
1	P129/136	WEOS	EEOS	1	KW	1516	1521	49	46	YES	PASS		X	AFK	
2	P130/136	WEOS	EEOS	1	KW	1516	1521	49	42	YES	PASS		X	AFK	
3	P130/11X	WEOS	EEOS	1	KW	1516	1521	49	46	YES	PASS		X	AFK	
4	P131/138	WEOS	EEOS	1	KW	1516	1521	49	43	YES	PASS		X	AFK	
5	P132/138	WEOS	EEOS	1	KW	1516	1521	49	43	YES	PASS		X	AFK	
6	P136/138	EEOS	WEOS	1	KW	1527	1532	48	43	YES	PASS		X	AFK	
7	P56/138	SEOS	NEOS	2	KW	1527	1532	47	43	YES	PASS		X	AFK	
8	P56/136	SEOS	NEOS	2	KW	1527	1532	47	43	YES	PASS		X	AFK	
9	P56/135	SEOS	NEOS	2	KW	1527	1532	47	43	YES	PASS		X	AFK	
10	P56/134	SEOS	NEOS	2	KW	1527	1532	47	43	YES	PASS		X	AFK	
11	P56/133	SEOS	NEOS	2	KW	1527	1532	47	49	YES	PASS		X	AFK	
12	P107/133	WEOS	EEOS	1	KW	1614	1619	36	38	YES	PASS		X	AFK	
13	P106/107	WEOS	EEOS	1	KW	1614	1619	36	38	YES	PASS		X	AFK	
14	P106/107	NEOS	SEOS	2	KW	1616	1621	39	36	YES	PASS		X	AFK	
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25



GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE

Date : 18-Aug-23
 Sheet Number 35

	SEAM, NUMBER	SEAM SECTION *		PRESS GAUGE NUMBER	TECH ID	TIME		PRESSURE		OBS. TEST	RESULTS PASS/P	SEAM COMPLETE		MON	REMARKS
		FROM	NEOS			START	FINISH	INITIAL	FINAL			NO	YES		
1	P56/106	SEOS	NEOS	1	KW	1454	1459	42	40	YES	PASS		X	AFK	
2	P56/105	SEOS	NEOS	1	KW	1454	1459	42	40	YES	PASS		X	AFK	
3	P54/105	SEOS	NEOS	1	KW	1454	1459	42	40	YES	PASS		X	AFK	
4	P54/103	SEOS	NEOS	1	KW	1454	1459	42	40	YES	PASS		X	AFK	
5	P54/102	SEOS	NEOS	1	KW	1454	1459	42	40	YES	PASS		X	AFK	
6	D2/3	EEOS	WEOS	2	KW	1505	1510	51	48	YES	PASS		X	AFK	
7	D1/2	EEOS	WEOS	3	KW	1527	1532	45	44	YES	PASS		X	AFK	
8	D3/4	EEOS	WEOS	4	KW	1524	1529	48	47	YES	PASS		X	AFK	
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF.PT.)

REVIEWED BY: AFK
 DATE: 2023-08-25

Appendix B-9

Geomembrane Defect Summary



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER:	1000-089-08	PROJECT TITLE:	Cell 17
OWNER:	Waste Connections of Canada	CONTRACTOR:	WTL
LOCATION:	Prairie Green IWMF	MATERIAL:	60 mil HDPE

SHEET NUMBER 1

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P1/P2	INT	T	DS		19-Jul-23	20-Jul-23
B	P1/P2	INT	T	DS		19-Jul-23	20-Jul-23
C	ETIE/P1/P3	INT	T	DS		14-Jul-23	20-Jul-23
D	P1/P3/P4	INT	T	DS		20-Jul-23	21-Jul-23
E	P3/P4/P7	INT	T	DS		20-Jul-23	21-Jul-23
F	P4	1.8m W OF EEOS	P	DS		14-Jul-23	21-Jul-23
G	ETIE/P6	3.3m N OF SEOS	PT	DS		14-Jul-23	20-Jul-23
H	ETIE/P3	2.0m N OF SEOS	PT	DS		14-Jul-23	20-Jul-23
J	ETIE/P3	0.6m S OF NEOS	BO	DS		14-Jul-23	20-Jul-23
K	ETIEIN/P1	1m N OF SEOS	DSF1	DS		14-Jul-23	20-Jul-23
L	ETIE/P1	1.5m N OF DSF1	P	DS		14-Jul-23	20-Jul-23
M	ETIE/P1	NEOP	P	DS		14-Jul-23	20-Jul-23
N	NTIE/P1	2.5m W OF EEOP	PT	DS		20-Jul-23	20-Jul-23
P	NTIE/P2	WEOS	PT	DS		20-Jul-23	20-Jul-23
Q	NTIE/P1	14.7m W OF EEOS	PT	DS		20-Jul-23	20-Jul-23
R	NTIE/P1	17.9m W OF EEOS	PT	DS		20-Jul-23	20-Jul-23
S	NTIE/P1	38.1m W OF EEOS	PT	DS		15-Jul-23	20-Jul-23
T	ETI/P10	2.5m N OF SEOS	P	DS		20-Jul-23	20-Jul-23
U	ETIE/P6	20.3m N OF SEOS	BO	DS		20-Jul-23	20-Jul-23
V	P4/P7	33m W OF EEOS	DSF2	DS		20-Jul-23	21-Jul-23
W	NTI/P5	2.7m W OF EEOS	WELD	DS		20-Jul-23	20-Jul-23
X	P10/P11	44.2m N OF SEOS	DSF3	DS		20-Jul-23	21-Jul-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 2023-09-06



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 2

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P/3/6/7	Intersection	PT	LB	2A	15-Jul-23	20-Jul-23
B	P6/7/8	Intersection	PT	LB	2B	20-Jul-23	21-Jul-23
C	P7/8/9	Intersection	PT	LB	2C	20-Jul-23	21-Jul-23
D	P6/10/11	Intersection	PT	LB	2D	20-Jul-23	21-Jul-23
E	P1	17.2m W OF EEOS 4m N OF SEOS	P	LB	2E	15-Jul-23	20-Jul-23
F	P4	P3/4/7	P	LB	2F	15-Jul-23	21-Jul-23
G	P6	5.1m W of EEOS 15m S of NEOS	P	LB	2G	15-Jul-23	21-Jul-23
H	ETI/P6	36.2m S of NEOS	P	LB	2H	15-Jul-23	20-Jul-23
J	P10	49.9m S of NEOS 3.3m W of EEOS	P	LB	2J	15-Jul-23	21-Jul-23
K	P6/8/12	Intersection	PT	LB	2K	17-Jul-23	21-Jul-23
L	P6/12/13	Intersection	PT	LB	2L	20-Jul-23	21-Jul-23
M	P8/9/12	Intersection	PT	LB	2M	20-Jul-23	21-Jul-23
N	P6/13/14	Intersection	PT	LB	2N	20-Jul-23	21-Jul-23
P	P12/13/14	Intersection	PT	LB	2P	20-Jul-23	21-Jul-23
Q	P12/13/14	Intersection	PT	LB	2Q	17-Jul-23	21-Jul-23
R	P13/14/15	Intersection	PT	LB	2R	20-Jul-23	21-Jul-23
S	P6/11/15	Intersection	PT	LB	2S	17-Jul-23	21-Jul-23
T	-	-	-	-	-	-	-
U	P11/15/16	Intersection	PT	LB	2U	20-Jul-23	21-Jul-23
V	P11/16/18	Intersection	PT	LB	2V	20-Jul-23	21-Jul-23
W	P16/17/18	Intersection	PT	LB	2W	20-Jul-23	21-Jul-23
X	P15/16/17	Intersection	PT	LB	2X	20-Jul-23	21-Jul-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER:	1000-089-08	PROJECT TITLE:	Cell 17
OWNER:	Waste Connections of Canada	CONTRACTOR:	WTL
LOCATION:	Prairie Green IWMF	MATERIAL:	60 mil HDPE

SHEET NUMBER 3

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	ETI/P10	30.2m N of SEOS	IO	DS		17-Jul-23	21-Jul-23
B	ETI/P10	38m N of SEOS	WS	DS		20-Jul-23	21-Jul-23
C	ETI/P10	53.5m N of SEOS	IO	DS		17-Jul-23	20-Jul-23
D	ETI/P10	55.8m N of SEOS	WS	DS		17-Jul-23	20-Jul-23
E	NTI/P5/P1	INT	P	DS		18-Jul-23	20-Jul-23
F	P3/P6	3m W of EEOS	IO	DS		20-Jul-23	21-Jul-23
G	P8/P12	6m W of EEOS	DSF-4	DS	DSF-4	20-Jul-23	21-Jul-23
H	P12/P14	3m W of EEOS	BO	DS		17-Jul-23	21-Jul-23
J	P15/P16	3m W of EEOS	DSF-5	DS	DSF-5	18-Jul-23	21-Jul-23
K	P17/P18	21.8m W of EEOS	DSF-6	DS	DSF-6	18-Jul-23	21-Jul-23
L	P13/P15	18.3m W of EEOS	BO	DS		17-Jul-23	21-Jul-23
M	P20/P21	14.5m W of EEOS	DSF - 7	DS	DSF-7	20-Jul-23	21-Jul-23
N	P30/P31	8.6m W of EEOS	DSF - 8	DS	DSF-8	20-Jul-23	2-Aug-23
P	P32/P33	9.6m W of EEOS	DSF - 9	DS	DSF-9	20-Jul-23	2-Aug-23
Q	P19/P27	2.3m N of SEOS	PT	DS		20-Jul-23	20-Jul-23
R	P36/P37	23m W of EEOS	DSF - 10	DS	DSF-10	20-Jul-23	2-Aug-23
S	P48/P49	6m W of EEOS	DSF - 11	DS	DSF-11	20-Jul-23	2-Aug-23
T	P52/54	11.9m N of SEOS	WS	DS		22-Jul-23	22-Jul-23
U							
V							
W							
X							

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRREGULARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER:	1000-089-08	PROJECT TITLE:	Cell 17
OWNER:	Waste Connections of Canada	CONTRACTOR:	WTL
LOCATION:	Prairie Green IWMF	MATERIAL:	60 mil HDPE

SHEET NUMBER 4

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P17/18/19	INT	PT	LB		20-Jul-23	21-Jul-23
B	P16/18	16.1m W OF EEOS	BO	LB		17-Jul-23	21-Jul-23
C	P11/18	1.7m N OF SEOS	PT	LB		20-Jul-23	21-Jul-23
D	P1/4/5	INT	PT	LB		20-Jul-23	20-Jul-23
E	P4/5/20	INT	PT	LB		20-Jul-23	20-Jul-23
F	P4/7/20	INT	PT	LB		20-Jul-23	20-Jul-23
G	P7/20/21	INT	PT	LB		20-Jul-23	20-Jul-23
H	P7/9/21	INT	PT	LB		20-Jul-23	20-Jul-23
J	P9/21/22	INT	PT	LB		20-Jul-23	20-Jul-23
K	P9/12/22	INT	PT	LB		20-Jul-23	20-Jul-23
L	P12/22/23	INT	PT	LB		20-Jul-23	20-Jul-23
M	P12/14/23	INT	PT	LB		20-Jul-23	20-Jul-23
N	P14/23/24	INT	PT	LB		20-Jul-23	20-Jul-23
P	P14/15/24	INT	PT	LB		20-Jul-23	20-Jul-23
Q	P15/24/25	INT	PT	LB		20-Jul-23	20-Jul-23
R	P15/17/25	INT	PT	LB		20-Jul-23	20-Jul-23
S	P17/25/26	INT	PT	LB		20-Jul-23	20-Jul-23
T	P17/19/26	INT	PT	LB		20-Jul-23	20-Jul-23
U	P19/26/27	INT	PT	LB		20-Jul-23	20-Jul-23
V	P14	2.8m S OF NEOS at EOS	D	LB		17-Jul-23	21-Jul-23
W	P6/11/15	INT	PT	LB		17-Jul-23	21-Jul-23
X							

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWFM MATERIAL: 60 mil HDPE

SHEET NUMBER 5

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P12/14	18.3m E OF WEOS	PT	LB		20-Jul-23	21-Jul-23
B	P52/53/54	Intersection	PT	RM		21-Jul-23	21-Jul-23
C	P10/11/52	Intersection	PT	RM		21-Jul-23	21-Jul-23
D	P11/52/53	Intersection	PT	RM		21-Jul-23	21-Jul-23
E	FTI/52	11.1m N OF SEOS	PT	RM		21-Jul-23	21-Jul-23
F	60/P12	3m W OF EEOP	DSX12	AFK		21-Jul-23	21-Jul-23
G	P55/56	10m N OF SEOS	DSF13	AFK		21-Jul-23	22-Jul-23
H	P52/55/56	Intersection	PT	AFK		21-Jul-23	22-Jul-23
J	P65	0.5m S +5m E OF EEOP	D	AFK		COVERED BY 5H	
K	P57/ETI	NEOS TO 5m S	IO	AFK		21-Jul-23	22-Jul-23
L	P55/ETI	22m N OF SEOS	IO	AFK		21-Jul-23	22-Jul-23
M	P55/ETI	30m N OF SEOS	IO	AFK		21-Jul-23	22-Jul-23
N	P55/ETI	5m S OF NEOS	O	AFK		22-Jul-23	22-Jul-23
P	P52/55/ETI	Intersection	PT	AFK		22-Jul-23	22-Jul-23
Q	P57/ETI	5m N OF SEOS	IO	AFK		22-Jul-23	22-Jul-23
R	P56/57/58	Intersection	PT	LB		22-Jul-23	22-Jul-23
S	P55/56/57	Intersection	PT	LB		22-Jul-23	22-Jul-23
T	P61/62	1m W OF EEOS	D	RM		31-Jul-23	2-Aug-23
U	P61/62	1m W OF EEOS	D	RM		31-Jul-23	2-Aug-23
V	P65/66/67	0.5m N OF INT	D	RM		31-Jul-23	2-Aug-23
W	P62/63	0.5m N OF P63	D	RM		31-Jul-23	2-Aug-23
X							

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 6

DEFECT CODE	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
		DEFECT LOCATION DESCRIPTION					REPAIR DATE	TEST DATE
A	NTI/P1	13m W OF 1S		PT	AFK		18-Jul-23	20-Jul-23
B	P12/14	2m W OF 31T		PT	AFK		20-Jul-23	21-Jul-23
C	ETI/P52	2.4m N OF SEOS		WS	DS		21-Jul-23	21-Jul-23
D	P12/14	15m E OF WEOS		PT	LB		21-Jul-23	21-Jul-23
E	P12/14	8m E of WEOP 5m N of SEOP		PT	LB		21-Jul-23	21-Jul-23
F	P6/8	4m S OF NEOS		PT	LB		21-Jul-23	21-Jul-23
G	P12/14	5m W OF EEOS		PT	LB		21-Jul-23	21-Jul-23
H	P12/14	11m E OF WEOS		PT	AFK		21-Jul-23	21-Jul-23
J	P61/62/63	INT		T	AFK		2-Aug-23	2-Aug-23
K	P60/61/62	INT		T	AFK		2-Aug-23	2-Aug-23
L	P63/64/65	INT		T	AFK		2-Aug-23	2-Aug-23
M	P64/65/66	INT		T	AFK		2-Aug-23	2-Aug-23
N	P63/64	20m W OF EEOS		DSF15	AFK		2-Aug-23	2-Aug-23
P	P64/66	20m W OF EEOS		DSF14	AFK		2-Aug-23	2-Aug-23
Q	P69/70/71	INT		T	AFK		2-Aug-23	2-Aug-23
R	P70/71/74	INT		T	AFK		2-Aug-23	2-Aug-23
S	P71/72/74	INT		T	AFK		2-Aug-23	2-Aug-23
T	P69/71/72	INT		T	AFK		2-Aug-23	2-Aug-23
U	P69/72/73	INT		T	AFK		2-Aug-23	2-Aug-23
V	P72/73/74	INT		T	AFK		2-Aug-23	2-Aug-23
W	P74/75/76	INT		T	AFK		2-Aug-23	2-Aug-23
X	P75/76/77	INT		T	AFK		2-Aug-23	2-Aug-23

CO - CHANGE OF OVERLAP CR - CREASE D - INSTALLATION DAMAGE DS - # - DESTRUCTIVE TEST NUMBER PT - PRESSURE TEST CUT SI - SOIL SURFACE IRRECLARITY WS - WELDER RESTART INT - Intersection WEOS - west end of seam NEOS - north end of seam EEOS - east end of seam SEOS - south end of seam	EE - EARTHWORK EQUIPMENT DAMAGE EXT - EXTENSION FM - FISHMOUTH FS - FAILED SEAM LENGTH FTS - FIELD TEST STRIP HT - HEAT TACK BURN IO - INSUFFICIENT OVERLAP (UNDER SPEC) MD - MAUFACTURER/DELIVERY DAMAGE T - THREE PANEL INTERSECTION WR - WRINKLE SEOP - south end of panel NEOP - north end of panel WEOP - west end of panel EEOP - east end of panel
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REVIEWED BY: AFK
 DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 7

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	ETI/P52	20m S of NEOS	C	AFK		20-Jul-23	21-Jul-23
B	ETI/P52	7m S of NEOS	PT	AFK		20-Jul-23	21-Jul-23
C	P12/14	10m E of WEOS	PT	AFK		Covered by 6H	
D	P10/52/ETI	Intersection	IO	AFK		20-Jul-23	21-Jul-23
E	P52/ETI	Intersection	PT	RM		22-Jul-23	21-Jul-23
F	P55/56	1m N of SEOS	PT	RM		22-Jul-23	22-Jul-23
G	P57/ETI	0.3m S of 5K	PT	AFK		22-Jul-23	22-Jul-23
H	P70/71	1m N of INT	D	RM		31-Jul-23	3-Aug-23
J	P78/79/80	Intersection	T	RM		3-Aug-23	3-Aug-23
K	P78/79/80	1m N of INT	D	RM		31-Jul-23	3-Aug-23
L	P77/78/79	Intersection	T	RM		3-Aug-23	3-Aug-23
M	P54/88/90	Intersection	IO	RM		31-Jul-23	3-Aug-23
N	P53/54/94	Intersection	T	RM		3-Aug-23	3-Aug-23
P	P54/94/93	Intersection	T	RM		3-Aug-23	4-Aug-23
Q	P53/93/91	Intersection	T	RM		3-Aug-23	4-Aug-23
R	P53/91/90	Intersection	T	RM		3-Aug-23	4-Aug-23
S	P53/88/86	Intersection	T	RM		3-Aug-23	4-Aug-23
T	P53/86/84	Intersection	T	RM		3-Aug-23	3-Aug-23
U	P53/84/83	Intersection	T	RM		3-Aug-23	3-Aug-23
V	P53/83/81	Intersection	T	RM		3-Aug-23	3-Aug-23
W	P53/81/80	Intersection	T	RM		3-Aug-23	3-Aug-23
X	P53/78/77	Intersection	T	RM		3-Aug-23	3-Aug-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 8

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P72/73	3.5m N of SEOS	DSF 16	AFK		2-Aug-23	3-Aug-23
B	P78/79	3.5m N of SEOS	DSF 17	AFK		3-Aug-23	3-Aug-23
C	P77/79	20m W of EEOS	DSF 18	AFK		2-Aug-23	2-Aug-23
D	P81/82/83	INT	T	AFK		2-Aug-23	2-Aug-23
E	P80/81/82	INT	T	AFK		2-Aug-23	2-Aug-23
F	P83/84/85	INT	T	AFK		2-Aug-23	2-Aug-23
G	P84/87	10m W of EEOS	IO	AFK		31-Jul-23	3-Aug-23
H	P85/87	2m W of EEOS	DSF 19	AFK		2-Aug-23	2-Aug-23
J	P84/85/87	INT	T	AFK		2-Aug-23	2-Aug-23
K	P88/89/90	INT	T	AFK		2-Aug-23	2-Aug-23
L	P86/87/88	INT	T	AFK		3-Aug-23	4-Aug-23
M	P89/90	2.5m W of EEOS	DSF 20	AFK		2-Aug-23	2-Aug-23
N	P90/91/92	INT	T	AFK		2-Aug-23	2-Aug-23
P	P91/92/93	ITN	T	AFK		2-Aug-23	2-Aug-23
Q	P93/94	36m E of WEOS	WS	AFK		2-Aug-23	2-Aug-23
R	P53/80	1m S of NEOS	IO	AFK		31-Jul-23	3-Aug-23
S	P53/78	4m N of SEOS	IO	AFK		31-Jul-23	3-Aug-23
T	P53/86	2m N of SEOS	IO	AFK		31-Jul-23	4-Aug-23
U	P61	6m S+7m W of EOP	D	AFK		31-Jul-23	4-Aug-23
V	P11/61	3m N of SEOS	DSF 21	AFK		2-Aug-23	3-Aug-23
W	P27/28/59	INT	T	AFK		2-Aug-23	2-Aug-23
X	P28/59/60	INT	T	AFK		2-Aug-23	2-Aug-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 9

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P19/27/59	Intersection	T	AFK		31-Jul-23	2-Aug-23
B	P28/29/60	INtersection	T	AFK		2-Aug-23	2-Aug-23
C	P29/60/62	INtersection	T	AFK		2-Aug-23	2-Aug-23
D	P29/30/61	INtersection	T	AFK		2-Aug-23	2-Aug-23
E	P30/62/63	INtersection	T	AFK		2-Aug-23	2-Aug-23
F	P30/31/61	INtersection	T	AFK		2-Aug-23	2-Aug-23
G	P31/63/65	INtersection	T	AFK		2-Aug-23	2-Aug-23
H	P31/32/65	INtersection	T	AFK		2-Aug-23	2-Aug-23
J	P66/67/68	INtersection	T	AFK		2-Aug-23	2-Aug-23
K	P65/66/67	INtersection	T	AFK		2-Aug-23	2-Aug-23
L	P33/67	NEOS TO SEOS	IO	AFK		31-Jul-23	2-Aug-23
M	P33/34/68	Intersection	T	AFK		2-Aug-23	2-Aug-23
N	P47/90	2.0m S OF NEOS	IO	AFK		2-Aug-23	2-Aug-23
P	P34/69	3m S OF NEOS	IO	AFK		31-Jul-23	2-Aug-23
Q	P18/19/59	Intersection	T	AFK		2-Aug-23	2-Aug-23
R							
S							
T							
U							
V							
W							
X							

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 10

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P11/53/77	INT	T	RM		3-Aug-23	3-Aug-23
B	P11/75/77	INT	T	RM		3-Aug-23	3-Aug-23
C	P11/74/75	INT	T	RM		3-Aug-23	3-Aug-23
D	P11/70/74	INT	T	RM		3-Aug-23	3-Aug-23
E	P11/69/70	INT	T	RM		3-Aug-23	3-Aug-23
F	P11/68/69	INT	T	RM		3-Aug-23	3-Aug-23
G	P11/66/68	INT	T	RM		3-Aug-23	3-Aug-23
H	P11/64/66	INT	T	RM		3-Aug-23	3-Aug-23
J	P11/63/64	INT	T	RM		3-Aug-23	3-Aug-23
K	P11/61/63	INT	T	RM		3-Aug-23	3-Aug-23
L	P11/60/61	INT	T	RM		3-Aug-23	3-Aug-23
M	P11/59/60	INT	T	RM		3-Aug-23	3-Aug-23
N	P11/18/59	INT	T	RM		31-Jul-23	3-Aug-23
P	P84/86/87	INT	T	RM		31-Jul-23	4-Aug-23
Q	P87/88/89	INT	T	RM		2-Aug-23	2-Aug-23
R	P88/89/90	0.5m from INT	D	RM		2-Aug-23	2-Aug-23
S	P89	0.5m from EEOS	D	RM		2-Aug-23	2-Aug-23
T	P53/88	EEOS of 88	IO	RM		31-Jul-23	4-Aug-23
U	P34/68/69	INT	T	RM		2-Aug-23	2-Aug-23
V	P34/35/69	INT	T	RM		2-Aug-23	4-Aug-23
W	P35/69/73	INT	T	RM		2-Aug-23	2-Aug-23
X	P35/36/73	INT	T	RM		2-Aug-23	2-Aug-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: WTL
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 11

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P68	1m S + 1M W of EEOP	D	AFK		31-Jul-23	3-Aug-23
B	P53/90	3m N of WEOS	PT	AFK		3-Aug-23	4-Aug-23
C	P53/91	.1m S of NEOS	PT	LB		3-Aug-23	4-Aug-23
D	P96/97	10m W of EEOS	DSF22	AFK		12-Aug-23	12-Aug-23
E	P102/103/104	INT	T	AFK		12-Aug-23	12-Aug-23
F	P103/104/105	INT	T	AFK		12-Aug-23	12-Aug-23
G	P105/106/107	INT	T	AFK		12-Aug-23	12-Aug-23
H	P105	3m W + 3m N of EEOP	D	AFK		2-Aug-23	12-Aug-23
J	P94	28.4m W of EEOS	WR	RM		12-Aug-23	9-Aug-23
K	S46	At EEOP + 2m N of NEOP	WR	RM		9-Aug-23	9-Aug-23
L	S46	2m S of NEOS	IO	RM		9-Aug-23	9-Aug-23
M	P92	28.4m W of EEOS	D	RM		9-Aug-23	9-Aug-23
N	S39	22.7m E of WEOP	D	RM		9-Aug-23	9-Aug-23
P	P122/123	INT	T	RM		14-Aug-23	15-Aug-23
Q	P118	1m W of EEOP	D	RM		17-Aug-23	2-Aug-23
R	P97/107/118	INT	T	RM		15-Aug-23	15-Aug-23
S	P97/98/118	INT	T	RM		15-Aug-23	15-Aug-23
T	P101/121/123	INT	T	RM		15-Aug-23	15-Aug-23
U	P101/108/123	INT	T	RM		15-Aug-23	15-Aug-23
V	P133/134	4.5m W of EEOS	DSF27	AFK		17-Aug-23	17-Aug-23
W	P135/136	2m E of WEOS	DSF28	AFK		17-Aug-23	17-Aug-23
X	P130/136/138	INT	T	AFK		17-Aug-23	17-Aug-23

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 06-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER:	1000-089-08	PROJECT TITLE:	Cell 17
OWNER:	Waste Connections of Canada	CONTRACTOR:	Titan Environmental
LOCATION:	Prairie Green IWMF	MATERIAL:	60 mil HDPE

SHEET NUMBER 12

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P36/73/74	Intersection	T	RM		2023-08-02	2023-08-02
B	P36/37/74	Intersection	T	RM		2023-08-02	2023-08-02
C	P37/74/76	Intersection	T	RM		2023-08-02	2023-08-02
D	P37/38/76	Intersection	T	RM		2023-08-02	2023-08-02
E	P38//76/77	Intersection	T	RM		2023-08-02	2023-08-02
F	P38/39/77	Intersection	T	RM		2023-08-02	2023-08-02
G	P39/40/79	Intersection	T	RM		2023-08-02	2023-08-02
H	P40/79/80	Intersection	T	RM		2023-08-02	2023-08-02
J	P40/41/80	Intersection	T	RM		2023-08-02	2023-08-02
K	P41/80/82	Intersection	T	RM		2023-08-02	2023-08-02
L	P41/80/82	Intersection	T	RM		2023-08-02	2023-08-02
M	P42/82/83	Intersection	T	RM		2023-08-02	2023-08-02
N	P42/43/83	Intersection	T	RM		2023-08-02	2023-08-02
P	P43/83/85	Intersection	T	RM		2023-08-02	2023-08-02
Q	P43/44/85	Intersection	T	RM		2023-08-02	2023-08-02
R	P44/85/87	Intersection	T	RM		2023-08-02	2023-08-02
S	P44/45/87	Intersection	T	RM		2023-08-02	2023-08-02
T	P45/87/89	Intersection	T	RM		2023-08-02	2023-08-02
U	P45/46/89	Intersection	T	RM		2023-08-02	2023-08-02
V	P46/89/90	Intersection	T	RM		2023-08-02	2023-08-02
W	P46/47/90	Intersection	T	RM		2023-08-02	2023-08-02
X	P47/90/92	Intersection	T	RM		2023-08-02	2023-08-02

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 13

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P47/48/92	Intersection	T	RM		2023-08-02	2023-08-02
B	P48/92/93	Intersection	T	RM		2023-08-02	2023-08-02
C	P48/49/93	Intersection	T	RM		2023-08-02	2023-08-02
D	P49/93/94	Intersection	T	RM		2023-08-02	2023-08-02
E	P49/50/94	Intersection	T	RM		2023-08-02	2023-08-02
F	P80/81	17m W of EEOS	DEFECT	RM		2023-07-31	2023-08-03
G	P18/59	13m E of WEOS	BO	RM		2023-07-31	2023-08-02
H	P84	7.5m E of WEOS	DEFECT	RM		2023-08-02	2023-08-02
J	P56/105/106	Intersection	T	RM		2023-08-12	2023-08-12
K	P54/56/105	Intersection	T	RM		2023-08-12	2023-08-12
L	P54/103/105	Intersection	T	RM		2023-08-12	2023-08-12
M	P54/102/103	Intersection	T	RM		2023-08-12	2023-08-12
N	P54/94/102	Intersection	T	RM		2023-08-12	2023-08-12
P	P50/94/102	Intersection	T	RM		2023-08-09	2023-08-12
Q	P50/51/102	Intersection	T	RM		2023-08-09	2023-08-12
R	P51/102/104	Intersection	T	RM		2023-08-12	2023-08-12
S	P52/95/104	Intersection	T	RM		2023-08-12	2023-08-12
T	P95/104/105	Intersection	T	RM		2023-08-12	2023-08-12
U	P95/96/105	Intersection	T	RM		2023-08-12	2023-08-12
V	P96/105/107	Intersection	T	RM		2023-08-09	2023-08-12
W	P96/97/107	Intersection	T	RM		2023-08-12	2023-08-12
X	P84/102	28.4m W of EEOS	IO	RM		2023-08-09	2023-08-09

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 14

DEFECT CODE	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
		DEFECT LOCATION DESCRIPTION					REPAIR DATE	TEST DATE
A	P24/102	2m S of NEOS		DSF24	AFK		2023-08-12	2023-08-12
B	S38/39	21m W of EEOS		WR	AFK		2023-08-09	2023-08-09
C	S38/*39	4m W of 14B		WR	AFK		2023-08-09	2023-08-09
D	P92	10m N of 13X		WR	AFK		2023-08-10	2023-08-10
E	P91	20m N of 13X		WR	AFK		2023-08-10	2023-08-02
F	P107	2m N + 1.5m W of EOP		D	AFK		2023-08-12	2023-08-12
G	P101/108	10m W of EEOS		DSF25	AFK		2023-08-12	2023-08-12
H	P104	2m S of NEOS		D	LB		2023-08-10	2023-08-12
J	P108/110/117	Intersection		T	LB		2023-08-12	2023-08-12
K	P108/109/113	Intersection		T	LB		2023-08-12	2023-08-12
L	P108/112/113	Intersection		T	LB		2023-08-12	2023-08-12
M	P109/113/116	Intersection		T	LB		2023-08-12	2023-08-12
N	P110/111/115	Intersection		T	LB		2023-08-12	2023-08-12
P	P11/114/115	Intersection		T	LB		2023-08-12	2023-08-12
Q	P101/108	WEOS		PT	LB		2023-08-12	2023-08-12
R	P84/94/102	Intersection		T	LA		2023-08-12	2023-08-12
S	P100/101/121	Intersection		T	AFK		2023-08-12	2023-08-12
T	P100/120/121	Intersection		T	AFK		2023-08-15	2023-08-17
U	P99/100/120	Intersection		T	AFK		2023-08-15	2023-08-17
V	P99/119/120	Intersection		T	AFK		2023-08-15	2023-08-17
W	P98/99/119	Intersection		T	AFK		2023-08-15	2023-08-17
X	P98/118/119	Intersection		IO	AFK		2023-08-15	2023-08-17

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 15

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P124/125	10m S of NEOS	DSF26	AFK		2023-08-17	2023-08-17
B	P124/125	WEOS	PT	AFK		2023-08-19	2023-08-20
C	P106/107/133	Intersection	T	RM		2023-08-18	2023-08-19
D	P118/133/134	Intersection	T	RM		2023-08-17	2023-08-17
E	P118/119/134	Intersection	T	RM		2023-08-17	2023-08-17
F	P119/134/135	Intersection	T	RM		2023-08-17	2023-08-17
G	P119/120/135	Intersection	T	RM		2023-08-17	2023-08-17
H	P120/135/136	Intersection	T	RM		2023-08-17	2023-08-17
J	P120/121/136	Intersection	T	RM		2023-08-17	2023-08-17
K	P121/136/137	Intersection	T	RM		2023-08-17	2023-08-17
L	P121/122/137	Intersection	T	RM		2023-08-17	2023-08-17
M	P125/126/137	Intersection	T	RM		2023-08-17	2023-08-17
N	P127/136/137	Intersection	T	RM		2023-08-17	2023-08-17
P	P127/128/136	Intersection	T	RM		2023-08-17	2023-08-17
Q	P127/128/136	Intersection	T	RM		2023-08-17	2023-08-17
R	P128/129/136	Intersection	T	RM		2023-08-17	2023-08-17
S	P129/130/136	Intersection	T	RM		2023-08-17	2023-08-17
T	P131/132/138	Intersection	T	RM		2023-08-17	2023-08-17
U	P58/132/138	Intersection	T	RM		2023-08-17	2023-08-17
V	P56/58/138	Intersection	T	RM		2023-08-17	2023-08-17
W	P56/138/136	Intersection	T	RM		2023-08-17	2023-08-17
X	P56/135/136	Intersection	T	RM		2023-08-17	2023-08-17

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 1000-089-08 PROJECT TITLE: Cell 17
 OWNER: Waste Connections of Canada CONTRACTOR: Titan Environmental
 LOCATION: Prairie Green IWMF MATERIAL: 60 mil HDPE

SHEET NUMBER 16

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM,PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	P56/134/135	Intersection	T	RM		2023-08-17	2023-08-17
B	P56/133/134	Intersection	T	RM		2023-08-17	2023-08-17
C	P56/106/133	Intersection	T	RM		2023-08-17	2023-08-17
D	P134	.3m from EEOP	T	RM		2023-08-17	2023-08-17
E	P122/124/125	Intersection	T	RM		2023-08-17	2023-08-17
F	P122/123/124	Intersection	T	RM		2023-08-17	2023-08-17
G	P117/123/124	Intersection	T	RM		2023-08-17	2023-08-17
H	P108/110/115/117/123	Intersection	T	RM		2023-08-17	2023-08-17
J	P107/118/133	Intersection	T	RM		2023-08-17	2023-08-17
K	D1/129/130	Intersection	T	RM		2023-08-18	2023-08-19
L	D1/129/130	Intersection	T	RM		2023-08-18	2023-08-19
M	D1/128/129	Intersection	T	RM		2023-08-18	2023-08-19
N	D1/127/128	Intersection	T	RM		2023-08-18	2023-08-19
P	D1/126/127	Intersection	T	RM		2023-08-18	2023-08-19
Q	D1/126/137	Intersection	T	RM		2023-08-18	2023-08-19
R	D1/136/137	Intersection	T	RM		2023-08-18	2023-08-19
S	D1/D2/136	Intersection	T	RM		2023-08-18	2023-08-19
T	D2/135/136	Intersection	T	RM		2023-08-18	2023-08-19
U	D2/D3/135	Intersection	T	RM		2023-08-18	2023-08-19
V	D3/134/135	Intersection	T	RM		2023-08-18	2023-08-19
W	D3/D4/134	Intersection	T	RM		2023-08-18	2023-08-19
X	D4/133/134	Intersection	T	RM		2023-08-18	2023-08-19

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23



GEOMEMBRANE DEFECT LOG

PROJECT NUMBER:	1000-089-08	PROJECT TITLE:	Cell 17
OWNER:	Waste Connections of Canada	CONTRACTOR:	Titan Environmental
LOCATION:	Prairie Green IWMF	MATERIAL:	60 mil HDPE

SHEET NUMBER 17

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	MON.	REMARKS	**	**
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION				REPAIR DATE	TEST DATE
A	D4/133/134	Intersection	T	RM		2023-08-18	2023-08-19
B	D3/D4/134	Intersection	T	RM		2023-08-18	2023-08-19
C	D3/134/135	Intersection	T	RM		2023-08-18	2023-08-19
D	D2/D3/135	Intersection	T	RM		2023-08-18	2023-08-19
E	D2/135/136	Intersection	T	RM		2023-08-18	2023-08-19
F	D1/D2/136	Intersection	T	RM		2023-08-18	2023-08-19
G	D1/136/138	Intersection	T	RM		2023-08-18	2023-08-19
H	D1/131/138	Intersection	T	RM		2023-08-19	2023-08-19
J	D3	3.5m E of WEOP	D	RM		2023-08-19	2023-08-20
K	D4/133	26m E of WEOS	DSX29	RM		2023-08-18	2023-08-19
L							
M							
N							
P							
Q							
R							
S							
T							
U							
V							
W							
X							

AD- ANIMAL RELATED DAMAGE

B - UNDISPERSED RESIN BEAD

BO - FUSION WELDER BURN

CO - CHANGE OF OVERLAP

CR - CREASE

D - INSTALLATION DAMAGE

DS - # - DESTRUCTIVE TEST NUMBER

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRRECLARITY

WS - WELDER RESTART

INT - Intersection

WEOS - west end of seam

NEOS - north end of seam

EEOS - east end of seam

SEOS - south end of seam

SEOP - south end of panel

NEOP - north end of panel

WEOP - west end of panel

EEOP - east end of panel

EE - EARTHWORK EQUIPMENT DAMAGE

EXT - EXTENSION

FM - FISHMOUTH

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP (UNDER SPEC)

MD - MAUFACTURER/DELIVERY DAMAGE

T - THREE PANEL INTERSECTION

WR - WRINKLE

REVIEWED BY: AFK

DATE: 20-Sep-23

Appendix B-10

Geomembrane Repair Summary



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWFMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX-2

NO.	TIME	TECH. ID
TX-2	8:30	GM

DATE July 14, 2023

SHEET NUMBER 1

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION (m)	WELD TECH.	MON.	REMARKS
1	1L	2023-07-14	8:08	G&W	0.5	GM	LB	
2	1J	2023-07-14	8:08	G&W	0.3	GM	LB	
3	1C	2023-07-14	10:05	P	1.0 X 0.5	GM	LB	
4	1M	2023-07-14	10:35	P	1.0 X 2.0	GM	LB	
5								
6								
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17								
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25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 18-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
CONTRACTOR: WTL

MACHINE NUMBER PX-2

NO.	TIME	TECH. ID
TX5	7:30	GM
TX6	12:55	GM

DATE July 17, 2023

SHEET NUMBER 3

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	4W	2023-07-17	8:30	P	1.2 X 1.2	GM	LB	
2	2V	2023-07-17	8:55	P	1.0 X 2.5	GM	LB	
3	3C	2023-07-17	9:40	P	0.5 X 2.5	GM	LB	
4	3D	2023-07-17	9:40	P	0.5 X 2.5	GM	LB	
5	3A	2023-07-17	11:30	P	0.3 X 0.3	GM	LB	
6	3L	2023-07-17	14:10	P	0.5 X 0.5	GM	LB	
7	4V	2023-07-17	14:17	P	0.5 X 0.5	GM	LB	
8	2Q	2023-07-17	14:20	P	0.5 X 0.5	GM	LB	
9	3H	2023-07-17	14:25	P	0.5 X 0.5	GM	LB	
10	4B	2023-07-17	14:15	P	0.5 X 0.5	GM	LB	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM
P - PATCH

G & W - GRIND WELD
C - CAP

REVIEWED BY: AFK DATE: 18-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX-2

NO.	TIME	TECH. ID
TX-7	7:15	GM
TX-8	13:00	GM

DATE July 18 2023

SHEET NUMBER 4

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	3E	2023-07-18	11:00	P	1.7 X 2.9	GM	LB	
2	1X	2023-07-18	13:50	P	0.8 X 1.4	GM	LB	
3	3J	2023-07-18	14:30	P	1.5 X 0.8	GM	LB	
4	3K	2023-07-18	16:15	P	0.8 X 1.4	GM	LB	
5	6A	2023-07-18	10:30	P	0.6 x1.0	GM	LB	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: _____



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
CONTRACTOR: WTL

MACHINE NUMBER PX2

NO.	TIME	TECH. ID
TX-10	9:10	GM
TX-11	13:05	GM

DATE July 20, 2023

SHEET NUMBER 5

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	4T	2023-07-20	9:30	G&W	0.3	GM	LB	
2	4S	2023-07-20	9:32	G&W	0.3	GM	LB	
3	4R	2023-07-20	9:35	G&W	0.3	GM	LB	
4	4Q	2023-07-20	9:37	G&W	0.3	GM	LB	
5	4P	2023-07-20	9:40	G&W	0.3	GM	LB	
6	4N	2023-07-20	9:45	G&W	0.3	GM	LB	
7	4M	2023-07-20	9:55	G&W	0.3	GM	LB	
8	4L	2023-07-20	10:00	G&W	0.3	GM	LB	
9	4K	2023-07-20	10:03	G&W	0.3	GM	LB	
10	4J	2023-07-20	10:06	G&W	0.3	GM	LB	
11	4H	2023-07-20	10:10	G&W	0.3	GM	LB	
12	4G	2023-07-20	10:15	G&W	0.3	GM	LB	
13	4E	2023-07-20	10:30	G&W	0.3	GM	LB	
14	1D	2023-07-20	10:52	G&W	0.3	GM	LB	
15	1E	2023-07-20	11:00	G&W	0.3	GM	LB	
16	4D	2023-07-20	11:10	G&W	0.3	GM	LB	
17	1V	2023-07-20	11:32	P	1.0 X 1.5	GM	LB	
18	2B	2023-07-20	11:36	G&W	0.3	GM	LB	
19	2C	2023-07-20	11:46	G&W	0.4	GM	LB	
20	2M	2023-07-20	11:47	G&W	0.5	GM	LB	
21	5A	2023-07-20	11:55	G&W	1.0	GM	LB	
22	6B	2023-07-20	12:00	G&W	0.3	GM	LB	
23	2P	2023-07-20	12:05	G&W	0.3	GM	LB	
24	2L	2023-07-20	12:12	G&W	0.3	GM	LB	
25	2N	2023-07-20	12:30	G&W	0.3	GM	LB	

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 18-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX2 DATE July 20, 2023
 SHEET NUMBER 6

NO.	TIME	TECH. ID
TX-10	9:10	GM
TX-11	13:05	GM

DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1 3G	2023-07-18	1:10	P	1M X 2	GM	MG	
2 3N	2023-07-20	1:13	P	1M X 2	GM	MG	
3 3P	2023-07-20	1:16	G&W	1M X 2	GM	MG	
4 4S	2023-07-20	1:20	G&W	0.3	GM	RM	
5 1U	2023-07-20	1:25	G&W	1.6	GM	RM	
6 3B	2023-07-20	1:28	G&W	7.7	GM	RM	
7 2D	2023-07-20	1:32	G&W	0.3	GM	RM	
8 4C	2023-07-20	1:42	G&W	0.3	GM	RM	
9 2L	2023-07-20	1:55	G&W	0.4	GM	RM	
10 2W	2023-07-20	2:00	G&W	0.3	GM	RM	
11 4A	2023-07-20	2:05	G&W	0.3	GM	RM	
12 4T	2023-07-20	2:10	G&W	0.3	GM	RM	
13 4U	2023-07-20	2:15	G&W	0.3	GM	RM	
14 3Q	2023-07-20	2:18	G&W	0.3	GM	RM	
15 4Q	2023-07-20	2:22	G&W	0.3	GM	RM	
16 4N	2023-07-20	2:25	G&W	0.3	GM	RM	
17 4E	2023-07-20	2:28	G&W	0.3	GM	RM	
18 1W	2023-07-20	2:31	G&W	0.3	GM	RM	
19 3M	2023-07-20	2:34	P	1 x 2	GM	RM	
20 2R	2023-07-20	2:47	G&W	0.3	GM	RM	
21 2X	2023-07-20	2:50	G&W	0.4	GM	RM	
22 2U	2023-07-20	2:55	G&W	0.3	GM	RM	
23 1N	2023-07-20	3:00	G&W	0.3	GM	RM	
24 4F	2023-07-20	3:02	G&W	0.3	GM	RM	
25							

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 18-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER <u>PX2</u>	NO.	TIME	TECH. ID	DATE July 20, 2023
	TX10	9:00	GM	
	TX11	1:05	GM	
SHEET NUMBER 7				

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	1X	2023-07-20	2:36	G&W	0.4	GM	AFK	
2	1U	2023-07-20	2:49	G&W	0.4	GM	AFK	
3	7A	2023-07-20	2:52	C	2 x 3	GM	AFK	
4	7B	2023-07-20	2:00	P	.3 x .3	GM	AFK	
5	7D	2023-07-20	3:12	G&W	2 x 3	GM	AFK	
6	1A	2023-07-19	10:02	G&W	0.3	GM	AFK	
7	1B	2023-07-19	10:05	G&W	0.4	GM	AFK	
8	1P	2023-07-20	2:39	G&W	0.3	GM	AFK	
9	1Q	2023-07-20	2:47	G&W	0.3	GM	AFK	
10	1R	2023-07-20	2:44	G&W	0.3	GM	AFK	
11	1T	2023-07-20	2:25	P	.5 X 1.0	GM	AFK	
12	6A	2023-07-20	2:30	G&W	0.3	GM	AFK	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 18-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER <u>PX-2</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th>NO.</th> <th>TIME</th> <th>TECH. ID</th> </tr> </thead> <tbody> <tr> <td>TX-12</td> <td>7:30</td> <td>GM</td> </tr> <tr> <td>TX-13</td> <td>1:20</td> <td>GM</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	TIME	TECH. ID	TX-12	7:30	GM	TX-13	1:20	GM										DATE July 21, 2023
NO.	TIME	TECH. ID																		
TX-12	7:30	GM																		
TX-13	1:20	GM																		
SHEET NUMBER 8																				

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	3R	2023-07-20	13:20	P	2.0 x 1.0	GM	LB	
2	3S	2023-07-20	13:40	P	4.0 x 1.0	GM	LB	
3	6D	2023-07-20	9:15	P	0.8 x 9.0	GM	LB	
4	6H	2023-07-20	9:15	P	0.8 x 9.0	GM	LB	
5	6E	2023-07-20	9:30	P	0.5 x 0.5	GM	LB	
6	5E	2023-07-20	10:10	P	0.8 x 1.5	GM	LB	
7	3E	2023-07-20	10:00	G&W	0.8	GM	LB	
8	6F	2023-07-21	11:00	G&W	0.2	GM	LB	
9	5B	2023-07-20	13:00	G&W	0.2	GM	LB	
10	5E	2023-07-20	14:30	P	6.5 x 7.0	GM	LB	
11	6C	2023-07-20	14:35	G&W	0.5	GM	LB	
12	1B	2023-07-20	11:00	G&W	1	GM	LB	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections
LOCATION: Prairie Green IW MF

PROJECT TITLE: Cell 17
CONTRACTOR: WTL

MACHINE NUMBER	PX-2	DATE	July 21, 2023	
			SHEET NUMBER	9

NO.	TIME	TECH. ID
TX-12	7:30	GM
TX-13	1:20	GM

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	5E	2023-07-20	2:30	C	6 X 3	GM	AFK	
2	5K	2023-07-21	2:00	C	5 X 2	GM	AFK	
3	5G	2023-07-21	2:35	P	.4 X .4	GM	AFK	
4	SB	2023-07-21	2:45	G&W	0.3	GM	AFK	
5	SD	2023-07-21	2:53	G&W	0.5	GM	AFK	
6	5C	2023-07-21	2:55	G&W	0.5	GM	AFK	
7	5L	2023-07-21	3:05	G&W	0.5	GM	AFK	
8	5M	2023-07-21	3:15	P	1 X 1	GM	AFK	
9	5N	2023-07-21	3:20	P	.4 X .4	GM	AFK	
10	5H	2023-07-21	3:35	C	1.5 X 3.0	GM	AFK	
11	5G	2023-07-21	4:50	P	2 X 4	GM	AFK	
12	7F	2023-07-21	3:55	G&W	0.3	GM	AFK	
13	6F	2023-07-21	4:00	G&W	0.3	GM	AFK	
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID
TX-14	9:40	GM

MACHINE NUMBER PX DATE July 22, 2023

SHEET NUMBER 10

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	7F	2023-07-22	9:45	G&W	0.1	GM	LB	
2	5R	2023-07-22	10:10	G&W	0.2	GM	LB	
3	5S	2023-07-22	10:12	G&W	0.2	GM	LB	
4	7G	2023-07-22	10:20	G&W	0.1	GM	LB	
5	7E	2023-07-22	13:00	G&W	0.5	GM	LB	
6	6G	2023-07-22	11:50	G&W	0.1	GM	LB	
7	5P	2023-07-22	10:00	G&W	0.1	GM	LB	
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER <u>PX2</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">NO.</th> <th style="width: 33%;">TIME</th> <th style="width: 33%;">TECH. ID</th> </tr> </thead> <tbody> <tr> <td>TX - 15</td> <td>7:10</td> <td>GM</td> </tr> <tr> <td>TX - 16</td> <td>1:05</td> <td>GM</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	TIME	TECH. ID	TX - 15	7:10	GM	TX - 16	1:05	GM										DATE July 31, 2023 SHEET NUMBER 11
NO.	TIME	TECH. ID																		
TX - 15	7:10	GM																		
TX - 16	1:05	GM																		

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	10P	2023-07-31	8:25	P	.5 x .5	GM	RM	
2	8G	2023-07-31	8:50	C	6 x 1	GM	RM	
3	7M	2023-07-31	9:35	C	3.5 x 1	GM	RM	
4	10T	2023-07-31	9:55	P	0.5 x 0.5	GM	RM	
5	8T	2023-07-31	10:25	C	2 x 1	GM	RM	
6	8R	2023-07-31	10:50	C	2.5 x 1	GM	RM	
7	7K	2023-07-31	11:10	P	1.5 x 1	GM	RM	
8	8S	2023-07-31	11:30	C	2.5 x 1	GM	RM	
9	7H	2023-07-31	12:00	P	0.5 x 0.5	GM	RM	
10	10N	2023-07-31	2:30	P	2 x 1	GM	RM	
11	13G	2023-07-31	2:45	P	2.5 x 1	GM	RM	
12								
13								
14								
15								
16								
17								
18								
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20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX - 2

NO.	TIME	TECH. ID
TX - 15	7:10	GM
TX - 16	1:05	GM

DATE July 31, 2023

SHEET NUMBER 12

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	13 F	2023-07-31	11:07	P	0.4 x 0.4	GM	AFK	
2	11A	2023-07-31	1:35	P	0.4 x 0.4	GM	AFK	
3	8 U	2023-07-31	1:52	P	0.4 x 0.4	GM	AFK	
4	5 U	2023-07-31	2:05	P	0.5 x 0.3	GM	AFK	
5	5T	2023-07-31	2:05	P	0.5 x 0.3	GM	AFK	
6	5W	2023-07-31	2:08	P	0.4 x 0.4	GM	AFK	
7	5V	2023-07-31	3:18	P	0.4 x 0.4	GM	AFK	
8	9L	2023-07-31	3:45	C	1.5 x 7.0	GM	AFK	
9	9A	2023-07-31	3:00	C	1.0 x 3.0	GM	AFK	
10								
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12								
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22								
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24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID
TX - 17	7:10	GM
TX - 18	11:45	GM

MACHINE NUMBER PX -2
DATE August 2, 2023

SHEET NUMBER **13**

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	10 R	2023-08-02	8:53	P	0.6 x 2.0	GM	LB	COVERS 8K
2	10S	2023-08-02	8:58	P	0.6 x 0.4	GM	LB	
3	12 F	2023-08-02	9:54	C	1 x 6	GM	LB	
4	13H	2023-08-02	10:01	P	0.5 x 0.5	GM	LB	
5	9N	2023-08-02	10:52	P	0.6 x 3.0	GM	LB	
6	8M	2023-08-02	11:07	P	1.0 x 2.0	GM	LB	
7	9H	2023-07-31	3:50	G&W	0.2	GM	AFK	
8	9F	2023-07-31	3:48	G&W	0.2	GM	AFK	
9	9D	2023-07-31	3:45	G&W	0.2	GM	AFK	
10	9B	2023-07-31	3:43	G&W	0.2	GM	AFK	
11	8W	2023-07-31	3:40	G&W	0.2	GM	AFK	
12	9Q	2023-07-31	3:35	G&W	0.2	GM	AFK	
13	10V	2023-07-31	3:40	G&W	0.2	GM	AFK	
14	10X	2023-08-02	7:55	G&W	0.2	GM	AFK	
15	12B	2023-08-02	8:00	G&W	0.2	GM	AFK	
16	12D	2023-08-02	8:02	G&W	0.2	GM	AFK	
17	12E	2023-08-02	8:04	G&W	0.2	GM	AFK	
18	12G	2023-08-02	8:45	G&W	0.2	GM	AFK	
19	12J	2023-08-02	11:09	G&W	0.2	GM	AFK	
20	12L	2023-08-02	11:11	G&W	0.2	GM	AFK	
21	12N	2023-08-02	11:15	G&W	0.2	GM	AFK	
22	12Q	2023-08-02	11:18	G&W	0.2	GM	AFK	
23	12S	2023-08-02	11:20	G&W	0.2	GM	AFK	
24	8D	2023-08-02	11:23	G&W	0.2	GM	AFK	
25	8E	2023-08-02	11:24	G&W	0.2	GM	AFK	

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: **AFK** DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID
TX - 17	7:10	GM
TX - 18	11:45	GM

MACHINE NUMBER PX - 15 DATE August 2, 2023

SHEET NUMBER 14

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	8H	2023-08-02	12:54	P	0.8 x 1.5	GM	LB	
2	8C	2023-08-02	13:09	P	0.7 x 1.5	GM	LB	
3	6X	2023-08-02	13:13	G&W	0.2	GM	LB	
4	6W	2023-08-02	13:15	G&W	0.3	GM	LB	
5	8N	2023-08-02	13:49	G&W	0.3	GM	LB	
6	8P	2023-08-02	13:50	G&W	0.3	GM	LB	
7	12V	2023-08-02	13:58	G&W	0.3	GM	LB	
8	12X	2023-08-02	13:59	G&W	0.3	GM	LB	
9	13A	2023-08-02	14:00	G&W	0.3	GM	LB	
10	13B	2023-08-02	14:02	G&W	0.3	GM	LB	
11	13C	2023-08-02	14:03	G&W	0.3	GM	LB	
12	13D	2023-08-02	14:04	G&W	0.3	GM	LB	
13	13E	2023-08-02	14:05	G&W	0.3	GM	LB	
14	12W	2023-08-02	13:57	G&W	0.3	GM	LB	
15	12V	2023-08-02	14:06	G&W	0.3	GM	LB	
16	12T	2023-08-02	14:07	G&W	0.3	GM	LB	
17	12R	2023-08-02	14:08	G&W	0.3	GM	LB	
18	12P	2023-08-02	14:09	G&W	0.3	GM	LB	
19	12M	2023-08-02	14:10	G&W	0.3	GM	LB	
20	12K	2023-08-02	14:11	G&W	0.3	GM	LB	
21	12H	2023-08-02	14:12	G&W	0.3	GM	LB	
22	12C	2023-08-02	14:13	G&W	0.3	GM	LB	
23	12A	2023-08-02	14:14	G&W	0.3	GM	LB	
24	10W	2023-08-02	14:15	G&W	0.3	GM	LB	
25	10U	2023-08-02	14:15	G&W	0.3	GM	LB	

REPAIR TYPE : G & W - GRIND WELD
 RS - RECONSTRUCTED SEAM C - CAP
 P - PATCH

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID	
TX - 17	7:10	GM	
TX - 18	11:45	GM	

MACHINE NUMBER PX - 15 DATE August 2, 2023

SHEET NUMBER 15

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	9M	2023-08-02	14:17	G&W	4	GM	LB	Includes 9P
2	9G	2023-08-02	14:18	G&W	0.3	GM	LB	
3	9E	2023-08-02	14:18	G&W	0.3	GM	LB	
4	9C	2023-08-02	14:19	G&W	0.3	GM	LB	
5	8X	2023-08-02	14:19	G&W	0.3	GM	LB	
6	9J	2023-08-02	14:20	G&W	0.3	GM	LB	
7	9K	2023-08-02	14:20	G&W	0.3	GM	LB	
8	6M	2023-08-02	14:35	G&W	0.3	GM	LB	
9	6L	2023-08-02	14:35	G&W	0.3	GM	LB	
10	6K	2023-08-02	14:48	G&W	0.3	GM	LB	
11	6J	2023-08-02	14:49	G&W	0.3	GM	LB	
12	8V	2023-08-02	15:02	P	0.8 x 1.5	GM	LB	
13	6N	2023-08-02	15:13	P	1.0 x 1.5	GM	LB	
14	6P	2023-08-02	15:25	P	1.0 x 1.3	GM	LB	
15	6U	2023-08-02	15:27	G&W	0.3	GM	LB	
16	8A	2023-08-02	15:37	P	1.0 x 2.0	GM	LB	
17	6V	2023-08-02	15:30	G&W	0.3	GM	LB	
18	6S	2023-08-02	15:37	G&W	0.3	GM	LB	
19	6T	2023-08-02	15:38	G&W	0.3	GM	LB	
20	6Q	2023-08-02	15:38	G&W	0.3	GM	LB	
21	6R	2023-08-02	15:39	G&W	0.3	GM	LB	
22	8J	2023-08-02	15:40	G&W	0.3	GM	LB	
23	8F	2023-08-02	15:43	G&W	0.3	GM	LB	
24	8H	2023-08-02	15:50	G&W	0.3	GM	LB	
25	8Q	2023-08-02	15:55	G&W	1.5	GM	LB	

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID
TX -17	7:10	GM
TX - 18	11:45	GM

MACHINE NUMBER PX - 15 DATE August 2, 2023
 SHEET NUMBER 16

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	10M	2023-08-02	14:30	G&W	0.3	GM	RM	
2	10L	2023-08-02	14:35	G&W	0.3	GM	RM	
3	10K	2023-08-02	14:40	G&W	0.3	GM	RM	
4	10J	2023-08-02	14:45	G&W	0.3	GM	RM	
5	10H	2023-08-02	14:50	G&W	0.3	GM	RM	
6	10G	2023-08-02	14:53	G&W	0.3	GM	RM	
7	10F	2023-08-02	14:55	G&W	0.3	GM	RM	
8	10E	2023-08-02	14:58	G&W	0.3	GM	RM	
9	10D	2023-08-02	15:00	G&W	0.3	GM	RM	
10	10C	2023-08-02	15:05	G&W	0.3	GM	RM	
11	10B	2023-08-02	15:08	G&W	0.3	GM	RM	
12	10A	2023-08-02	15:11	G&W	0.3	GM	RM	
13	7X	2023-08-02	15:13	G&W	0.3	GM	RM	
14	7W	2023-08-02	15:15	G&W	0.3	GM	RM	
15	7V	2023-08-02	15:18	G&W	0.3	GM	RM	
16	7U	2023-08-02	15:20	G&W	0.3	GM	RM	
17	7T	2023-08-02	15:23	G&W	0.3	GM	RM	
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Aug-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -15

NO.	TIME	TECH. ID
TX - 19	7:10	GM

DATE August 3, 2023

SHEET NUMBER 17

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	7J	2023-08-03	7:45	G&W	0.2	GM	LB	
2	8B	2023-08-03	7:53	P	1.0 x 1.5	GM	LB	
3	7L	2023-08-03	7:49	G&W	0.2	GM	LB	
4	8G	2023-08-03	8:05	G&W	1.5	GM	LB	
5	8L	2023-08-03	8:10	G&W	0.3	GM	LB	
6	7S	2023-08-03	8:11	G&W	0.3	GM	LB	
7	11B	2023-08-03	8:23	P	0.8 x 0.5	GM	LB	
8	7Q	2023-08-03	8:30	G&W	0.3	GM	LB	
9	7N	2023-08-03	8:31	G&W	0.3	GM	LB	
10	7P	2023-08-03	8:32	G&W	0.3	GM	LB	
11	7R	2023-08-03	8:33	G&W	0.3	GM	LB	
12	11C	2023-08-03	9:37	C	5.5 x 0.5	GM	LB	
13								
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25								

REPAIR TYPE :

RS - RECONSTRUCTED SEAM
 P - PATCH

G & W - GRIND WELD
 C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -15

NO.	TIME	TECH. ID
TX-23	7:10	GM

DATE August 10, 2023

SHEET NUMBER 19

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	14D	2023-08-10	8:50	C	.5 x 3	GM	RM	
2	14E	2023-08-10	8:38	C	2 x 2	GM	RM	
3								
4								
5								
6								
7								
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24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

NO.	TIME	TECH. ID	
TX-25	7:10	EP	
TX-26	12:00	EP	

MACHINE NUMBER PX -31 DATE August 12, 2023
 SHEET NUMBER 20

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	14R	2023-08-12	8:10	P	1 x 2	EP	LB	
2	11H	2023-08-12	8:20	P	.3 x .4	EP	LB	
3	14H	2023-08-12	9:03	P	.2 x .2	EP	LB	
4	14F	2023-08-12	8:30	P	.3 x .5	EP	LB	
5	14G	2023-08-12	10:10	P	1 x 1.5	EP	LB	
6	11D	2023-08-12	10:45	P	1 x 1.5	EP	LB	
7	11E	2023-08-12	10:51	P	1 x 1.5	EP	LB	
8	14Q	2023-08-12	10:20	G&W	1	EP	LB	
9	13W	2023-08-12	10:46	G&W	0.3	EP	LB	
10	13V	2023-08-12	10:47	G&W	0.3	EP	LB	
11	13U	2023-08-12	10:48	G&W	0.3	EP	LB	
12	13T	2023-08-12	10:49	G&W	0.3	EP	LB	
13	13S	2023-08-12	10:50	G&W	0.3	EP	LB	
14	13R	2023-08-12	10:51	G&W	0.3	EP	LB	
15	14M	2023-08-12	12:50	G&W	0.3	EP	LB	
16	14K	2023-08-12	1:00	G&W	0.5	EP	LB	
17	14L	2023-08-12	1:10	G&W	0.5	EP	LB	
18	14P	2023-08-12	1:12	G&W	0.3	EP	LB	
19	14N	2023-08-12	1:14	G&W	0.7	EP	LB	
20	14J	2023-08-12	2:30	G&W	0.5	EP	LB	
21	11E	2023-08-12	2:31	G&W	0.5	EP	LB	
22	11F	2023-08-12	2:45	G&W	0.2	EP	LB	
23	14A	2023-08-12	2:47	P	.5 X .5	EP	LB	
24	13M	2023-08-12	2:48	G&W	0.3	EP	LB	
25	13L	2023-08-12	2:49	G&W	0.3	EP	LB	

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -31

NO.	TIME	TECH. ID
TX-26	12:00	EP
TX-27	14:30	GM

DATE August 12, 2023

SHEET NUMBER 21

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	13K	2023-08-12	2:49	G&W	0.3	EP	LB	
2	13J	2023-08-12	2:50	G&W	0.3	EP	LB	
3	11N	2023-08-12	3:18	P	1 x 1	GM	RM	
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -31

NO.	TIME	TECH. ID
TX-28A	8:20	GM

DATE August 15, 2023

SHEET NUMBER 22

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	11Q	2023-08-15	9:08	P	1 x 1	GM	RM	
2	11R	2023-08-15	7:52	G&W	0.3	GM	RM	
3	11S	2023-08-15	7:53	G&W	0.3	GM	RM	
4	14W	2023-08-15	7:55	G&W	0.3	GM	RM	
5	14X	2023-08-15	7:54	G&W	0.3	GM	RM	
6	14V	2023-08-15	7:56	G&W	0.3	GM	RM	
7	14U	2023-08-15	7:57	G&W	0.3	GM	RM	
8	14T	2023-08-15	7:58	G&W	0.3	GM	RM	
9	14S	2023-08-15	8:00	G&W	0.3	GM	RM	
10	11T	2023-08-15	8:03	G&W	0.3	GM	RM	
11	11U	2023-08-15	8:04	G&W	0.3	GM	RM	
12	11P	2023-08-15	9:50	G&W	0.3	GM	RM	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -31

NO.	TIME	TECH. ID
TX-29	11:30	GM

DATE August 17, 2023

SHEET NUMBER 23

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	15D	2023-08-17	1:30	G&W	1 x 1	GM	RM	
2	15E	2023-08-17	1:10	G&W	0.3	GM	RM	
3	15F	2023-08-17	1:52	G&W	0.3	GM	RM	
4	15G	2023-08-17	1:15	G&W	0.3	GM	RM	
5	15H	2023-08-17	1:34	G&W	0.3	GM	RM	
6	15J	2023-08-17	1:24	G&W	0.3	GM	RM	
7	15K	2023-08-17	1:26	G&W	0.3	GM	RM	
8	15M	2023-08-17	3:23	G&W	0.3	GM	RM	
9	15P	2023-08-17	3:26	G&W	0.3	GM	RM	
10	15Q	2023-08-17	3:28	G&W	0.3	GM	RM	
11	15R	2023-08-17	3:30	G&W	0.3	GM	RM	
12	15S	2023-08-17	3:42	G&W	0.3	GM	RM	
13	15T	2023-08-17	3:47	G&W	0.3	GM	RM	
14	15U	2023-08-17	3:49	G&W	0.3	GM	RM	
15	15V	2023-08-17	3:52	G&W	0.3	GM	RM	
16	16G	2023-08-17	2:44	G&W	0.3	GM	RM	
17	16F	2023-08-17	2:46	G&W	0.3	GM	RM	
18	16E	2023-08-17	2:48	G&W	0.3	GM	RM	
19	16H	2023-08-17	3:00	C	4 x 1.5	GM	RM	
20	15A	2023-08-17	3:10	P	1 x .5	GM	RM	
21	15N	2023-08-17	3:38	C	1.4 x 1.4	GM	RM	
22	16C	2023-08-17	4:07	P	1.4 x 1.4	GM	RM	
23	16B	2023-08-17	3:30	G&W	0.3	GM	RM	
24	16D	2023-08-17	3:28	G&W	0.3	GM	RM	
25	16A	2023-08-17	3:26	G&W	0.3	GM	RM	

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -31

NO.	TIME	TECH. ID
TX-29	11:30	GM

DATE August 17, 2023

SHEET NUMBER 24

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	11W	2023-08-17	3:19	P	1 x 2	GM	RM	
2	15X	2023-08-17	3:25	P	0.3	GM	RM	
3	15W	2023-08-17	3:23	G&W	0.3	GM	RM	
4	11V	2023-08-17	4:14	P	1.5 x 3	GM	RM	
5	15L	2023-08-17	2:40	P	2 x 2	GM	RM	
6	16J	2023-08-17	3:30	P	1 x 1	GM	RM	
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
OWNER: Waste Connections
LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
CONTRACTOR: WTL

MACHINE NUMBER PX -31

DATE August 18, 2023

SHEET NUMBER 25

NO.	TIME	TECH. ID
TX-30	10:40	GM

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	15C	2023-08-18	3:15	P	0.3	GM	RM	
2	11G	2023-08-18	3:16	P	0.3	GM	RM	
3	16W	2023-08-18	1:11	G&W	0.3	GM	RM	
4	16X	2023-08-18	1:16	G&W	0.3	GM	RM	
5	16V	2023-08-18	1:06	G&W	0.3	GM	RM	
6	16U	2023-08-18	1:01	G&W	0.3	GM	RM	
7	16T	2023-08-18	12:58	G&W	0.3	GM	RM	
8	16R	2023-08-18	11:51	G&W	0.3	GM	RM	
9	16Q	2023-08-18	11:44	G&W	0.3	GM	RM	
10	16P	2023-08-18	11:43	G&W	0.3	GM	RM	
11	16N	2023-08-18	11:23	G&W	0.3	GM	RM	
12	16M	2023-08-18	11:13	G&W	0.3	GM	RM	
13	16L	2023-08-18	11:04	G&W	0.3	GM	RM	
14	16K	2023-08-18	10:05	G&W	0.3	GM	RM	
15	17H	2023-08-18	1:15	G&W	0.3	GM	RM	
16	17G	2023-08-18	1:17	G&W	0.3	GM	RM	
17	17F	2023-08-18	1:19	G&W	0.3	GM	RM	
18	17E	2023-08-18	1:21	G&W	0.3	GM	RM	
19	17D	2023-08-18	1:23	G&W	0.3	GM	RM	
20	17C	2023-08-18	1:25	G&W	0.3	GM	RM	
21	17B	2023-08-18	1:29	G&W	0.3	GM	RM	
22	17A	2023-08-18	1:32	G&W	0.3	GM	RM	
23	17K	2023-08-18	1:35	G&W	0.5	GM	RM	DSF 29
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23



GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL

MACHINE NUMBER PX -31

NO.	TIME	TECH. ID
TX-31	1:08	GM

DATE August 19, 2023

SHEET NUMBER 26

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION(m)	WELD TECH.	MON.	REMARKS
1	17J	2023-08-19	3:15	P	1.5 x 1	GM	RM	
2	15B	2023-08-19	3:16	P	.5 x .5	GM	RM	
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE : RS - RECONSTRUCTED SEAM G & W - GRIND WELD
 P - PATCH C - CAP

REVIEWED BY: AFK DATE: 19-Sep-23

Appendix B-11

Geomembrane Seam and Repair Vacuum Test Summary



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: CELL17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 1

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1	NTI/P2	EEOS - 1N	2023-07-20	CM	NONE		X	Y	RM	
2	NTI/P5	1W - WEOS	2023-07-20	CM	NONE		X	Y	RM	
3	NTI/P5	1M - 1B	2023-07-20	CM	NONE		X	Y	RM	
4	NTI/P2	1B - 1N	2023-07-20	CM	NONE		X	Y	RM	
5	NTI/P5	1P - 1A	2023-07-20	CM	NONE		X	Y	RM	
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	2A	2023-07-20	CM	NONE	Y	RM
22	3C/3D	2023-07-20	CM	NONE	Y	RM
23	1G	2023-07-20	CM	NONE	Y	RM
24	2H	2023-07-20	CM	NONE	Y	RM
25	1H	2023-07-20	CM	NONE	Y	RM
26	1K	2023-07-20	CM	NONE	Y	RM
27	1L	2023-07-20	CM	NONE	Y	RM
28	1M	2023-07-20	CM	NONE	Y	RM
29	1N	2023-07-20	CM	NONE	Y	RM
30	1C	2023-07-20	CM	NONE	Y	RM
31	1J	2023-07-20	CM	NONE	Y	RM
32	1P	2023-07-20	CM	NONE	Y	RM
33	1A	2023-07-20	CM	NONE	Y	RM
34	2E	2023-07-20	CM	NONE	Y	MG
35	1S	2023-07-20	CM	NONE	Y	MG
36	6A	2023-07-20	CM	NONE	Y	MG
37	3E	2023-07-20	CM	NONE	Y	MG
38	4D	2023-07-20	CM	NONE	Y	MG
39	4E	2023-07-20	CM	NONE	Y	MG
40	4F	2023-07-20	CM	NONE	Y	MG
41	4G	2023-07-20	CM	NONE	Y	MG

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 2

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	4H	2023-07-20	TM	NONE	Y	MG
22	4J	2023-07-20	TM	NONE	Y	MG
23	4K	2023-07-20	TM	NONE	Y	MG
24	4L	2023-07-20	TM	NONE	Y	MG
25	4M	2023-07-20	TM	NONE	Y	MG
26	4N	2023-07-20	TM	NONE	Y	MG
27	4P	2023-07-20	TM	NONE	Y	MG
28	4Q	2023-07-20	TM	NONE	Y	MG
29	4S	2023-07-20	TM	NONE	Y	MG
30	4R	2023-07-20	TM	NONE	Y	MG
31	4T	2023-07-20	TM	NONE	Y	MG
32	4U	2023-07-20	TM	NONE	Y	MG
33	3Q	2023-07-20	TM	NONE	Y	MG
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: September 20, 2023



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 3

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1	ETI, P10	3B - 3A	2023-07-21	CM	NONE		X	Y	LB	
2	ETI, P52	6C - 5E	2023-07-21	CM	NONE		X	Y	LB	
3	ETI, P57	SEOS - 5G	2023-07-21	CM	NONE		X	Y	LB	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS							
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS	
21	3M	2023-07-21	CM	NONE	Y	LB	
22	1V	2023-07-21	CM	NONE	Y	LB	
23	2F	2023-07-21	CM	NONE	Y	LB	
24	1E	2023-07-21	CM	NONE	Y	LB	
25	1F	2023-07-21	CM	NONE	Y	LB	
26	1V	2023-07-21	CM	NONE	Y	LB	
27	4A	2023-07-21	CM	NONE	Y	LB	
28	3K	2023-07-21	CM	NONE	Y	LB	
29	6H	2023-07-21	CM	NONE	Y	LB	
30	6D	2023-07-21	CM	NONE	Y	LB	
31	5F	2023-07-21	CM	NONE	Y	LB	
32	5A	2023-07-21	CM	NONE	Y	LB	
33	4J	2023-07-20	CM	NONE	Y	LB	
34	2C	2023-07-21	CM	NONE	Y	LB	
35	2M	2023-07-21	CM	NONE	Y	LB	
36	2X	2023-07-21	CM	NONE	Y	LB	
37	2W	2023-07-21	CM	NONE	Y	LB	
38	2R	2023-07-21	CM	NONE	Y	LB	
39	4V	2023-07-21	CM	NONE	Y	LB	
40	2Q	2023-07-21	CM	NONE	Y	LB	
41	2P	2023-07-21	CM	NONE	Y	LB	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-081
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12 SHEET NUMBER 4

SEAMS										REPAIRS								
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS	
	FROM	TO				NO	YES											
1											21	3H	2023-07-21	CM	NONE	Y	LB	
2											22	6B	2023-07-21	CM	NONE	Y	LB	
3											23	3G	2023-07-21	CM	NONE	Y	LB	
4											24	2K	2023-07-21	CM	NONE	Y	LB	
5											25	6F	2023-07-21	CM	NONE	Y	LB	
6											26	2B	2023-07-21	CM	NONE	Y	LB	
7											27	2A	2023-07-20	CM	NONE	Y	LB	
8											28	2G	2023-07-21	CM	NONE	Y	LB	
9											29	2L	2023-07-21	CM	NONE	Y	LB	
10											30	2N	2023-07-21	CM	NONE	Y	LB	
11											31	4W	2023-07-21	CM	NONE	Y	LB	
12											32	2D	2023-07-21	CM	NONE	Y	LB	
13											33	2J	2023-07-21	CM	NONE	Y	LB	
14											34	2U	2023-07-21	CM	NONE	Y	LB	
15											35	3J	2023-07-21	CM	NONE	Y	LB	
16											36	2V	2023-07-21	CM	NONE	Y	LB	
17											37	1X	2023-07-21	CM	NONE	Y	LB	
18											38	4C	2023-07-21	CM	NONE	Y	LB	
19											39	4B	2023-07-21	CM	NONE	Y	LB	
20											40	3B	2023-07-21	CM	NONE	Y	LB	
											41	3A	2023-07-21	CM	NONE	Y	LB	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 5

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	7D	2023-07-21	CM	NONE	Y	LB
22	5C	2023-07-21	CM	NONE	Y	LB
23	5D	2023-07-21	CM	NONE	Y	LB
24	7B	2023-07-21	CM	NONE	Y	LB
25	7A	2023-07-21	CM	NONE	Y	LB
26	5B	2023-07-21	CM	NONE	Y	LB
27	5E	2023-07-21	CM	NONE	Y	LB
28	6C	2023-07-21	CM	NONE	Y	LB
29	3C	2023-07-21	CM	NONE	Y	LB
30	6E	2023-07-21	CM	NONE	Y	LB
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 6

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1	P55 / ETI	5L - 5M	2023-07-22	CM	NONE		X	Y	LB	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	5P	2023-07-22	CM	NONE	Y	LB
22	5H	2023-07-22	CM	NONE	Y	LB
23	5N	2023-07-22	CM	NONE	Y	LB
24	5M	2023-07-22	CM	NONE	Y	LB
25	5L	2023-07-22	CM	NONE	Y	LB
26	7F	2023-07-22	CM	NONE	Y	LB
27	5G	2023-07-22	CM	NONE	Y	LB
28	5R	2023-07-22	CM	NONE	Y	LB
29	5S	2023-07-22	CM	NONE	Y	LB
30	5K	2023-07-22	CM	NONE	Y	LB
31	7G	2023-07-22	CM	NONE	Y	LB
32	5Q	2023-07-22	CM	NONE	Y	LB
33						
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 7

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1	P33/68	NEOS - SEOS	2023-08-02	CM	NONE		X	Y	RM	
2	P34/68	NEOS - 9P	2023-08-02	CM	NONE		X	Y	RM	
3	P27/59	NEOS - SEOS	2023-08-02	CM	NONE		X	Y	RM	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	9N	2023-08-02	CM	NONE	Y	RM
22	12W	2023-08-02	CM	NONE	Y	RM
23	12V	2023-08-02	CM	NONE	Y	RM
24	12U	2023-08-02	CM	NONE	Y	RM
25	12T	2023-08-02	CM	NONE	Y	RM
26	12S	2023-08-02	CM	NONE	Y	RM
27	12R	2023-08-02	CM	NONE	Y	RM
28	12Q	2023-08-02	CM	NONE	Y	RM
29	12P	2023-08-02	CM	NONE	Y	RM
30	12N	2023-08-02	CM	NONE	Y	RM
31	12M	2023-08-02	CM	NONE	Y	RM
32	12L	2023-08-02	CM	NONE	Y	RM
33	12K	2023-08-02	CM	NONE	Y	RM
34	12J	2023-08-02	CM	NONE	Y	RM
35	12H	2023-08-02	CM	NONE	Y	RM
36	12G	2023-08-02	CM	NONE	Y	RM
37	12F	2023-08-02	CM	NONE	Y	RM
38	12E	2023-08-02	CM	NONE	Y	RM
39	12B	2023-08-02	CM	NONE	Y	RM
40	12A	2023-08-02	CM	NONE	Y	RM
41	10X	2023-08-02	CM	NONE	Y	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 8

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	10W	2023-08-02	CM	NONE	Y	RM
22	10U	2023-08-02	CM	NONE	Y	RM
23	9P	2023-08-02	CM	NONE	Y	RM
24	9M	2023-08-02	CM	NONE	Y	RM
25	9L	2023-08-02	CM	NONE	Y	RM
26	9J	2023-08-02	CM	NONE	Y	RM
27	5V	2023-08-02	CM	NONE	Y	RM
28	9K	2023-08-02	CM	NONE	Y	RM
29	9G	2023-08-02	CM	NONE	Y	RM
30	9H	2023-08-02	CM	NONE	Y	RM
31	9F	2023-08-02	CM	NONE	Y	RM
32	9D	2023-08-02	CM	NONE	Y	RM
33	9C	2023-08-02	CM	NONE	Y	RM
34	9B	2023-08-02	CM	NONE	Y	RM
35	8X	2023-08-02	CM	NONE	Y	RM
36	9A	2023-08-02	CM	NONE	Y	RM
37	8W	2023-08-02	CM	NONE	Y	RM
38	3Q	2023-08-02	CM	NONE	Y	RM
39	9Q	2023-08-02	CM	NONE	Y	RM
40	13G	2023-08-02	CM	NONE	Y	RM
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 9

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	6L	2023-08-02	TM	NONE	Y	RM
22	6M	2023-08-02	TM	NONE	Y	RM
23	6X	2023-08-02	TM	NONE	Y	RM
24	8C	2023-08-02	TM	NONE	Y	RM
25	8E	2023-08-02	TM	NONE	Y	RM
26	8D	2023-08-02	TM	NONE	Y	RM
27	13H	2023-08-02	TM	NONE	Y	RM
28	8J	2023-08-02	TM	NONE	Y	RM
29	8F	2023-08-02	TM	NONE	Y	RM
30	8H	2023-08-02	TM	NONE	Y	RM
31	10Q	2023-08-02	TM	NONE	Y	RM
32	10S	2023-08-02	TM	NONE	Y	RM
33	10R	2023-08-02	TM	NONE	Y	RM
34	8M	2023-08-02	TM	NONE	Y	RM
35	8K	2023-08-02	TM	NONE	Y	RM
36	8N	2023-08-02	TM	NONE	Y	RM
37	8P	2023-08-02	TM	NONE	Y	RM
38	8Q	2023-08-02	TM	NONE	Y	RM
39	13D	2023-08-02	TM	NONE	Y	RM
40	13C	2023-08-02	TM	NONE	Y	RM
41	13B	2023-08-02	TM	NONE	Y	RM

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 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 10

SEAMS										REPAIRS								
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS	
	FROM	TO				NO	YES											
1											21	13A	2023-08-02	TM	NONE	Y	RM	
2											22	12X	2023-08-02	TM	NONE	Y	RM	
3											23	13E	2023-08-02	TM	NONE	Y	RM	
4											24	3S	2023-08-02	TM	NONE	Y	RM	
5											25	3R	2023-08-02	TM	NONE	Y	RM	
6											26	3P	2023-08-02	TM	NONE	Y	RM	
7											27	3N	2023-08-02	TM	NONE	Y	RM	
8											28	6K	2023-08-02	TM	NONE	Y	RM	
9											29	5U	2023-08-02	TM	NONE	Y	RM	
10											30	5W	2023-08-02	TM	NONE	Y	RM	
11											31	6J	2023-08-02	TM	NONE	Y	RM	
12											32	6N	2023-08-02	TM	NONE	Y	RM	
13											33	6P	2023-08-02	TM	NONE	Y	RM	
14											34	12D	2023-08-02	TM	NONE	Y	RM	
15											35	12C	2023-08-02	TM	NONE	Y	RM	
16											36							
17											37							
18											38							
19											39							
20											40							
											41							

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 11

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	10N	2023-08-03	RB	NONE	Y	RM
22	10M	2023-08-03	RB	NONE	Y	RM
23	10L	2023-08-03	RB	NONE	Y	RM
24	8V	2023-08-03	RB	NONE	Y	RM
25	10K	2023-08-03	RB	NONE	Y	RM
26	10J	2023-08-03	CM	NONE	Y	RM
27	10H	2023-08-03	CM	NONE	Y	RM
28	10G	2023-08-03	CM	NONE	Y	RM
29	10F	2023-08-03	CM	NONE	Y	RM
30	10E	2023-08-03	CM	NONE	Y	RM
31	6Q	2023-08-03	CM	NONE	Y	RM
32	6T	2023-08-03	CM	NONE	Y	RM
33	6U	2023-08-03	RB	NONE	Y	RM
34	6V	2023-08-03	RB	NONE	Y	RM
35	8A	2023-08-03	RB	NONE	Y	RM
36	6S	2023-08-03	RB	NONE	Y	RM
37	6R	2023-08-03	RB	NONE	Y	RM
38	7H	2023-08-03	RB	NONE	Y	RM
39	10D	2023-08-03	RB	NONE	Y	RM
40	10C	2023-08-03	RB	NONE	Y	RM
41	10B	2023-08-03	RB	NONE	Y	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 12

SEAMS										REPAIRS								
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS	
	FROM	TO				NO	YES											
1											21	10A	2023-08-03	RB	NONE	Y	RM	
2											22	7X	2023-08-03	RB	NONE	Y	RM	
3											23	8S	2023-08-03	RB	NONE	Y	RM	
4											24	8R	2023-08-03	RB	NONE	Y	RM	
5											25	8B	2023-08-03	RB	NONE	Y	RM	
6											26	7K	2023-08-03	RB	NONE	Y	RM	
7											27	7J	2023-08-03	RB	NONE	Y	RM	
8											28	7L	2023-08-03	RB	NONE	Y	RM	
9											29	7W	2023-08-03	RB	NONE	Y	RM	
10											30	7V	2023-08-03	RB	NONE	Y	RM	
11											31	7U	2023-08-03	RB	NONE	Y	RM	
12											32	6W	2023-08-02	RB	NONE	Y	RM	
13											33	11A	2023-08-03	RB	NONE	Y	RM	
14											34							
15											35							
16											36							
17											37							
18											38							
19											39							
20											40							
											41							

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 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 13

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	8U	2023-08-04	CM	NONE	Y	LB
22	7U	2023-08-04	CM	NONE	Y	LB
23	8T	2023-08-04	CM	NONE	Y	LB
24	7S	2023-08-04	CM	NONE	Y	LB
25	10P	2023-08-04	CM	NONE	Y	LB
26	8L	2023-08-04	CM	NONE	Y	LB
27	10T	2023-08-04	CM	NONE	Y	LB
28	7M	2023-08-04	CM	NONE	Y	LB
29	11B	2023-08-04	CM	NONE	Y	LB
30	7R	2023-08-04	CM	NONE	Y	LB
31	11C	2023-08-04	CM	NONE	Y	LB
32	7Q	2023-08-04	CM	NONE	Y	LB
33	7P	2023-08-04	CM	NONE	Y	LB
34	11D	2023-08-04	CM	NONE	Y	LB
35	7N	2023-08-04	CM	NONE	Y	LB
36	10V	2023-08-04	CM	NONE	Y	LB
37	8G	2023-08-03	CM	NONE	Y	LB
38	13F	2023-08-03	CM	NONE	Y	LB
39	7T	2023-08-03	CM	NONE	Y	LB
40	5T	2023-08-02	CM	NONE	Y	LB
41	3T	2023-07-22	CM	NONE	Y	LB

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 14

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	14C	2023-08-09	EP	NONE	Y	RM
22	14B	2023-08-09	EP	NONE	Y	RM
23	11K	2023-08-09	EP	NONE	Y	RM
24	11L	2023-08-09	EP	NONE	Y	RM
25	13X	2023-08-09	EP	NONE	Y	RM
26	11J	2023-08-09	EP	NONE	Y	RM
27	11M	2023-08-09	EP	NONE	Y	RM
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 15

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	14D	2023-08-10	CM	NONE	Y	RM
22	14E	2023-08-10	CM	NONE	Y	RM
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 16

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	13P	2023-08-12	TM	NONE	Y	LB
22	13Q	2023-08-12	TM	NONE	Y	LB
23	14R	2023-08-12	TM	NONE	Y	LB
24	14H	2023-08-12	TM	NONE	Y	LB
25	11H	2023-08-12	TM	NONE	Y	LB
26	14F	2023-08-12	TM	NONE	Y	LB
27	11E	2023-08-12	TM	NONE	Y	LB
28	11D	2023-08-12	TM	NONE	Y	LB
29	14Q	2023-08-12	TM	NONE	Y	LB
30	14G	2023-08-12	TM	NONE	Y	LB
31	13R	2023-08-12	TM	NONE	Y	LB
32	13S	2023-08-12	TM	NONE	Y	LB
33	13T	2023-08-12	TM	NONE	Y	LB
34	13U	2023-08-12	TM	NONE	Y	LB
35	13V	2023-08-12	TM	NONE	Y	LB
36	13W	2023-08-12	TM	NONE	Y	LB
37	14M	2023-08-12	TM	NONE	Y	LB
38	14K	2023-08-12	TM	NONE	Y	LB
39	14L	2023-08-12	TM	NONE	Y	LB
40	14P	2023-08-12	TM	NONE	Y	LB
41	14N	2023-08-12	TM	NONE	Y	LB

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 17

SEAMS											
	SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
		FROM	TO				NO	YES			
1	P50/102	NEOS - SEOS		2023-08-12	TM	NONE		X	Y	LB	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	14J	2023-08-12	TM	NONE	Y	LB
22	11E	2023-08-12	TM	NONE	Y	LB
23	11F	2023-08-12	TM	NONE	Y	LB
24	14A	2023-08-12	TM	NONE	Y	LB
25	13M	2023-08-12	TM	NONE	Y	LB
26	13L	2023-08-12	TM	NONE	Y	LB
27	13U	2023-08-12	TM	NONE	Y	LB
28	13J	2023-08-12	TM	NONE	Y	LB
29	13N	2023-08-12	TM	NONE	Y	LB
30	13K	2023-08-12	TM	NONE	Y	LB
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)
 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 18

SEAMS											
	SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
		FROM	TO				NO	YES			
1	P97/118	NEOS - SEOS		2023-08-17	TM	NONE		X	Y	RM	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	16H	2023-08-17	TM	NONE	Y	RM
22	11U	2023-08-17	TM	NONE	Y	RM
23	11T	2023-08-17	TM	NONE	Y	RM
24	14S	2023-08-17	TM	NONE	Y	RM
25	14T	2023-08-17	TM	NONE	Y	RM
26	14U	2023-08-17	TM	NONE	Y	RM
27	14V	2023-08-17	TM	NONE	Y	RM
28	14W	2023-08-17	TM	NONE	Y	RM
29	14X	2023-08-17	TM	NONE	Y	RM
30	11S	2023-08-17	TM	NONE	Y	RM
31	11R	2023-08-17	TM	NONE	Y	RM
32	16G	2023-08-17	TM	NONE	Y	RM
33	16F	2023-08-17	TM	NONE	Y	RM
34	16E	2023-08-17	TM	NONE	Y	RM
35	15S	2023-08-17	TM	NONE	Y	RM
36	15L	2023-08-17	TM	NONE	Y	RM
37	15K	2023-08-17	TM	NONE	Y	RM
38	15M	2023-08-17	TM	NONE	Y	RM
39	15J	2023-08-17	TM	NONE	Y	RM
40	15H	2023-08-17	TM	NONE	Y	RM
41	11W	2023-08-17	TM	NONE	Y	RM

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 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 19

SEAMS											
	SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
		FROM	TO				NO	YES			
1	P58/138	WEOS	- EEOS	2023-08-17	TM	NONE		X	Y	RM	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	15G	2023-08-17	TM	NONE	Y	RM
22	15F	2023-08-17	TM	NONE	Y	RM
23	15E	2023-08-17	TM	NONE	Y	RM
24	15D	2023-08-17	TM	NONE	Y	RM
25	11Q	2023-08-17	TM	NONE	Y	RM
26	15V	2023-08-17	TM	NONE	Y	RM
27	15N	2023-08-17	TM	NONE	Y	RM
28	15U	2023-08-17	TM	NONE	Y	RM
29	15T	2023-08-17	TM	NONE	Y	RM
30	15W	2023-08-17	TM	NONE	Y	RM
31	15X	2023-08-17	TM	NONE	Y	RM
32	16A	2023-08-17	TM	NONE	Y	RM
33	16D	2023-08-17	TM	NONE	Y	RM
34	16B	2023-08-17	TM	NONE	Y	RM
35	11V	2023-08-17	TM	NONE	Y	RM
36	16C	2023-08-17	TM	NONE	Y	RM
37	11X	2023-08-17	TM	NONE	Y	RM
38	15P	2023-08-17	TM	NONE	Y	RM
39	15Q	2023-08-17	TM	NONE	Y	RM
40	15R	2023-08-17	TM	NONE	Y	RM
41	15S	2023-08-17	TM	NONE	Y	RM

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 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 20

SEAMS											
	SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
		FROM	TO				NO	YES			
1	D4/133	WEOS	- EEOS	2023-08-19	TM	NONE		X	Y	RM	
2	D4/134	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
3	D3/134	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
4	D3/135	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
5	D2/135	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
6	D2/136	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
7	D1/136	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
8	D1/138	NEOS	- SEOS	2023-08-19	TM	NONE		X	Y	RM	
9	D1/131	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
10	D1/130	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
11	D1/129	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
12	D1/128	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
13	D1/127	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
14	D1/126	EEOS	- WEOS	2023-08-19	TM	NONE		X	Y	RM	
15	D1/137	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	
16	D2/136	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	
17	D2/135	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	
18	D3/135	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	
19	D3/134	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	
20	D4/134	SEOS	- NEOS	2023-08-19	TM	NONE		X	Y	RM	

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	11G	2023-08-19	TM	NONE	Y	RM
22	15C	2023-08-19	TM	NONE	Y	RM
23	17K	2023-08-19	TM	NONE	Y	RM
24	16X	2023-08-19	TM	NONE	Y	RM
25	17A	2023-08-19	TM	NONE	Y	RM
26	17B	2023-08-19	TM	NONE	Y	RM
27	17C	2023-08-19	TM	NONE	Y	RM
28	17D	2023-08-19	TM	NONE	Y	RM
29	17E	2023-08-19	TM	NONE	Y	RM
30	17F	2023-08-19	TM	NONE	Y	RM
31	17H	2023-08-19	TM	NONE	Y	RM
32	16K	2023-08-19	TM	NONE	Y	RM
33	16L	2023-08-19	TM	NONE	Y	RM
34	16M	2023-08-19	TM	NONE	Y	RM
35	16N	2023-08-19	TM	NONE	Y	RM
36	16P	2023-08-19	TM	NONE	Y	RM
37	16Q	2023-08-19	TM	NONE	Y	RM
38	16R	2023-08-19	TM	NONE	Y	RM
39	16S	2023-08-19	TM	NONE	Y	RM
40	16T	2023-08-19	TM	NONE	Y	RM
41	16U	2023-08-19	TM	NONE	Y	RM

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I.E. REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23



GEOMEMBRANE SEAM and REPAIR VACUUM TEST LOG

PROJECT NUMBER: 1000-089-08
 OWNER: Waste Connections of Canada
 LOCATION: Prairie Green IWMF

PROJECT TITLE: Cell 17
 CONTRACTOR: WTL
 MATERIAL: 60 mil HDPE
 VACUUM BOX NUMBER 12

SHEET NUMBER 21

SEAMS										
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		OBS. TEST	MON.	REMARKS
	FROM	TO				NO	YES			
1	D1/126	SEOS - NEOS	2023-08-19	TM	NONE		X	Y	RM	
2	D4/133	SEOS - NEOS	2023-08-19	TM	NONE		X	Y	RM	
3	D4/133	NEOS - SEOS	2023-08-19	TM	NONE		X	Y	RM	
4	D1/131	NEOS - SEOS	2023-08-19	TM	NONE		X	Y	RM	
5	D1/136	SEOS - NEOS	2023-08-19	TM	NONE		X	Y	RM	
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

REPAIRS						
DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
21	16V	2023-08-19	TM	NONE	Y	RM
22	16W	2023-08-19	TM	NONE	Y	RM
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						

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 ** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: AFK
 DATE: 20-Sep-23

Appendix C

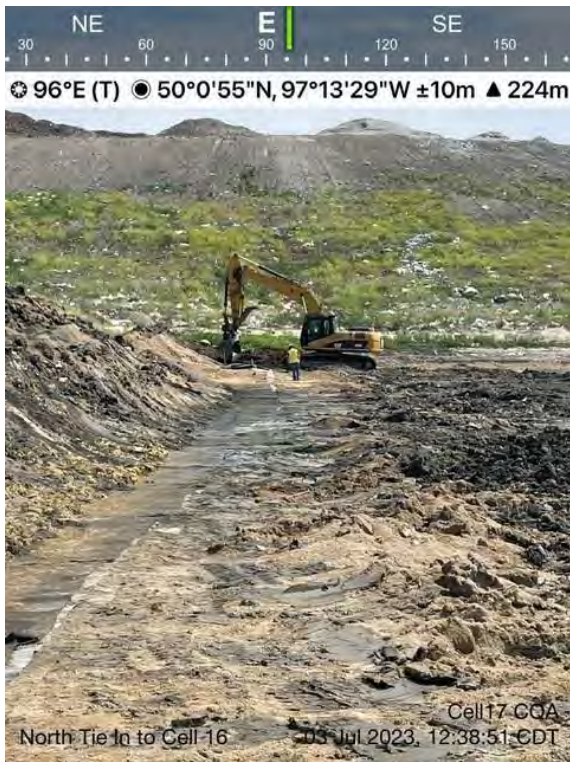
Construction Photo Summary



Winter Excavation of Cell 17 looking West.



Excavation of Toe of West Perimeter Berm



East Tie In clean up



Completed West Perimeter Berm



Smooth drum rolling West Perimeter Berm



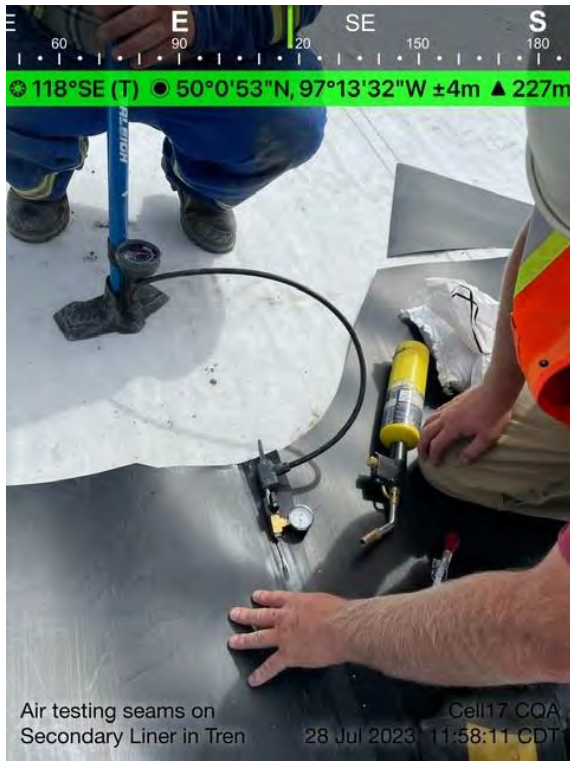
GCL Deployment



Placing Bentonite in GCL seams



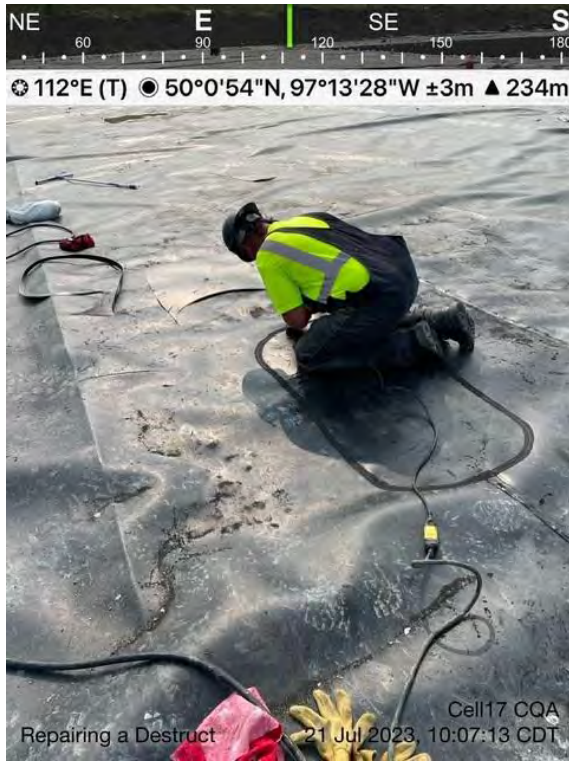
Seaming smooth Geomembrane



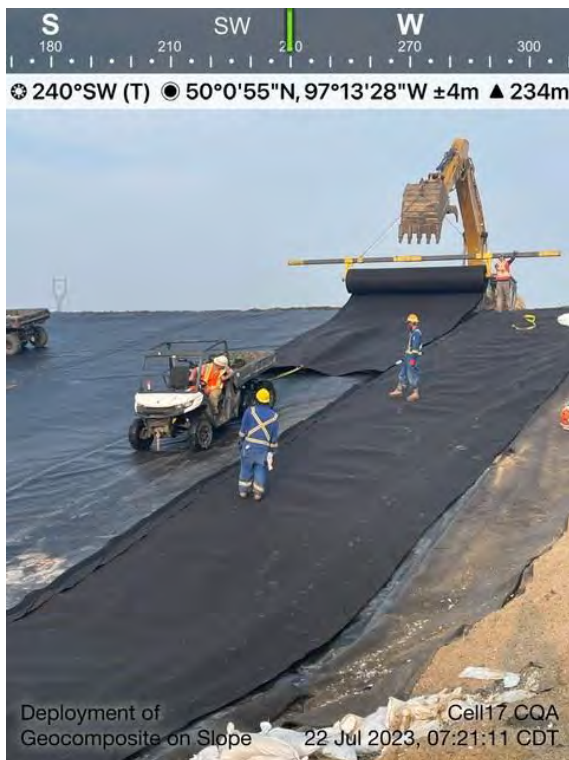
Air Pressure test for seam



Placement texture HDPE on slope



Repairing a Destructive test location



Geocomposite deployment on slope



Geocomposite Seams Zip Tied



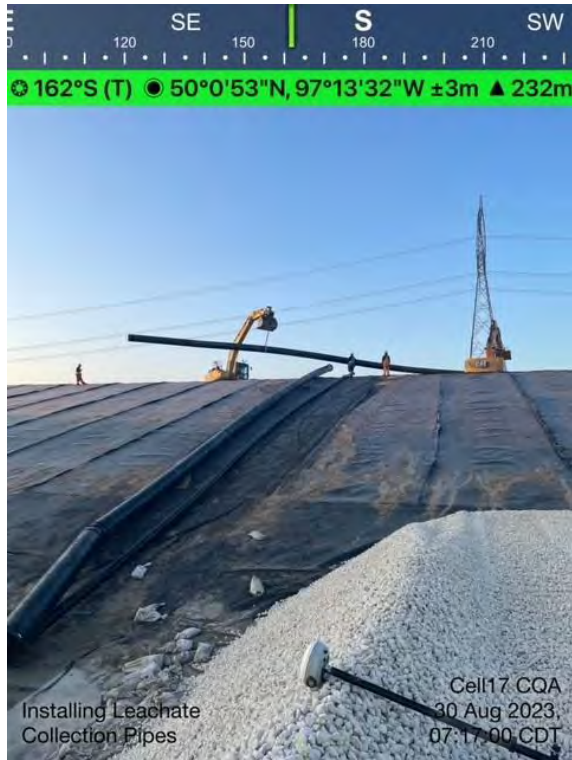
Sewing Geotextile Filter



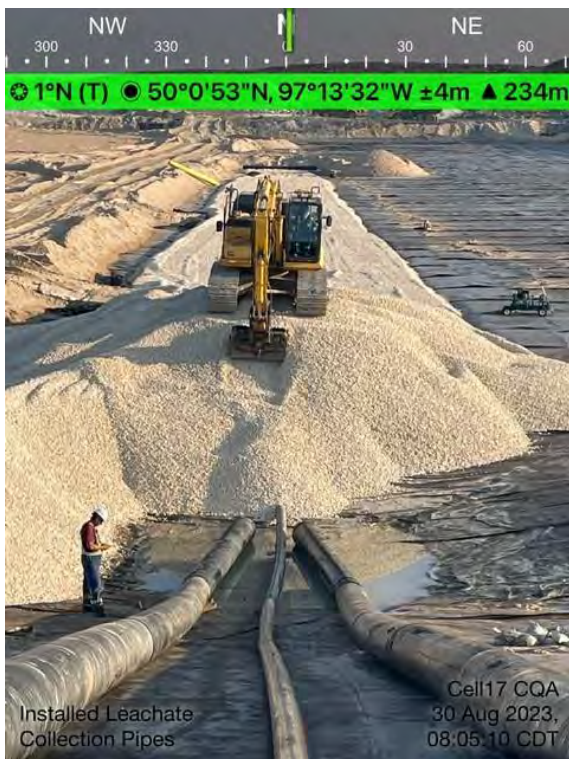
Geocomposite in Trench



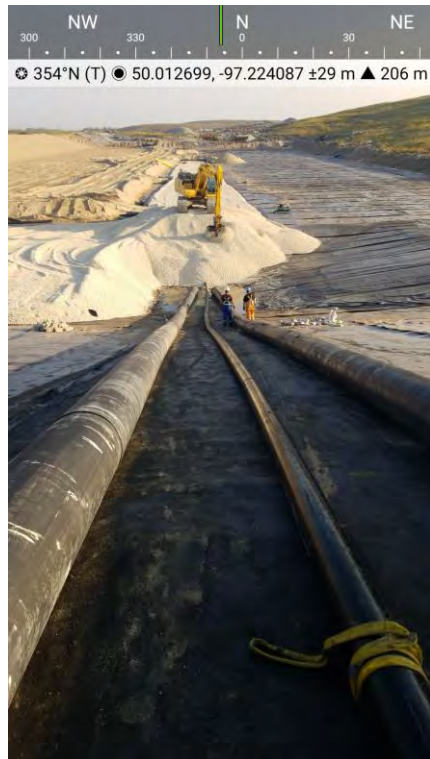
Welding Leachate Collection Pipes



Installing Leachate Collection Pipes



Leachate Collection Pipe Installed



Secondary Smooth HDPE
Geomembrane in Leachate Trench



Completed Cell