Newmont NORTH AMERICA

NORTH AMERICA

CRIPPLE CREEK & VICTOR newmont.com
PO Box 191
100 N. 3rd Street
Victor CO 80860

May 21, 2024

ELECTRONIC DELIVERY

Mr. Elliott Russell
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, Colorado 80203

Re: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company; Cresson Project; Technical Revision 143 – Adequacy Review Response

Dear Mr. Russell:

On May 20, 2024, Newmont Corporation's Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining and Safety (DRMS) Adequacy Review of Technical Revision (TR) 143 to Permit M-1980-244, regarding the VLF2 Phase 3 Stage A.1 Recertification Record of Construction Report. Below are DRMS comments in bold and CC&V's response in *italics*.

Record of Construction Report

1 **Section 4 Geomembrane Quality Control Submittal: On page 7, the report states, "The site inventory for all geomembrane used within the VLF2 P3 A.1 Recertification area is presented in Appendix D.1." The referenced appendix is incorrect and needs to be revised to Appendix D.2.**

Please see the revised VLF2 P3 A.1 Recertification Report, enclosed as Attachment 1.

2 **Section 4.1 Geomembrane Installation Personnel Résumés: On page 7, the report states, "Geomembrane installation personnel résumés for all crews that performed work on the VLF2 P3 A.1 Recertification Project are presented in Appendix D.2." The referenced appendix is incorrect and needs to be revised to Appendix D.1.**

Please see the revised VLF2 P3 A.1 Recertification Report, enclosed as Attachment 1.

3 **Section 4 Geomembrane Quality Control Submittal and Section 4.2 Geomembrane Roll QC Certificates: Section 4 states the site inventory for all geomembrane used within the recertification area is presented in Appendix [D.2] and Section 4.2 states the QC certificates for each geomembrane roll used within the recertification area are presented in Appendix D.3. Appendix D.2 and D.3 appears to include all 348 geomembrane rolls that were originally brought to the site starting in April of 2022 for the construction of VLF2 Phase 3. As the Roll Numbers provided in Appendix E.1 – Geomembrane Deployment Summary do not easily correlate to the Roll Numbers provided in Appendix D.2 and D.3, please revise Appendix D.2 and D.3 to highlight/call-out which geomembrane rolls where used in the recertification area.**

Please see the revised Geomembrane Quality Control section, enclosed as Attachment 2.

Newmont NORTH AMERICA

NORTH AMERICA

CRIPPLE CREEK & VICTOR newmont.com
PO Box 191
100 N. 3rd Street
Victor CO 80860

Appendix H – Drain Cover Fill

4 **Appendix H.3 – Drain Cover Fill Ore Laboratory Summary and Results: The header of the CQA Earthworks Testing Summary (Crushed Ore) Table contains the five specified percent passing ranges of the U.S. standard sieve for the grain size distribution. Please update the 2-inch and ¾-inch headers to indicate the range as specified in the Technical Specification No. 02200 Earthworks for Drain Cover Fill (crushed ore) instead of just the lower end of each range.**

Please see the revised Appendix H.3 - CQA Earthworks Testing Summary Table, enclosed as Attachment 3.

Should you require further information, please do not hesitate to contact Johnna Gonzalez at (719)851-4190, Johnna.Gonzalez@Newmont.com, or myself at (719) 237-3442 or Katie.Blake@newmont.com.

Sincerely,

DocuSigned by:
Katie Blake
5A3D013B629844B...

Katie Blake
Sustainability & External Relations Manager
Cripple Creek & Victor Gold Mining Co

EC: E. Russell - DRMS
Z. Trujillo - DRMS
J. McBryde – Teller County
J. Gonzalez – CC&V
K. Blake – CC&V
N. Townley – CC&V

Attachments: Attachment 1 - VLF2 P3 A.1 Recertification Report - Revised
Attachment 2 - Geomembrane Quality Control - Revised
Attachment 3 – Laboratory Sample Results - Revised

Discovery:\CC&V\S&ER Environmental\Correspondence\DNR\DRMS\Outgoing\May 2024

May 20, 2024
NewFields Project 475.0106.068

Newmont Mining Corporation
Cripple Creek & Victor Gold Mining Company
P.O. Box 191
Victor, CO 80860

Attention: **Travis Howard**
Process Manager

Re: **RECORD OF CONSTRUCTION REPORT**
VLF2 Phase 3 Stage A.1 Geomembrane Recertification Rev1

Dear Mr. Howard,

Submitted herewith is the Record of Construction Report for Construction Quality Assurance testing and observation performed by NewFields for the VLF2 Phase 3 Stage A.1 Recertification Project for Soil Liner Fill, Geomembrane, and Drain Cover Fill at the Creek and Victor Gold Mine. Based on the construction activities observed, testing performed, and inspections completed, NewFields certifies that the existing Soil Liner Fill, Geomembrane Repair and Replacement, High Volume Solution Collection Piping, and Drain Cover Fill replacement was constructed in accordance with the VLF2 Phase 3 Technical Specifications.

If you have any questions or require additional information, please contact the undersigned.

Sincerely,
NewFields Mining Design & Technical Services

Jay Janney-Moore, P.E.
Engineer of Record

Reviewed by:

Derek Wittwer, P.E.
Principal, Partner

TGW/JNM/DTW
Addressee: (3) + electronic

P:\Projects\0106.068 CC&V Liner Repair\J-REPORTS\RoC\RoC Submittal

VLF2 Phase 3 Stage A.1 RECERTIFICATION
RECORD OF CONSTRUCTION REPORT

Prepared for:
Cripple Creek & Victor Gold Mining Company
P.O. Box 191
Victor, CO 80860

Prepared by:
NewFields Mining Design & Technical Services
9450 Maroon Circle, Ste. 300
Englewood, Colorado 80112

NewFields Job No. 475.0106.068
May 20, 2024 (Revision 1)

NewFields

TABLE OF CONTENTS

RECORD OF CONSTRUCTIONS DRAWINGS

- DRAWING 1 – SLF As-Built Survey and Testing
- DRAWING 2 – Geomembrane Panel Layout
- DRAWING 3 – DCF and Piping As-built

LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

NewFields Mining Design and Technical Services (NewFields) was commissioned by the Cripple Creek & Victor Gold Mining Company (CC&V), which is owned and managed by Newmont Mining Corporation (Newmont), to provide Construction Quality Assurance (CQA) for the Valley Leach Facility 2 Phase 3 Stage A.1 (VLF2 P3 A.1) Recertification Project. This Record of Construction (ROC) report certifies the existing Soil Liner Fill, Geomembrane Replacement and Repair, High Volume Solution Collection Piping replacement, and Drain Cover Fill replacement was performed within the Technical Specifications.

1.1. Definitions

The following definitions apply to this report:

- “Owner" is defined as Newmont Mining Corporation (Newmont) and Cripple Creek & Victor Gold Mining Company (CC&V).
- "Engineer" is a representative of NewFields, Jay Janney-Moore, P.E. a registered Professional Engineer in the State of Colorado.
- "CQA Monitor" is defined as the party or parties representing the Owner under the supervision of the Engineer. NewFields was the CQA Monitor for the VLF2 P3 A.1 Recertification Project.
- “Contractor” was JHL Constructors (JHL) located at 9100 E Panorama Ave., Englewood, CO 80112.
- “Geomembrane Installer” was Mustang Extreme Environmental Services (Mustang) located at 5049 Edwards Ranch Road, Fort Worth, TX 76109.
- “Geomembrane Manufacturer” was Agru America Inc. located at 2000 E Newlands Rd., Fernley, NV 89408.
- “Surveyor” was Foresight West Surveying, Inc. (Foresight) located at 1309 S. Inca Street, Denver, CO 80223.
- "Project Manager" is defined as a representative appointed and authorized by the Owner to act as a liaison between the Owner, the Contractor, and the Engineer. Daniel Egley acted in the capacity of the Project Manager for Newmont.

1.2. Technical Specifications

All soil liner fill, geomembrane installation, high volume solution collection piping, drain cover fill, and CQA activities were performed in accordance with the approved VLF2 Phase 3 Technical Specifications.

1.3. As-Built Survey

The Surveyor provided as-built survey to the Engineer used for the generation of VLF2 P3 A.1 Recertification Project Geomembrane, High Volume Solution Collection Piping, and Drain Cover Fill Record of Construction Drawings. A copy of the Surveyor's Professional License is presented in Appendix A.

1.4. Use of this Report

This report has been prepared exclusively for the Cripple Creek & Victor Gold Mining Company. No third party, other than NewFields, shall be entitled to rely on any information, conclusions, opinions, or other information contained herein without the express written consent of CC&V.

2. PROJECT DESCRIPTION

The project site is located at the Cripple Creek and Victor Gold Mine in Teller County near Cripple Creek, Colorado. The VLF2 P3 A.1 Recertification Project construction activities included removal of existing ore and Drain Cover Fill (DCF), removal of existing geomembrane, verification of the existing Soil Liner Fill (SLF) thickness and compaction, installation of 80-mil Linear Low-Density Polyethylene (LLDPE) double sided textured geomembrane, re-installment of the High-Volume Solution Collection (HVSC) Piping within the project limits, and the placement of the DCF. The VLF2 P3 A.1 Recertification area is shown on the Record of Construction Drawings. This report covers the recertification construction activities monitored between February 2024 through April 2024.

3. CONSTRUCTION ACTIVITIES

3.1. Weekly Observation Reports

Weekly field observation reports prepared during the VLF2 P3 A.1 Recertification Project are presented in Appendix B.

3.2. Existing Geomembrane Exposure

Existing ore material and DCF were removed from the area to inspect for damage to the HVSC piping, geomembrane, and underlying SLF. Dozers, skid steer loaders, and track mounted excavators were utilized to remove these materials from the geomembrane. A John Deere 750L and D6 LGP dozer were used to remove any materials located between two and four feet above the geomembrane and Volvo ECR88D track mounted excavators were used to remove DCF less than two feet above the geomembrane. Laborers spotted equipment and manually shoveled material from directly above the geomembrane. The removed DCF was stockpiled near the recertification area to be reused upon acceptance of the recertified geomembrane. Ore materials

were also stockpiled and hauled to a different location within the VLF by Mine Operations. The existing geomembrane was not removed within the project limits until the liner installation crew had arrived to prevent damage to the underlying SLF. The CQA Monitor observed and documented all geomembrane exposure activities and upon initial observation of the existing geomembrane, damage was not evident.

3.3. Existing SLF Verification

Prior to geomembrane installation, the existing SLF was exposed and the depth, moisture, and density was verified. The SLF surface was inspected and approved by Mustang, JHL and NewFields prior to geomembrane repair and replacement. The SLF depth and density test locations are shown on **Drawing 1**. The results of the density are presented in **Appendix C**.

3.4. Geomembrane Installation

Mustang installed approximately 19,120 square feet of 80-mil LLDPE double sided textured geomembrane within the VLF2 Phase 3 A.1 Recertification limits. The recertification area being certified in this report herein is shown on **Drawing 2**. Skid steers with forks and attachments were used to transport and deploy the geomembrane panels parallel to the slope to minimize stress on seams. Double-wedge fusion welding was the primary method of geomembrane seaming around the limits of the repair and replacement. Extrusion welding methods were used for defect repairs and detail activities. Continuity conformance of fusion welded seams was performed using pressure testing methods. Extrusion welded seams and repairs were non-destructively tested using vacuum testing methods. Trial seam and destructive testing was performed before welding began each day and after midday for both types of welding. The CQA Monitor observed and documented all geomembrane installation activities. Geomembrane quality assurance observations and testing is discussed further in Section 5.

3.5. High Volume Solution Collection Piping

JHL removed and reinstalled the existing High-Volume Solution Collection Piping located within the VLF2 Phase 3 A.1 Recertification limits. The High-Volume Solution Collection Piping is shown on **Drawing 3**. Quality Assurance and Observations are discussed further in Section 6.

3.6. Drain Cover Fill

JHL placed stockpiled DCF within the VLF2 Phase 3 A.1 Recertification limits over the geomembrane and High-Volume Solution Collection Piping. The Drain Cover Fill placement is shown on **Drawing 3**. Quality Assurance and Observations are discussed further in Section 7.

4. GEOMEMBRANE QUALITY CONTROL SUBMITTALS

The CQA Monitor reviewed and approved all geomembrane QC submittals, including geomembrane installation personnel résumés, geomembrane roll QC certificates, geomembrane resin QC certificates, and welding rod QC certificates. The site inventory for all geomembrane used within the VLF2 P3 A.1 Recertification area is presented in **Appendix D.2**.

4.1. Geomembrane Installation Personnel Résumés

Mustang submitted the résumés of all installation personnel prior to construction or repair activities within the VLF2 P3 A.1 Recertification Project. The CQA Monitor verified that the Installation Superintendent, Master Seamer and QC Inspector possessed the installation experience required by the Technical Specifications. Geomembrane installation personnel résumés for all crews that performed work on the VLF2 P3 A.1 Recertification Project are presented in **Appendix D.1**.

4.2. Geomembrane Roll QC Certificates

The geomembrane for the VLF2 P3 A.1 Recertification project was manufactured by AGRU America in 2022. Manufacturing Roll QC certificates were submitted for every roll of geomembrane (approximately one every 9,000 square feet), exceeding the required minimum frequency of one per 50,000 square feet of geomembrane. The QC certificates for each roll were reviewed the CQA Monitor, ensuring all geomembrane materials met or exceeded the Technical Specifications. The QC certificates for each geomembrane roll used within the VLF2 Recertification area are presented in **Appendix D.3**.

4.3. Geomembrane Resin QC Certificates

AGRU America manufactured the geomembrane for the VLF2 P3 A.1 Recertification Project by using LLDPE polymer raw material (resin). Chevron Phillips Chemical Company provided resin QC certificates at a rate of one per rail car shipment. The resin QC certificates were reviewed by the CQA Monitor, ensuring all materials met or exceeded the Technical Specifications. The resin QC certificates for all geomembrane used within the VLF2 P3 A.1 Recertification area is presented in **Appendix D.4**.

4.4. Geomembrane Welding Rod QC Certificates

AGRU America manufactured the extrusion welding rod for the VLF2 Recertification Project from various resin lots. The CQA Monitor reviewed and verified that all welding rod QC certificates

that were provided by Chevron Phillips Chemical Company met the Technical Specifications. The welding rod QC certificates are presented in **Appendix D.5**.

5. GEOMEMBRANE QUALITY ASSURANCE

CQA performed on installed LLDPE geomembrane consisted of visual observations of panel deployment, double-wedge fusion seaming, extrusion seaming, extrusion welded repairs, non-destructive testing, and destructive testing. Fusion welded seams were non-destructively tested for continuity using pressure testing methods. Extrusion welds were non-destructively tested using vacuum testing methods. Fusion and extrusion welding methods were also tested destructively. All field sampling and testing was performed by Mustang and observed by the CQA Monitor. Visual observations of field seams and panels were routinely made to inspect the seam for squeeze-out, melt, over-grind, and overlap. Defects and/or failed seams were marked and repaired in accordance with the specified repair procedures.

Welding machines were continually inspected for proper operation, settings, and condition by performing trial welds prior to actual geomembrane installation. Logs of the trial welds, panels, seams, continuity testing, repairs, and destructive testing were maintained by both the contractor and the CQA Monitor on a daily basis. The CQA Monitor's geomembrane installation logs are presented in **Appendix E**.

All geomembrane installation for the VLF2 P3 A.1 Recertification was performed in accordance with the Technical Specifications. **Drawing 2** shows panel locations, seams, destructive test locations, and existing geomembrane conformance sample locations.

5.1.1. Third Party Conformance Testing

Third party conformance test samples were tested by TRI in Anaheim, CA. All conformance test results were reviewed by a NewFields representative and verified that they met the Technical Specifications. Third party conformance test results are presented in **Appendix F**.

5.1.2. Geomembrane Panel Deployment

The SLF surface was inspected by the CQA monitor prior to geomembrane deployment, ensuring the surface was free of any protruding rock greater than 0.75" or irregularities (rutting, ridges, indentations, etc.) greater than 0.5". The SLF surface was approved by Mustang, JHL, CC&V, and NewFields prior to and during deployment each day. SLF acceptance forms are presented in **Appendix C**. The exposed portion of geomembrane on the rolls utilized for deployment was removed and discarded before panel installation. During geomembrane panel deployment the CQA Monitor logged the dimensions of each panel and the roll number used for each panel. Roll

numbers were checked against the site inventory to ensure only approved geomembrane was deployed. The Geomembrane Panel Deployment Summary is presented in **Appendix E.1**.

5.1.3. Geomembrane Fusion Seaming

Double-wedge fusion welding was the primary method of geomembrane seaming for the VLF2 P3 A.1 Recertification. Prior to fusion welding activities at the beginning of shift, or after midday breaks, trial welds were performed for each welding machine and welding technician combination. The fusion welding trial seam logs are presented in **Appendix E.2**. The weld was inspected constantly for insufficient overlap, burnouts, or any other damage caused during the welding process. The CQA Monitor logged the welding machine and welding technician combination, the length of the seam, the direction the seam was welded, time of seaming, the welding machine temperature, and the welding machine speed. Destructive test samples were marked during fusion seaming and testing is discussed further in **Section 5.1.5**. Continuity conformance of the seam is also performed using pressure tested methods and is discussed further in **Section 5.1.6**. The Geomembrane Fusion Welding Summary is presented in **Appendix E.4**.

5.1.4. Geomembrane Extrusion Seaming

Around the perimeter of the recertification area, the deployed geomembrane was tied-into the previously placed geomembrane using fusion welding as the primary tie-in method. The tie-in was welded using extrusion welding methods if fusion welding was not feasible. Prior to extrusion seaming activities, trial welds were performed for each welding machine and welding technician combination. The extrusion trial seam logs are presented in **Appendix E.3**. As extrusion seaming was performed proper techniques were verified, including welding angle, grinding, and weld/welding rod cleanliness. The CQA Monitor logged the welding machine and welding technician combination, the length of the seam, the direction the seam was welded, time of seaming, the pre-heat temperature, and the welding temperature. Destructive test samples were marked during extrusion seaming and testing is discussed further in **Section 5.1.5**. All extrusion welded seams were vacuum tested and is discussed further in **Section 5.1.7**. The Geomembrane Extrusion Welding Summary is presented in **Appendix E.5**.

5.1.5. Geomembrane Destructive Testing

During welding activities destructive test samples were marked for every 500 linear feet of seam for each welding type and each welding machine/welding technician combination. A 36-inch long by 12-inch-wide sample was cut from the seam centered on the seam lengthwise. The sample was then cut into three 12-inch sections. Two sections were archived by the CQA Monitor to be tested later, if necessary. Ten 1-inch coupons were then cut from the remaining sample in half. Five coupons were tested for shear strength and five coupons were tested for peel strength using

a tensiometer. The different failure types and test codes for fusion and extrusion destructive testing are presented on **Figures 1 and 2**, respectively. All destructive testing was performed by Mustang in the presence of the CQA Monitor. No destructive tests failed. Fusion and Extrusion Destructive Testing Summaries are presented in **Appendix E.6** and **Appendix E.7**, respectively, and the tensiometer certifications are presented in **Appendix G**.

5.1.6. Geomembrane Pressure Testing

Pressure testing was performed to ensure all fusion welded seams had continuity throughout their entire length. The ends of the seam were sealed and the air channel in the seam was pressurized using a small air compressor to a minimum of 30 pounds per square inch (psi), for a minimum of five minutes. A pressure gauge and needle were used to monitor the air pressure in the seam. If the pressure dropped less than 3 psi, the opposite end of the seam from the pressure gauge was cut. If the needle dropped, continuity was confirmed throughout entire seam length and the test was considered "passing." If pressure drops of more than 3 psi occurred or the continuity was not proven, smaller sections of the seam were tested to delineate the failing section of the seam. All failing seams or portions of seams were repaired and vacuum tested. The Geomembrane Seam Pressure Testing Summary is presented in **Appendix E.8**.

5.1.7. Geomembrane Defects and Repairs

The CQA Monitor constantly inspected the geomembrane for defects from the time it was deployed to DCF placement. All defects were marked with a defect number by the CQA Monitor and repaired. Repairs were performed using the extrusion welding method and patches extended at least 6-inches past the defect in all directions. All repairs were assigned a repair number and cross checked with defect numbers to ensure all defects were repaired.

All repairs and extrusion welded seams were non-destructively tested using a vacuum box. The area being tested was covered in soapy water and the vacuum box was sealed to the geomembrane. A vacuum was pulled over the area for at least 10 seconds and if no bubbles were present the test passed. If bubbles were present the area failed and was marked as a defect. The repair process would then be repeated for the failing vacuum test. Vacuum tests overlapped with each other by a minimum of 3-inches. The Geomembrane Defect/Repair Summary, including vacuum testing logs, is presented in **Appendix E.9**.

5.1.8. Geomembrane Acceptance

Prior to DCF placement, the geomembrane was accepted by Mustang, JHL, CC&V and NewFields. All CQA logs and survey data were thoroughly reviewed ensuring that all aspects of the geomembrane installation were performed in accordance with the Technical Specifications. Geomembrane Acceptance Forms are presented in **Appendix E.10**.

6. HIGH VOLUME SOLUTION COLLECTION PIPING

HVSC Piping was exposed during the excavation of the VLF2 P3 A.1 Recertification project limits. The existing HVSC piping had remained intact until the excavation. The existing HVSC piping was removed before the geomembrane work. The exposed tie-ins of the HVSC piping still contained with-in existing DCF were capped during the geomembrane work.

The sections of HVSC piping that had been removed were reinstalled upon the completion of the geomembrane work. The HVSC piping was reinstalled to its original location and included on **Drawing 3.**

7. DRAIN COVER FILL

Drain Cover Fill Ore (DCFO) was placed on the approved geomembrane. Dozers, skid steer loaders, and a front-end loader were utilized to place the DCF on the geomembrane. A John Deere 750L dozer and two John Deere 333 skid steer front end loaders were used to place DCF in a minimum two-foot-thick lift. A CAT IT28 Loader stockpiled DCF for placement by the dozer and skid steers. Laborers spotted equipment, verified lift thickness, and ensured the LVSC piping stayed connected and in place during DCF placement.

8. PROJECT DEVIATIONS

The following deviation from the technical specifications was approved by the Engineer of Record:

- The DCFO record sample DCFO-3-R did not meet the project technical specifications. It is our opinion that the removal and replacement of the DCFO material caused it to partially segregate, resulting in the project deviation.

  The Technical Specifications for DCFO state that the DCFO material shall have less than 8 percent of the material passing the #200 Sieve and shall be considered non-plastic. DCFO-3-R test results indicated 9.4 percent material passing the #200 Sieve and the Plasticity Index as 6.

  The Engineer of Record approved the deviation given the following reasoning:

  Based on the approximate cubic yards placed as presented in Appendix H.2 only one sample of DCFO was required per the Technical Specifications. Three samples were obtained due to the concern of material segregation. Two samples passed specifications and one sample was slightly out of compliance.

  ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) was used in conjunction with the particle-size distribution results, and the sample was classified as follows:

DCF-3-R Poorly Graded Gravel with clay and sand (GP-GC); DCFO is predominantly gravel sized crushed rock, with coarse sand being the secondary constituent, and fine sand, silt, and clay the tertiary constituents. Whereas some of the finer fraction of these samples was outside the Specifications, the DCFO material, as a whole, is considered non-plastic.

In addition, the DCFO provides two functions in the facility design: (1) a drainage layer for solution over the geomembrane liner; and (2) as a protective layer for the geomembrane liner. The DCFO will provide protection for the liner system, and based on the location where this sample was taken (on the VLF2 Phase 3 A.1 Liner Recertification 2:1 Slope), the material will maintain sufficient transmissivity to provide active drainage towards the downstream Phase 3 Pond Storage Solution Area (PSSA).

Although test results were slightly outside of the values set forth in the Technical Specifications, it is our opinion the material meets the intent of the design.

9. CONCLUSION

Based on a review of the construction documents, the daily observation reports, our professional judgment, and the quality control and assurance testing, it is our opinion that the construction activities associated with the VLF2 Phase 3 Stage A.1 Recertification were completed in conformance with the approved Technical Specifications.

APPENDIX D – GEOMEMBRANE QUALITY CONTROL SUBMITTALS

APPENDIX D.1 – RÉSUMÉS OF INSTALLATION PERSONNEL

APPENDIX D.2 – 80-MIL LLDPE INVENTORY

APPENDIX D.3 – 80-MIL LLDPE DSMS GEOMEMBRANE ROLL QC CERTIFICATES

APPENDIX D.4 - 80-MIL LLDPE DSMS GEOMEMBRANE RESIN QC CERTIFICATES

APPENDIX D.5 – WELDING ROD QUALITY CONTROL CERTIFICATES

APPENDIX D.1 – RÉSUMÉS OF INSTALLATION PERSONNEL

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

MASTER SEAMER RESUME

For

Hector Ayala

The following project reference list is only a partial list to document recent experience.

- Wenatchee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Stillwater Mine (Nye, MT) 180,700 Square Feet of 80 MIL HDPE & Geocomposite.
- El Sobrante Landfill Phase 12 (Corona, CA) – 1,077,420 Square Feet of 60 MIL HDPE, 1,071,800 Square Feet of 40 mil HDPE, 1,060,824 Square Feet of GCL, 603,466 Square Feet of 12 oz. Geotextile, 928,650 Square Feet of 8 oz. Geotextile, 162,650 Square Feet of geocomposite, Wind Defender, & 8 MIL Raven.
- Golden Vertex Phase 2B Leach Pad (Bullhead City, AZ) 619,950 Square Feet of 80 MIL HDPE, 590,550 Square Feet of GCL.
- Stillwater Mine Stage 2 Phase 2 East Dump Project (Nye, MT) 405,590 Square Feet of 80 MIL HDPE & Geocomposite.
- Simi Valley Landfill (Simi Valley, CA) 1,063,271 Square Feet of 60 MIL HDPE, 585,862 Square Feet of 80 MIL HDPE, 1,063,271 Square Feet of GCL, 622,536 Square Feet of 8 oz. Nonwoven Geotextile, 586,660 Square Feet of 16 oz. Nonwoven Geotextile, 1,063,271 Square Feet of Geocomposite, 924,532 Square Feet of 12 MIL Raven, 924,532 Square Feet of Wind Defender.

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

QUALITY CONTROL TECHNICIAN -INSTALLATION FOREMAN RESUME

Jorge Carbajal Ruiz

The following project reference list is only a partial list to document recent experience.

- McKittrick Landfill (McKittrick, CA) 285,000 Square Feet of 60 MIL HDPE, GCL, & Double Sided Geocomposite.
- Wenatchee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Stillwater Mine (Nye, MT) 180,700 Square Feet of 80 MIL HDPE & Geocomposite.
- El Sobrante Landfill Phase 12 (Corona, CA) – 1,077,420 Square Feet of 60 MIL HDPE, 1,071,800 Square Feet of 40 mil HDPE, 1,060,824 Square Feet of GCL, 603,466 Square Feet of 12 oz. Geotextile, 928,650 Square Feet of 8 oz. Geotextile, 162,650 Square Feet of geocomposite, Wind Defender, & 8 MIL Raven.
- Golden Vertex Phase 2B Leach Pad (Bullhead City, AZ) 619,950 Square Feet of 80 MIL HDPE, 590,550 Square Feet of GCL.
- Stillwater Mine Stage 2 Phase 2 East Dump Project (Nye, MT) 405,590 Square Feet of 80 MIL HDPE & Geocomposite.
- Simi Valley Landfill (Simi Valley, CA) 1,063,271 Square Feet of 60 MIL HDPE, 585,862 Square Feet of 80 MIL HDPE, 1,063,271 Square Feet of GCL, 622,536 Square Feet of 8 oz. Nonwoven Geotextile, 586,660 Square Feet of 16 oz. Nonwoven Geotextile, 1,063,271 Square Feet of Geocomposite, 924,532 Square Feet of 12 MIL Raven, 924,532 Square Feet of Wind Defender.

- WMI El Sobrante Phase 13A (Corona, CA) – 935,546 Square Feet of 40 mil Textured HDPE, 936,858 Square Feet of GCL, 955,489 Square Feet of 60 mil Textured HDPE, 729,160 Square Feet of 12-ounce nonwoven geotextile, 234,170 Square Feet of Durascrim 8BBR, 238,807 Square Feet
- WMI Altamont Phase 4 (Livermore, CA – 328,608 Square Feet of 8 oz nonwoven geotextile, 397,030 Square feet of Geocomposite, 390,517 Square Feet of GCL, 813,910 Square Feet of 60 mil HDPE, 423,691 Square Feet of 12 oz geotextile.
- WMI Butterfield Cell 15A – (Maricopa, AZ) – 973,118 Square Feet of GCL, 990,896 Square Feet of 60 mil Textured HDPE, 722,031 Square Feet of Geocomposite, 261,233 Square Feet of 16 oz nonwoven geotextile.
- WMI Northwest Regional Landfill (Surprise, AZ) – 613,021 Square Feet of GCL, 614,326 Square Feet of 60 mil HDPE Textured Liner, 489,066 Square Feet of Single Sided Geocomposite, 139,283 Square Feet of 16 oz nonwoven geotextile.

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

MASTER SEAMER RESUME

JORGE PINEDA

The following project reference list is only a partial list to document recent experience.

- McKittrick Landfill (McKittrick, CA) 285,000 Square Feet of 60 MIL HDPE, GCL, & Double Sided Geocomposite.
- Wenatchee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Stillwater Mine (Nye, MT) 180,700 Square Feet of 80 MIL HDPE & Geocomposite.
- El Sobrante Landfill Phase 12 (Corona, CA) – 1,077,420 Square Feet of 60 MIL HDPE, 1,071,800 Square Feet of 40 mil HDPE, 1,060,824 Square Feet of GCL, 603,466 Square Feet of 12 oz. Geotextile, 928,650 Square Feet of 8 oz. Geotextile, 162,650 Square Feet of geocomposite, Wind Defender, & 8 MIL Raven.
- Golden Vertex Phase 2B Leach Pad (Bullhead City, AZ) 619,950 Square Feet of 80 MIL HDPE, 590,550 Square Feet of GCL.
- Stillwater Mine Stage 2 Phase 2 East Dump Project (Nye, MT) 405,590 Square Feet of 80 MIL HDPE & Geocomposite.
- Simi Valley Landfill (Simi Valley, CA) 1,063,271 Square Feet of 60 MIL HDPE, 585,862 Square Feet of 80 MIL HDPE, 1,063,271 Square Feet of GCL, 622,536 Square Feet of 8 oz. Nonwoven Geotextile, 586,660 Square Feet of 16 oz. Nonwoven Geotextile, 1,063,271 Square Feet of Geocomposite, 924,532 Square Feet of 12 MIL Raven, 924,532 Square Feet of Wind Defender.

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

RESUME

For Welding Technician

Jose Gutierrez

The following project reference list is only a partial list to document recent experience.

- Wenatchee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Stillwater Mine (Nye, MT) 180,700 Square Feet of 80 MIL HDPE & Geocomposite.
- El Sobrante Landfill Phase 12 (Corona, CA) – 1,077,420 Square Feet of 60 MIL HDPE, 1,071,800 Square Feet of 40 mil HDPE, 1,060,824 Square Feet of GCL, 603,466 Square Feet of 12 oz. Geotextile, 928,650 Square Feet of 8 oz. Geotextile, 162,650 Square Feet of geocomposite, Wind Defender, & 8 MIL Raven.
- Golden Vertex Phase 2B Leach Pad (Bullhead City, AZ) 619,950 Square Feet of 80 MIL HDPE, 590,550 Square Feet of GCL.
- Stillwater Mine Stage 2 Phase 2 East Dump Project (Nye, MT) 405,590 Square Feet of 80 MIL HDPE & Geocomposite.
- Simi Valley Landfill (Simi Valley, CA) 1,063,271 Square Feet of 60 MIL HDPE, 585,862 Square Feet of 80 MIL HDPE, 1,063,271 Square Feet of GCL, 622,536 Square Feet of 8 oz. Nonwoven Geotextile, 586,660 Square Feet of 16 oz. Nonwoven Geotextile, 1,063,271 Square Feet of Geocomposite, 924,532 Square Feet of 12 MIL Raven, 924,532 Square Feet of Wind Defender.

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

INSTALLATION SUPERINTENDENT RESUME

For

Rene Alfaro

Installation superintendents must have a minimum of ten million square feet of supervisory experience in geosynthetic liner installations. The following project reference list is only a partial list to document the minimum experience required.

- McKittrick Landfill (McKittrick, CA) 285,000 Square Feet of 60 MIL HDPE, GCL, & Double Sided Geocomposite.
- Wenatchee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Tangipahoa Parish Landfill Closure (Independence, LA) – 985,320 Square Feet LLDPE & Closure Turf with previous employer.
- Atlantic Waste Disposal (Waverly, VA) – 3,000,000 Square feet of HDPE, GCL & Geocomposite over multiple projects with previous employer.
- Chesser Island Road Landfill (Folkston, GA) – 2,000,000 Square Feet HDPE, GCL, Geocomposite over multiple projects with previous employer.
- Butterfield Landfill (Maricopa, AZ) 990,896 Square Feet of GCL & 60 mil Double Sided Textured HDPE, 722,031 Square Feet of Geocomposite, 261,233 Square Feet of nonwoven geotextile
- Marana Landfill (Marana, AZ) 837,645 Square Feet of GCL, 60 mil Double Sided Textured HDPE, 535,927 Square Feet of Double-sided geocomposite, 836,645 Square Feet of nonwoven geotextile

- Northwest Regional Landfill (Surprise, AZ) 619,032 Square Feet of 60 Mil HDPE, 619,032 Square Feet of GCL, 508,757 Square Feet of Geocomposite, 110,000 Square Feet of 16 oz. Geotextile
- Kirby Canyon Landfill (Morgan Hill, CA) 511,384 Square Feet of 40 mil HDPE, 503,974 Square Feet of 80 Mil HDPE, 503,974 Square Feet of GCL, 514,642 Square Feet of Geocomposite
- El Sobrante Landfill Phase 12 (Corona, CA) – 1,077,420 Square Feet of 60 MIL HDPE, 1,071,800 Square Feet of 40 mil HDPE, 1,060,824 Square Feet of GCL, 603,466 Square Feet of 12 oz. Geotextile, 928,650 Square Feet of 8 oz. Geotextile, 162,650 Square Feet of Geocomposite, Wind Defender, & 8 MIL Raven.

Rene Alfaro has over 36 years of installation experience across a wide variety of industries including solid waste, mining, petrochemical, agriculture, and energy.

5049 Edwards Ranch Road – Suite 200

Fort Worth, Teas 76109

(817) 441-1235

OPERATOR- FOREMAN RESUME

For

Teresa Alfaro

Foremen must have a minimum of five million square feet of hands on synthetic liner welding experience. The following project reference list is only a partial list to document the minimum experience required.

- McKittrick Landfill (McKittrick, CA) 285,000 Square Feet of 60 MIL HDPE, GCL, & Double Sided Geocomposite.
- Wentachee Landfill (Wenatchee, WA) 469,000 Square Feet of 60 MIL HDPE & GCL. 148,000 Square Feet of 6 oz. Nonwoven Geotextile, 148,000 Square Feet of 16 oz. Nonwoven Geotextile.
- Saufley Field Landfill Closure (Pensacola, FL) – 1,001, 880 Square Feet LLDPE & Closure Turf with former employer.
- G.R.O.W.S. Landfill Closure (Morrisville, PA) – 1,306,800 Square Feet LLDPE, Geotextile with former employer.
- El Sobrante Landfill Cells 9B, 10, 11 A (Corona, CA) – 3,000,000 Square Feet HDPE, GCL, Geocomposite with former employer.

Teresa Alfaro has over 12 years of installation experience across a wide variety of industries including solid waste, mining, petrochemical, agriculture, and energy.

5049 Edwards Ranch Road – Suite 240

Fort Worth, Texas 76109

(817) 441-1235

MASTER SEAMER RESUME

Yoseli Roberto Perez Varona

The following project reference list is only a partial list to document recent experience from 2023.

- Kersey Valley Landfill Phase 6 – Jamestown, NC – 289,500 Square Feet of GCL, HDPE 60 MIL TEXTURED LINER, 6 oz. Nonwoven Geotextile, 12 oz. Nonwoven Geotextile.
- Oceana Gold WPAG – Kershaw, SC – 3,239,293 Square Feet HDPE 80 MIL TEXTURED LINER, 926,250 Square Feet of HDPE GEONET.
- Oceana Gold 465 Pond & Sediment Trap Liner -Kershaw, SC – 469,058 Square Feet of HDPE 60 MIL TEXTURED LINER, 237,680 Square Feet of HDPE Geonet.

APPENDIX D.2 – 80-MIL LLDPE INVENTORY

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

NewFields
Perspective. Vision. Solutions.

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FNA0091850001	DNK810410	23	410	9,430	x	x	x	04/21/22
FNA0091850002	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850003	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850004	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850005	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850006	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850007	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850008	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850009	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850010	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850011	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850012	DNK810410	23	410	9,430		x	x	04/21/22
FNA0091850013	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850014	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850015	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850016	DNK810410	23	410	9,430	x	x	x	04/20/22
FNA0091850017	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850018	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850019	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850020	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850021	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850022	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850023	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850024	DNK810410	23	410	9,430		x	x	04/20/22
FNA0091850025	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850026	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850027	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850028	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850029	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850030	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850031	DNK810410	23	410	9,430	x	x	x	04/19/22
FNA0091850032	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850033	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850034	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850035	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850036	DNK810410	23	410	9,430		x	x	04/19/22
FNA0091850037	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850038	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850039	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850040	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850041	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850042	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850043	DNK810410	23	410	9,430		x	x	04/26/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FNA0091850044	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850045	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850046	DNK810410	23	410	9,430	x	x	x	04/26/22
FNA0091850047	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850048	DNK810410	23	410	9,430		x	x	04/26/22
FNA0091850049	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850050	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850051	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850052	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850053	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850054	DNK810410	23	410	9,430		x	x	04/27/22
FNA0091850055	21KB544	23	410	9,430		x	x	04/27/22
FNA0091850056	21KB544	23	410	9,430	x	x	x	04/27/22
FNA0091850057	21KB544	23	410	9,430		x	x	04/27/22
FNA0091850058	21KB544	23	410	9,430		x	x	04/27/22
FNA0091850059	21KB544	23	410	9,430		x	x	04/27/22
FNA0091850060	21KB544	23	410	9,430		x	x	04/27/22
FNA0091850061	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850062	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850063	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850064	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850065	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850066	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850067	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850068	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850069	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850070	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850071	21KB544	23	410	9,430	x	x	x	04/21/22
FNA0091850072	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850073	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850074	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850075	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850076	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850077	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850078	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850079	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850080	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850081	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850083	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850084	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850085	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850086	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850087	21KB544	23	410	9,430	x	x	x	04/21/22
FNA0091850088	21KB544	23	410	9,430		x	x	04/21/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FNA0091850089	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850090	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850091	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850092	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850093	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850094	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850095	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850096	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850097	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850098	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850099	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850100	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850101	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850102	21KB544	23	410	9,430	x	x	x	04/21/22
FNA0091850103	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850104	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850105	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850106	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850107	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850108	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850109	21KB544	23	410	9,430		x	x	04/21/22
FNA0091850110	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850111	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850112	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850113	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850114	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850115	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850116	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850117	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850118	21KB544	23	410	9,430		x	x	04/19/22
FNA0091850119	21KB544	23	410	9,430		x	x	04/19/22
FND0103600003	DPF811480	23	410	9,430	x	x	x	10/11/22
FND0103600004	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600005	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600006	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600007	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600008	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600009	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600010	DPF811480	23	410	9,430		x	x	10/11/22
FND0103600011	DPF811480	23	410	9,430		x	x	09/30/22
FND0103600012	DPF811480	23	410	9,430		x	x	09/30/22
FND0103600013	DPF811480	23	410	9,430		x	x	09/30/22
FND0103600014	DPF811480	23	410	9,430		x	x	09/30/22
FND0103600015	DPF811480	23	410	9,430		x	x	10/03/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0103600016	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600017	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600018	DPF811480	23	410	9,430	x	x	x	10/03/22
FND0103600019	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600020	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600021	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600022	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600023	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600024	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600025	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600026	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600027	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600028	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600029	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600030	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600031	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600032	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600033	DPF811480	23	410	9,430	x	x	x	09/27/22
FND0103600034	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600035	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600036	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600037	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600038	DPF811480	23	410	9,430		x	x	09/27/22
FND0103600039	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600040	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600041	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600042	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600043	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600044	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600045	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600046	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600047	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600048	DPF811480	23	410	9,430	x	x	x	10/03/22
FND0103600049	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600050	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600051	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600052	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600053	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600054	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600055	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600056	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600057	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600058	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600059	DPF811480	23	410	9,430		x	x	10/03/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0103600060	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600061	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600062	DPF811480	23	410	9,430		x	x	10/03/22
FND0103600063	DPF811480	23	410	9,430	x	x	x	10/05/22
FND0103600064	DPF811480	23	410	9,430		x	x	10/05/22
FND0103600065	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600066	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600067	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600068	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600069	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600070	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600071	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600072	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600073	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600074	DPF811480	23	410	9,430		x	x	10/05/22
FND0103600075	DPF811480	23	410	9,430		x	x	10/10/22
FND0103600076	DPF811480	23	410	9,430		x	x	10/10/22
FND0103600077	DPF811480	23	410	9,430		x	x	10/10/22
FND0103600078	DPF811350	23	410	9,430	x	x	x	10/10/22
FND0103600079	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600080	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600081	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600082	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600083	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600084	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600085	DPF811350	23	410	9,430		x	x	10/10/22
FND0103600087	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600088	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600089	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600090	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600091	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600092	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600093	DPF811350	23	410	9,430		x	x	10/06/22
FND0103600094	DPF811350	23	410	9,430	x	x	x	10/06/22
FND0103600095	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600096	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600097	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600098	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600099	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600100	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600101	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600102	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600103	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600106	DPH810510	23	410	9,430		x	x	10/07/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0103600107	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600108	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600109	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600110	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600111	DPH810510	23	410	9,430	x	x	x	10/07/22
FND0103600112	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600114	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600115	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600116	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600117	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600118	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600119	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600120	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600121	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600122	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600123	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600124	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600125	DPH810510	23	410	9,430		x	x	10/05/22
FND0103600126	DPH810510	23	410	9,430		x	x	10/10/22
FND0103600127	DPH810510	23	410	9,430	x	x	x	10/06/22
FND0103600128	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600129	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600130	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600131	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600132	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600133	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600134	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600135	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600136	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600137	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600138	DPH810510	23	410	9,430		x	x	10/06/22
FND0103600139	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600140	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600141	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600142	DPH810510	23	410	9,430	x	x	x	10/07/22
FND0103600143	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600144	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600145	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600146	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600147	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600148	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600149	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600150	DPH810510	23	410	9,430		x	x	10/07/22
FND0103600151	DPH810510	23	410	9,430		x	x	10/12/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0103600152	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600153	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600154	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600155	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600156	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600157	DPH810510	23	410	9,430	x	x	x	10/12/22
FND0103600158	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600159	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600160	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600161	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600162	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600163	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600164	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600165	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600166	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600167	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600168	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600169	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600170	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600171	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600173	DPH810510	23	410	9,430	x	x	x	10/12/22
FND0103600174	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600175	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600176	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600177	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600178	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600179	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600180	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600181	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600182	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600183	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600184	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600185	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600186	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600187	DPH810510	23	410	9,430		x	x	10/12/22
FND0103600188	DPH810490	23	410	9,430	x	x	x	10/12/22
FND0103600189	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600190	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600191	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600192	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600193	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600194	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600195	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600196	DPH810490	23	410	9,430		x	x	10/12/22

Cripple Creek & Victor Gold Mining Company
VLF 2 Phase 3
Stage A.1 Record of Construction
80-mil LLDPE Geomembrane Site Inventory Control

Roll Number	Resin Lot Number	Width (ft)	Length (ft)	Area (sf)	Conformance Test	Agru QC Certification	Resin Certification	Site Delivery Date
FND0103600197	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600198	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600199	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600200	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600201	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600202	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600203	DPH810490	23	410	9,430	x	x	x	10/13/22
FND0103600204	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600205	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600206	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600207	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600208	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600209	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600210	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600211	DPH810490	23	410	9,430		x	x	10/13/22
FND0103600212	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600213	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600214	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600215	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600216	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600217	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600218	DPH810490	23	410	9,430	x	x	x	10/12/22
FND0103600219	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600220	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600222	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600223	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600224	DPH810490	23	410	9,430		x	x	10/12/22
FND0103600225	DPH810490	23	410	9,430		x	x	10/17/22
FND0103600226	DPH810490	23	410	9,430		x	x	10/17/22
FND0103600227	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600228	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600229	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600230	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600231	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600232	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600233	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600234	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600235	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600236	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600237	DPH810490	23	410	9,430		x	x	10/14/22
FND0103600238	DPH810490	23	410	9,430		x	x	10/14/22

APPENDIX D.3 – 80-MIL LLDPE DSMS GEOMEMBRANE ROLL QC CERTIFICATES

Geomembrane Quality Certification

Customer: Newmont Mining
Project:
Destination:
Report Date: 30-Mar-2022 10:39 AM

S.O.# SO00013688
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 118

								ASTM D5994		ASTM D7466		ASTM D8117	ASTM D792	ASTM D1248	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	Thickness-Min	Thickness-Avg	Asperity (top)	Asperity (bottom)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Tensile Break Str (MD)	Break Elong (MD)	Tensile Break Str (TD)	Break Elong (TD)	Tear Strength (MD)	Tear Strength (TD)	Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
1	FNA0091850001	02/24/22	23	410	9430	3824	DNK810410	73	78	29	32	217	0.932	0.34	2.7	10	238	531	257	616	63	64	148
2	FNA0091850002	02/24/22	23	410	9430	3820	DNK810410	75	78	29	35	217	0.932	0.34	2.7	10	238	531	257	616	63	64	148
3	FNA0091850003	02/24/22	23	410	9430	3810	DNK810410	75	79	30	32	217	0.932	0.34	2.7	10	238	531	257	616	63	64	148
4	FNA0091850004	02/24/22	23	410	9430	3806	DNK810410	74	78	31	30	217	0.932	0.34	2.6	10	238	531	257	616	63	64	148
5	FNA0091850005	02/24/22	23	410	9430	3816	DNK810410	75	78	29	34	217	0.932	0.34	2.7	10	238	531	257	616	63	64	148
6	FNA0091850006	02/24/22	23	410	9430	3812	DNK810410	72	77	31	30	217	0.932	0.34	2.4	10	230	520	256	618	63	64	148
7	FNA0091850007	02/24/22	23	410	9430	3812	DNK810410	73	78	30	32	217	0.932	0.34	2.4	10	230	520	256	618	63	64	148
8	FNA0091850008	02/24/22	23	410	9430	3812	DNK810410	73	77	29	30	217	0.932	0.34	2.4	10	230	520	256	618	63	64	148
9	FNA0091850009	02/24/22	23	410	9430	3812	DNK810410	74	77	28	30	217	0.932	0.34	2.6	10	230	520	256	618	63	64	148
10	FNA0091850010	02/24/22	23	410	9430	3812	DNK810410	73	77	34	30	217	0.932	0.34	2.4	10	230	520	256	618	63	64	148
11	FNA0091850011	02/24/22	23	410	9430	3816	DNK810410	73	77	29	32	217	0.936	0.34	2.6	10	240	523	255	612	62	63	148
12	FNA0091850012	02/25/22	23	410	9430	3810	DNK810410	71	78	30	29	217	0.936	0.34	2.6	10	240	523	255	612	62	63	148
13	FNA0091850013	02/25/22	23	410	9430	3812	DNK810410	72	79	29	32	217	0.936	0.34	2.6	10	240	523	255	612	62	63	148
14	FNA0091850014	02/25/22	23	410	9430	3818	DNK810410	73	78	29	33	217	0.936	0.34	2.4	10	240	523	255	612	62	63	148
15	FNA0091850015	02/25/22	23	410	9430	3814	DNK810410	71	76	29	30	217	0.936	0.34	2.6	10	240	523	255	612	62	63	148
16	FNA0091850016	02/25/22	23	410	9430	3806	DNK810410	74	76	29	28	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
17	FNA0091850017	02/25/22	23	410	9430	3820	DNK810410	72	76	29	30	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
18	FNA0091850018	02/25/22	23	410	9430	3818	DNK810410	72	76	30	32	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
19	FNA0091850019	02/25/22	23	410	9430	3816	DNK810410	73	76	30	32	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
20	FNA0091850020	02/25/22	23	410	9430	3814	DNK810410	74	77	28	32	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
21	FNA0091850021	02/25/22	23	410	9430	3812	DNK810410	73	77	28	30	217	0.935	0.34	2.5	10	246	562	262	628	62	60	147
22	FNA0091850022	02/25/22	23	410	9430	3812	DNK810410	73	76	28	31	217	0.935	0.34	2.5	10	246	562	262	628	62	60	147
23	FNA0091850023	02/25/22	23	410	9430	3814	DNK810410	75	77	31	35	217	0.935	0.34	2.5	10	246	562	262	628	62	60	147
24	FNA0091850024	02/25/22	23	410	9430	3820	DNK810410	73	76	29	33	217	0.935	0.34	2.5	10	246	562	262	628	62	60	147
25	FNA0091850025	02/25/22	23	410	9430	3824	DNK810410	73	77	27	31	217	0.935	0.34	2.5	10	246	562	262	628	62	60	147
26	FNA0091850026	02/25/22	23	410	9430	3814	DNK810410	74	78	29	30	217	0.935	0.34	2.3	10	249	541	264	594	62	60	147
27	FNA0091850027	02/25/22	23	410	9430	3812	DNK810410	73	78	28	29	217	0.935	0.34	2.3	10	249	541	264	594	62	60	147
28	FNA0091850028	02/25/22	23	410	9430	3814	DNK810410	73	77	29	32	217	0.935	0.34	2.3	10	249	541	264	594	62	60	147
29	FNA0091850029	02/26/22	23	410	9430	3814	DNK810410	75	77	29	31	217	0.935	0.34	2.6	10	249	541	264	594	62	60	147
30	FNA0091850030	02/26/22	23	410	9430	3824	DNK810410	74	77	29	29	217	0.935	0.34	2.3	10	249	541	264	594	62	60	147
31	FNA0091850031	02/26/22	23	410	9430	3796	DNK810410	72	77	29	30	217	0.933	0.34	2.4	10	250	539	264	617	70	72	146
32	FNA0091850032	02/26/22	23	410	9430	3820	DNK810410	73	77	29	31	217	0.933	0.34	2.4	10	250	539	264	617	70	72	146

#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min (mil)	ASTM D5994 Thickness-Avg (mil)	ASTM D7466 Asperity (top) (mil)	ASTM D7466 Asperity (bottom) (mil)	ASTM D8117 OIT (minut)	ASTM D792 Density (g/cc)	ASTM D1248 Melt Flow (g/10)	ASTM D4218 Carbon Content (%)	ASTM D5596 Category 1 Disp. (Categ)	ASTM D6693 Tensile Break Str (MD) (ppi)	ASTM D6693 Break Elong (MD) (%)	ASTM D6693 Tensile Break Str (TD) (ppi)	ASTM D6693 Break Elong (TD) (%)	ASTM D1004 Tear Strength (MD) (lb)	ASTM D1004 Tear Strength (TD) (lb)	ASTM D4833 Puncture Resistance (lb)
33	FNA0091850033	02/26/22	23	410	9430	3826	DNK810410	73	77	27	34	217	0.933	0.34	2.4	10	250	539	264	617	70	72	146
34	FNA0091850034	02/26/22	23	410	9430	3828	DNK810410	73	76	32	31	217	0.933	0.34	2.2	10	250	539	264	617	70	72	146
35	FNA0091850035	02/26/22	23	410	9430	3816	DNK810410	72	76	31	31	217	0.933	0.34	2.4	10	250	539	264	617	70	72	146
36	FNA0091850036	02/26/22	23	410	9430	3820	DNK810410	72	76	30	31	217	0.933	0.34	2.5	10	243	529	263	604	70	72	146
37	FNA0091850037	02/26/22	23	410	9430	3824	DNK810410	73	76	31	31	217	0.933	0.34	2.5	10	243	529	263	604	70	72	146
38	FNA0091850038	02/26/22	23	410	9430	3820	DNK810410	73	76	31	31	217	0.933	0.34	2.5	10	243	529	263	604	70	72	146
39	FNA0091850039	02/26/22	23	410	9430	3820	DNK810410	74	76	31	32	217	0.933	0.34	2.5	10	243	529	263	604	70	72	146
40	FNA0091850040	02/26/22	23	410	9430	3814	DNK810410	73	76	31	31	217	0.933	0.34	2.5	10	243	529	263	604	70	72	146
41	FNA0091850041	02/26/22	23	410	9430	3816	DNK810410	74	77	30	32	217	0.933	0.34	2.5	10	254	540	274	609	69	66	151
42	FNA0091850042	02/26/22	23	410	9430	3812	DNK810410	74	77	31	32	217	0.933	0.34	2.5	10	254	540	274	609	69	66	151
43	FNA0091850043	02/26/22	23	410	9430	3812	DNK810410	76	78	30	28	217	0.933	0.34	2.5	10	254	540	274	609	69	66	151
44	FNA0091850044	02/26/22	23	410	9430	3816	DNK810410	75	77	29	31	217	0.933	0.34	2.4	10	254	540	274	609	69	66	151
45	FNA0091850045	02/26/22	23	410	9430	3814	DNK810410	78	78	29	30	217	0.933	0.34	2.5	10	254	540	274	609	69	66	151
46	FNA0091850046	02/27/22	23	410	9430	3810	DNK810410	73	76	29	30	217	0.933	0.34	2.4	10	250	542	261	623	69	66	151
47	FNA0091850047	02/27/22	23	410	9430	3814	DNK810410	78	79	29	32	217	0.933	0.34	2.4	10	250	542	261	623	69	66	151
48	FNA0091850048	02/27/22	23	410	9430	3816	DNK810410	78	79	28	32	217	0.933	0.34	2.4	10	250	542	261	623	69	66	151
49	FNA0091850049	02/27/22	23	410	9430	3814	DNK810410	76	78	27	31	217	0.933	0.34	2.4	10	250	542	261	623	69	66	151
50	FNA0091850050	02/27/22	23	410	9430	3810	DNK810410	78	79	28	31	217	0.933	0.34	2.4	10	250	542	261	623	69	66	151
51	FNA0091850051	02/27/22	23	410	9430	3810	DNK810410	73	77	30	31	217	0.933	0.34	2.8	10	240	560	267	608	68	68	149
52	FNA0091850052	02/27/22	23	410	9430	3818	DNK810410	73	77	27	31	217	0.933	0.34	2.8	10	240	560	267	608	68	68	149
53	FNA0091850053	02/27/22	23	410	9430	3812	DNK810410	74	77	29	30	217	0.933	0.34	2.8	10	240	560	267	608	68	68	149
54	FNA0091850054	02/27/22	23	410	9430	3814	DNK810410	73	77	28	29	217	0.933	0.34	2.5	10	240	560	267	608	68	68	149
55	FNA0091850055	02/27/22	23	410	9430	3810	21KB544	72	77	27	31	192	0.935	0.44	2.8	10	236	538	261	614	68	68	149
56	FNA0091850056	02/27/22	23	410	9430	3804	21KB544	72	77	28	31	192	0.935	0.44	2.7	10	236	538	261	614	68	68	149
57	FNA0091850057	02/27/22	23	410	9430	3804	21KB544	73	77	27	32	192	0.935	0.44	2.7	10	236	538	261	614	68	68	149
58	FNA0091850058	02/27/22	23	410	9430	3806	21KB544	76	77	28	33	192	0.935	0.44	2.7	10	236	538	261	614	68	68	149
59	FNA0091850059	02/27/22	23	410	9430	3802	21KB544	74	76	28	33	192	0.935	0.44	2.5	10	236	538	261	614	68	68	149
60	FNA0091850060	02/27/22	23	410	9430	3798	21KB544	72	76	28	29	192	0.935	0.44	2.7	10	236	538	261	614	68	68	149
61	FNA0091850061	02/27/22	23	410	9430	3802	21KB544	75	76	26	35	192	0.934	0.44	2.6	10	240	550	246	583	65	67	150
62	FNA0091850062	02/27/22	23	410	9430	3804	21KB544	74	76	26	29	192	0.934	0.44	2.6	10	240	550	246	583	65	67	150
63	FNA0091850063	02/27/22	23	410	9430	3808	21KB544	74	76	26	32	192	0.934	0.44	2.6	10	240	550	246	583	65	67	150
64	FNA0091850064	02/28/22	23	410	9430	3810	21KB544	74	77	30	28	192	0.934	0.44	2.6	10	240	550	246	583	65	67	150
65	FNA0091850065	02/28/22	23	410	9430	3810	21KB544	75	77	29	30	192	0.934	0.44	2.6	10	240	550	246	583	65	67	150
66	FNA0091850066	02/28/22	23	410	9430	3806	21KB544	77	79	29	29	192	0.934	0.44	2.7	10	242	541	249	578	65	67	150
67	FNA0091850067	02/28/22	23	410	9430	3808	21KB544	73	77	29	34	192	0.934	0.44	2.7	10	242	541	249	578	65	67	150
68	FNA0091850068	02/28/22	23	410	9430	3810	21KB544	77	78	29	28	192	0.934	0.44	2.7	10	242	541	249	578	65	67	150
69	FNA0091850069	02/28/22	23	410	9430	3814	21KB544	72	76	30	29	192	0.934	0.44	2.5	10	242	541	249	578	65	67	150
70	FNA0091850070	02/28/22	23	410	9430	3814	21KB544	72	76	31	30	192	0.934	0.44	2.7	10	242	541	249	578	65	67	150
71	FNA0091850071	02/28/22	23	410	9430	3800	21KB544	73	76	30	31	192	0.934	0.44	2.4	10	245	530	267	614	70	66	154
72	FNA0091850072	02/28/22	23	410	9430	3826	21KB544	73	76	31	32	192	0.934	0.44	2.4	10	245	530	267	614	70	66	154
73	FNA0091850073	02/28/22	23	410	9430	3824	21KB544	72	76	32	32	192	0.934	0.44	2.4	10	245	530	267	614	70	66	154
74	FNA0091850074	02/28/22	23	410	9430	3828	21KB544	73	77	30	32	192	0.934	0.44	2.4	10	245	530	267	614	70	66	154

#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min (mil)	ASTM D5994 Thickness-Avg (mil)	ASTM D7466 Asperity (top) (mil)	ASTM D7466 Asperity (bottom) (mil)	ASTM D8117 OIT (minut)	ASTM D792 Density (g/cc)	ASTM D1248 Melt Flow (g/10)	ASTM D4218 Carbon Content (%)	ASTM D5596 Category 1 Disp. (Categ)	ASTM D6693 Tensile Break Str (MD) (ppi)	ASTM D6693 Break Elong (MD) (%)	ASTM D6693 Tensile Break Str (TD) (ppi)	ASTM D6693 Break Elong (TD) (%)	ASTM D1004 Tear Strength (MD) (lb)	ASTM D1004 Tear Strength (TD) (lb)	ASTM D4833 Puncture Resistance (lb)
75	FNA0091850075	02/28/22	23	410	9430	3836	21KB544	73	76	32	30	192	0.934	0.44	2.4	10	245	530	267	614	70	66	154
76	FNA0091850076	02/28/22	23	410	9430	3836	21KB544	71	76	31	33	192	0.934	0.44	2.6	10	264	557	252	580	70	66	154
77	FNA0091850077	02/28/22	23	410	9430	3836	21KB544	72	76	31	32	192	0.934	0.44	2.6	10	264	557	252	580	70	66	154
78	FNA0091850078	02/28/22	23	410	9430	3832	21KB544	77	78	28	31	192	0.934	0.44	2.6	10	264	557	252	580	70	66	154
79	FNA0091850079	02/28/22	23	410	9430	3840	21KB544	76	77	30	32	192	0.934	0.44	2.6	10	264	557	252	580	70	66	154
80	FNA0091850080	02/28/22	23	410	9430	3850	21KB544	74	78	29	34	192	0.934	0.44	2.6	10	264	557	252	580	70	66	154
81	FNA0091850081	03/01/22	23	410	9430	3852	21KB544	75	79	30	33	192	0.935	0.44	2.3	10	243	544	249	603	66	65	154
82	FNA0091850083	03/01/22	23	410	9430	3826	21KB544	74	77	30	33	192	0.935	0.44	2.3	10	243	544	249	603	66	65	154
83	FNA0091850084	03/01/22	23	410	9430	3828	21KB544	72	76	30	33	192	0.935	0.44	2.3	10	243	544	249	603	66	65	154
84	FNA0091850085	03/01/22	23	410	9430	3830	21KB544	75	79	28	32	192	0.935	0.44	2.7	10	243	544	249	603	66	65	154
85	FNA0091850086	03/01/22	23	410	9430	3824	21KB544	72	78	29	31	192	0.935	0.44	2.3	10	243	544	249	603	66	65	154
86	FNA0091850087	03/01/22	23	410	9430	3834	21KB544	73	79	29	33	192	0.935	0.44	2.4	10	244	533	257	600	66	65	154
87	FNA0091850088	03/01/22	23	410	9430	3828	21KB544	75	78	27	34	192	0.935	0.44	2.4	10	244	533	257	600	66	65	154
88	FNA0091850089	03/01/22	23	410	9430	3822	21KB544	74	79	29	35	192	0.935	0.44	2.4	10	244	533	257	600	66	65	154
89	FNA0091850090	03/01/22	23	410	9430	3824	21KB544	74	79	30	30	192	0.935	0.44	2.4	10	244	533	257	600	66	65	154
90	FNA0091850091	03/01/22	23	410	9430	3820	21KB544	71	77	31	29	192	0.935	0.44	2.4	10	244	533	257	600	66	65	154
91	FNA0091850092	03/01/22	23	410	9430	3822	21KB544	74	78	28	33	192	0.933	0.44	2.4	10	249	535	250	587	70	68	154
92	FNA0091850093	03/01/22	23	410	9430	3818	21KB544	71	79	27	34	192	0.933	0.44	2.4	10	249	535	250	587	70	68	154
93	FNA0091850094	03/01/22	23	410	9430	3816	21KB544	73	79	33	27	192	0.933	0.44	2.4	10	249	535	250	587	70	68	154
94	FNA0091850095	03/01/22	23	410	9430	3832	21KB544	72	77	30	29	192	0.933	0.44	2.2	10	249	535	250	587	70	68	154
95	FNA0091850096	03/01/22	23	410	9430	3834	21KB544	72	77	30	29	192	0.933	0.44	2.4	10	249	535	250	587	70	68	154
96	FNA0091850097	03/01/22	23	410	9430	3822	21KB544	72	77	27	30	192	0.933	0.44	2.5	10	253	531	266	609	70	68	154
97	FNA0091850098	03/02/22	23	410	9430	3830	21KB544	72	77	29	29	192	0.933	0.44	2.5	10	253	531	266	609	70	68	154
98	FNA0091850099	03/02/22	23	410	9430	3828	21KB544	73	77	27	30	192	0.933	0.44	2.5	10	253	531	266	609	70	68	154
99	FNA0091850100	03/02/22	23	410	9430	3832	21KB544	73	78	27	29	192	0.933	0.44	2.7	10	253	531	266	609	70	68	154
100	FNA0091850101	03/02/22	23	410	9430	3830	21KB544	73	77	29	29	192	0.933	0.44	2.5	10	253	531	266	609	70	68	154
101	FNA0091850102	03/02/22	23	410	9430	3814	21KB544	76	79	31	31	192	0.934	0.44	2.5	10	256	546	273	610	72	72	153
102	FNA0091850103	03/02/22	23	410	9430	3844	21KB544	73	76	32	33	192	0.934	0.44	2.5	10	256	546	273	610	72	72	153
103	FNA0091850104	03/02/22	23	410	9430	3834	21KB544	72	76	32	33	192	0.934	0.44	2.5	10	256	546	273	610	72	72	153
104	FNA0091850105	03/02/22	23	410	9430	3836	21KB544	74	79	33	33	192	0.934	0.44	2.6	10	256	546	273	610	72	72	153
105	FNA0091850106	03/02/22	23	410	9430	3828	21KB544	76	80	32	31	192	0.934	0.44	2.5	10	256	546	273	610	72	72	153
106	FNA0091850107	03/02/22	23	410	9430	3832	21KB544	73	76	31	33	192	0.934	0.44	2.4	10	263	603	250	538	72	72	153
107	FNA0091850108	03/02/22	23	410	9430	3832	21KB544	73	77	28	34	192	0.934	0.44	2.4	10	263	603	250	538	72	72	153
108	FNA0091850109	03/02/22	23	410	9430	3828	21KB544	73	76	32	32	192	0.934	0.44	2.4	10	263	603	250	538	72	72	153
109	FNA0091850110	03/02/22	23	410	9430	3832	21KB544	74	76	31	34	192	0.934	0.44	2.5	10	263	603	250	538	72	72	153
110	FNA0091850111	03/02/22	23	410	9430	3832	21KB544	72	77	33	32	192	0.934	0.44	2.4	10	263	603	250	538	72	72	153
111	FNA0091850112	03/02/22	23	410	9430	3852	21KB544	72	78	28	32	192	0.934	0.44	2.6	10	250	536	263	606	73	70	154
112	FNA0091850113	03/02/22	23	410	9430	3850	21KB544	73	78	26	31	192	0.934	0.44	2.6	10	250	536	263	606	73	70	154
113	FNA0091850114	03/02/22	23	410	9430	3850	21KB544	73	77	29	31	192	0.934	0.44	2.6	10	250	536	263	606	73	70	154
114	FNA0091850115	03/03/22	23	410	9430	3850	21KB544	73	77	27	32	192	0.934	0.44	3.4	10	250	536	263	606	73	70	154
115	FNA0091850116	03/03/22	23	410	9430	3850	21KB544	75	78	26	31	192	0.934	0.44	2.6	10	250	536	263	606	73	70	154
116	FNA0091850117	03/03/22	23	410	9430	3837	21KB544	73	77	28	31	192	0.934	0.44	2.5	10	259	547	262	615	73	70	154

#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min mil	ASTM D5994 Thickness-Avg mil	ASTM D7466 Asperity (top) mil	ASTM D7466 Asperity (bottom) mil	ASTM D8117 OIT minut	ASTM D792 Density g/cc	ASTM D1248 Melt Flow g/10	ASTM D4218 Carbon Content %	ASTM D5596 Category 1 Disp. Categ	ASTM D6693 Tensile Break Str (MD) ppi	ASTM D6693 Break Elong (MD) %	ASTM D6693 Tensile Break Str (TD) ppi	ASTM D1004 Break Elong (TD) %	ASTM D1004 Tear Strength (MD) lb	ASTM D1004 Tear Strength (TD) lb	ASTM D4833 Puncture Resistance lb
117	FNA0091850118	03/03/22	23	410	9430	3862	21KB544	73	79	33	33	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148
118	FNA0091850119	03/03/22	23	410	9430	3856	21KB544	72	78	32	27	217	0.936	0.34	2.7	10	237	541	252	594	62	63	148

Ryan Steele, Lab Manager

For Questions, Please Contact: Lab Manager, Fernley
Ryan Steele
775-835-8282
Ext 2015

Geomembrane Quality Certification

Customer: Newmont Mining
Project: Cripple Creek
Destination: Cripple Creek, CO
Report Date: 13-Sep-2022 10:12 AM

S.O.# SO00016473
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 56 (From 1 To 56)

								ASTM D5994		ASTM D7466		ASTM D8117	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	Thickness-Min	Thickness-Avg	Asperity (top)	Asperity (bottom)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Tensile Break Str (MD)	Break Elong (MD)	Tensile Break Str (TD)	Break Elong (TD)	Tear Strength (MD)	Tear Strength (TD)	Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
1	FND0103600003	09/09/22	23	410	9430	3860	DPF811480	77	79	26	31	183	0.933	0.34	2.3	10	270	548	257	617	66	68	154
2	FND0103600004	09/09/22	23	410	9430	3812	DPF811480	77	79	24	32	183	0.933	0.34	2.3	10	270	548	257	617	66	68	154
3	FND0103600005	09/09/22	23	410	9430	3808	DPF811480	77	79	20	30	183	0.933	0.34	2.3	10	270	548	257	617	66	68	154
4	FND0103600006	09/09/22	23	410	9430	3810	DPF811480	75	79	30	29	183	0.933	0.34	2.3	10	270	548	257	617	66	68	154
5	FND0103600007	09/09/22	23	410	9430	3810	DPF811480	75	79	26	31	183	0.933	0.34	2.3	10	270	548	257	617	66	68	154
6	FND0103600008	09/10/22	23	410	9430	3812	DPF811480	74	78	29	28	183	0.933	0.34	2.4	10	273	574	265	613	66	62	154
7	FND0103600009	09/10/22	23	410	9430	3818	DPF811480	74	77	25	36	183	0.933	0.34	2.4	10	273	574	265	613	66	62	154
8	FND0103600010	09/10/22	23	410	9430	3816	DPF811480	77	80	25	26	183	0.933	0.34	2.4	10	273	574	265	613	66	62	154
9	FND0103600011	09/10/22	23	410	9430	3820	DPF811480	75	78	24	28	183	0.933	0.34	2.4	10	273	574	265	613	66	62	154
10	FND0103600012	09/10/22	23	410	9430	3822	DPF811480	75	78	24	27	183	0.933	0.34	2.4	10	273	574	265	613	66	62	154
11	FND0103600013	09/10/22	23	410	9430	3818	DPF811480	77	79	25	33	183	0.933	0.34	2.4	10	261	551	265	609	66	65	160
12	FND0103600014	09/10/22	23	410	9430	3824	DPF811480	76	78	27	31	183	0.933	0.34	2.4	10	261	551	265	609	66	65	160
13	FND0103600015	09/10/22	23	410	9430	3830	DPF811480	76	79	25	27	183	0.933	0.34	2.4	10	261	551	265	609	66	65	160
14	FND0103600016	09/10/22	23	410	9430	3820	DPF811480	77	79	28	28	183	0.933	0.34	2.4	10	261	551	265	609	66	65	160
15	FND0103600017	09/10/22	23	410	9430	3818	DPF811480	76	79	25	29	183	0.933	0.34	2.4	10	261	551	265	609	66	65	160
16	FND0103600018	09/10/22	23	410	9430	3798	DPF811480	77	79	27	27	183	0.933	0.34	2.4	10	262	542	272	631	66	65	160
17	FND0103600019	09/10/22	23	410	9430	3810	DPF811480	74	79	27	27	183	0.933	0.34	2.4	10	262	542	272	631	66	65	160
18	FND0103600020	09/10/22	23	410	9430	3810	DPF811480	77	79	29	27	183	0.933	0.34	2.4	10	262	542	272	631	66	65	160
19	FND0103600021	09/10/22	23	410	9430	3812	DPF811480	76	80	27	34	183	0.933	0.34	2.3	10	262	542	272	631	66	65	160
20	FND0103600022	09/11/22	23	410	9430	3816	DPF811480	77	78	25	32	183	0.933	0.34	2.3	10	262	542	272	631	66	65	160
21	FND0103600023	09/11/22	23	410	9430	3816	DPF811480	76	78	27	30	183	0.934	0.34	2.1	10	269	556	267	613	68	70	158
22	FND0103600024	09/11/22	23	410	9430	3812	DPF811480	76	78	27	30	183	0.934	0.34	2.1	10	269	556	267	613	68	70	158
23	FND0103600025	09/11/22	23	410	9430	3812	DPF811480	76	79	26	27	183	0.934	0.34	2.1	10	269	556	267	613	68	70	158
24	FND0103600026	09/11/22	23	410	9430	3812	DPF811480	76	79	27	29	183	0.934	0.34	2.2	10	269	556	267	613	68	70	158
25	FND0103600027	09/11/22	23	410	9430	3810	DPF811480	76	78	26	30	183	0.934	0.34	2.2	10	269	556	267	613	68	70	158
26	FND0103600028	09/11/22	23	410	9430	3810	DPF811480	77	79	27	29	183	0.934	0.34	2.2	10	262	563	262	605	68	70	158
27	FND0103600029	09/11/22	23	410	9430	3808	DPF811480	76	78	27	28	183	0.934	0.34	2.2	10	262	563	262	605	68	70	158
28	FND0103600030	09/11/22	23	410	9430	3806	DPF811480	75	78	27	29	183	0.934	0.34	2.2	10	262	563	262	605	68	70	158
29	FND0103600031	09/11/22	23	410	9430	3800	DPF811480	78	80	25	30	183	0.934	0.34	2.3	10	262	563	262	605	68	70	158
30	FND0103600032	09/11/22	23	410	9430	3998	DPF811480	74	78	25	28	183	0.934	0.34	2.2	10	262	563	262	605	68	70	158
31	FND0103600033	09/11/22	23	410	9430	3796	DPF811480	75	79	24	24	183	0.934	0.34	2.3	10	263	547	271	620	68	66	159
32	FND0103600034	09/11/22	23	410	9430	3802	DPF811480	75	78	25	26	183	0.934	0.34	2.3	10	263	547	271	620	68	66	159

#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min	ASTM D5994 Thickness-Avg	ASTM D7466 Asperity (top)	ASTM D7466 Asperity (bottom)	ASTM D8117 OIT	ASTM D792 Density	ASTM D1238 Melt Flow	ASTM D4218 Carbon Content	ASTM D5596 Category 1 Disp.	ASTM D6693 Tensile Break Str (MD)	ASTM D6693 Break Elong (MD)	ASTM D6693 Tensile Break Str (TD)	ASTM D6693 Break Elong (TD)	ASTM D1004 Tear Strength (MD)	ASTM D1004 Tear Strength (TD)	ASTM D4833 Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
33	FND0103600035	09/11/22	23	410	9430	3798	DPF811480	74	78	26	28	183	0.934	0.34	2.3	10	263	547	271	620	68	66	159
34	FND0103600036	09/11/22	23	410	9430	3808	DPF811480	74	79	28	27	183	0.934	0.34	2.2	10	263	547	271	620	68	66	159
35	FND0103600037	09/12/22	23	410	9430	3812	DPF811480	75	79	26	27	183	0.934	0.34	2.2	10	263	547	271	620	68	66	159
36	FND0103600038	09/12/22	23	410	9430	3816	DPF811480	74	78	29	28	183	0.934	0.34	2.3	10	260	546	265	607	68	66	159
37	FND0103600039	09/12/22	23	410	9430	3812	DPF811480	75	79	25	32	183	0.934	0.34	2.3	10	260	546	265	607	68	66	159
38	FND0103600040	09/12/22	23	410	9430	3820	DPF811480	77	79	26	27	183	0.934	0.34	2.3	10	260	546	265	607	68	66	159
39	FND0103600041	09/12/22	23	410	9430	3820	DPF811480	75	78	27	31	183	0.934	0.34	2.3	10	260	546	265	607	68	66	159
40	FND0103600042	09/12/22	23	410	9430	3822	DPF811480	74	79	25	33	183	0.934	0.34	2.3	10	260	546	265	607	68	66	159
41	FND0103600043	09/12/22	23	410	9430	3818	DPF811480	71	77	29	30	183	0.930	0.34	2.3	10	267	563	273	645	65	65	157
42	FND0103600044	09/12/22	23	410	9430	3822	DPF811480	76	79	25	29	183	0.930	0.34	2.3	10	267	563	273	645	65	65	157
43	FND0103600045	09/12/22	23	410	9430	3818	DPF811480	75	78	26	28	183	0.930	0.34	2.3	10	267	563	273	645	65	65	157
44	FND0103600046	09/12/22	23	410	9430	3808	DPF811480	74	78	26	26	183	0.930	0.34	2.3	10	267	563	273	645	65	65	157
45	FND0103600047	09/12/22	23	410	9430	3808	DPF811480	76	80	27	28	183	0.930	0.34	2.3	10	267	563	273	645	65	65	157
46	FND0103600048	09/12/22	23	410	9430	3806	DPF811480	76	78	29	29	183	0.930	0.34	2.3	10	271	568	251	596	65	65	157
47	FND0103600049	09/12/22	23	410	9430	3812	DPF811480	75	79	25	30	183	0.930	0.34	2.3	10	271	568	251	596	65	65	157
48	FND0103600050	09/12/22	23	410	9430	3808	DPF811480	76	79	28	29	183	0.930	0.34	2.3	10	271	568	251	596	65	65	157
49	FND0103600051	09/12/22	23	410	9430	3816	DPF811480	73	78	27	29	183	0.930	0.34	2.5	10	271	568	251	596	65	65	157
50	FND0103600052	09/13/22	23	410	9430	3820	DPF811480	75	80	26	29	183	0.930	0.34	2.5	10	271	568	251	596	65	65	157
51	FND0103600053	09/13/22	23	410	9430	3822	DPF811480	76	79	26	28	183	0.933	0.34	2.3	10	265	554	267	610	64	65	157
52	FND0103600054	09/13/22	23	410	9430	3822	DPF811480	71	78	27	30	183	0.933	0.34	2.3	10	265	554	267	610	64	65	157
53	FND0103600055	09/13/22	23	410	9430	3848	DPF811480	76	79	26	32	183	0.933	0.34	2.3	10	265	554	267	610	64	65	157
54	FND0103600056	09/13/22	23	410	9430	3826	DPF811480	75	78	26	28	183	0.933	0.34	2.3	10	265	554	267	610	64	65	157
55	FND0103600057	09/13/22	23	410	9430	3822	DPF811480	75	78	28	29	183	0.933	0.34	2.3	10	265	554	267	610	64	65	157
56	FND0103600058	09/13/22	23	410	9430	3824	DPF811480	75	80	26	28	183	0.933	0.34	2.5	10	260	538	272	622	64	65	157

Ryan Steele, Lab Manager

For Questions, Please Contact: Lab Manager, Fernley
Ryan Steele
775-835-8282
Ext 2015

Geomembrane Quality Certification

Customer: Newmont Mining
Project: Cripple Creek
Destination: Cripple Creek, CO
Report Date: 15-Sep-2022 8:31 AM

S.O.# SO00016473
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 27 (From 57 To 83)

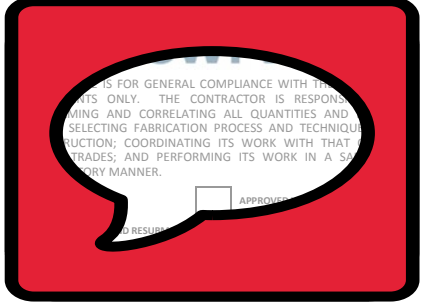
								ASTM D5994			ASTM D7466	ASTM D8117	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693					ASTM D1004		ASTM D4833
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	Thickness-Min	Thickness-Avg	Asperity (top)	Asperity (bottom)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Tensile Break Str (MD)	Break Elong (MD)	Tensile Break Str (TD)	Break Elong (TD)	Tear Strength (MD)	Tear Strength (TD)	Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
57	FND0103600059	09/13/22	23	410	9430	3830	DPF811480	76	78	25	32	183	0.933	0.34	2.5	10	260	538	272	622	64	65	157
58	FND0103600060	09/13/22	23	410	9430	3822	DPF811480	75	80	25	29	183	0.933	0.34	2.5	10	260	538	272	622	64	65	157
59	FND0103600061	09/13/22	23	410	9430	3822	DPF811480	76	80	27	31	183	0.933	0.34	2.5	10	260	538	272	622	64	65	157
60	FND0103600062	09/13/22	23	410	9430	3822	DPF811480	75	79	26	32	183	0.933	0.34	2.5	10	260	538	272	622	64	65	157
61	FND0103600063	09/13/22	23	410	9430	3814	DPF811480	76	80	26	30	183	0.932	0.34	2.3	10	269	556	266	596	70	69	160
62	FND0103600064	09/13/22	23	410	9430	3816	DPF811480	73	79	24	30	238	0.930	0.34	2.3	10	269	556	266	596	66	70	160
63	FND0103600065	09/13/22	23	410	9430	3826	DPH810510	76	81	27	32	238	0.930	0.34	2.3	10	269	556	266	596	66	70	160
64	FND0103600066	09/14/22	23	410	9430	3826	DPH810510	74	78	33	30	238	0.930	0.34	2.3	10	269	556	266	596	66	70	160
65	FND0103600067	09/14/22	23	410	9430	3826	DPH810510	75	80	28	37	238	0.930	0.34	2.3	10	269	556	266	596	66	70	160
66	FND0103600068	09/14/22	23	410	9430	3826	DPH810510	75	78	27	33	238	0.930	0.34	2.3	10	266	535	266	614	66	70	160
67	FND0103600069	09/14/22	23	410	9430	3826	DPH810510	76	78	31	29	238	0.930	0.34	2.3	10	266	535	266	614	66	70	160
68	FND0103600070	09/14/22	23	410	9430	3826	DPH810510	74	80	31	29	238	0.930	0.34	2.3	10	266	535	266	614	66	70	160
69	FND0103600071	09/14/22	23	410	9430	3826	DPH810510	76	79	34	28	238	0.930	0.34	2.3	10	266	535	266	614	66	70	160
70	FND0103600072	09/14/22	23	410	9430	3830	DPH810510	73	78	26	32	238	0.930	0.34	2.3	10	266	535	266	614	66	70	160
71	FND0103600073	09/14/22	23	410	9430	3832	DPH810510	76	79	25	28	238	0.933	0.34	2.4	10	289	556	277	631	67	62	157
72	FND0103600074	09/14/22	23	410	9430	3826	DPF811480	73	78	28	35	238	0.933	0.34	2.4	10	289	556	277	631	67	62	157
73	FND0103600075	09/14/22	23	410	9430	3824	DPF811480	77	80	25	28	238	0.933	0.34	2.4	10	289	556	277	631	67	62	157
74	FND0103600076	09/14/22	23	410	9430	3822	DPF811480	74	78	26	32	238	0.933	0.34	2.3	10	289	556	277	631	67	62	157
75	FND0103600077	09/14/22	23	410	9430	3816	DPF811480	75	79	25	32	238	0.933	0.34	2.4	10	289	556	277	631	67	62	157
76	FND0103600078	09/14/22	23	410	9430	3808	DPF811350	74	79	28	31	238	0.933	0.34	2.5	10	288	553	281	612	67	62	157
77	FND0103600079	09/14/22	23	410	9430	3818	DPF811350	72	77	30	34	238	0.933	0.34	2.5	10	288	553	281	612	67	62	157
78	FND0103600080	09/14/22	23	410	9430	3824	DPF811350	76	79	27	37	238	0.933	0.34	2.5	10	288	553	281	612	67	62	157
79	FND0103600081	09/15/22	23	410	9430	3828	DPF811350	77	79	28	39	238	0.933	0.34	2.2	10	288	553	281	612	67	62	157
80	FND0103600082	09/15/22	23	410	9430	3830	DPF811350	74	79	34	32	238	0.933	0.34	2.2	10	288	553	281	612	67	62	157
81	FND0103600083	09/15/22	23	410	9430	3832	DPF811350	75	79	28	39	238	0.934	0.34	2.4	10	272	543	279	614	75	71	156
82	FND0103600084	09/15/22	23	410	9430	3832	DPF811350	74	77	29	39	238	0.934	0.34	2.4	10	272	543	279	614	75	71	156
83	FND0103600085	09/15/22	23	410	9430	3836	DPF811350	77	80	33	39	238	0.934	0.34	2.4	10	272	543	279	614	75	71	156

For Questions, Please Contact: Lab Manager, Fernley

Ryan Steele, Lab Manager

Ryan Steele
775-835-8282
Ext 2015

Geomembrane Quality Certification



Customer: Newmont Mining
Project: Cripple Creek
Destination: Cripple Creek, CO
Report Date: 21-Sep-2022 11:44 AM

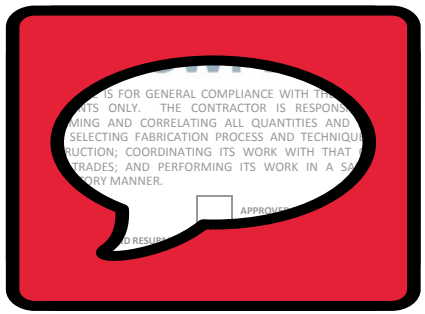
S.O.# SO00016473
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 45 (From 84 To 128)

								ASTM D5994		ASTM D7466		ASTM D8117	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	Thickness-Min	Thickness-Avg	Asperity (top)	Asperity (bottom)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Tensile Break Str (MD)	Break Elong (MD)	Tensile Break Str (TD)	Break Elong (TD)	Tear Strength (MD)	Tear Strength (TD)	Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
84	FND0103600087	09/15/22	23	410	9430	3832	DPF811350	74	77	27	29	187	0.934	0.38	2.3	10	272	559	266	625	69	67	157
85	FND0103600088	09/15/22	23	410	9430	3826	DPF811350	75	79	27	30	187	0.934	0.38	2.3	10	272	559	266	625	69	67	157
86	FND0103600089	09/15/22	23	410	9430	3830	DPF811350	71	77	27	30	187	0.934	0.38	2.3	10	272	559	266	625	69	67	157
87	FND0103600090	09/15/22	23	410	9430	3824	DPF811350	76	80	26	35	187	0.934	0.38	2.1	10	272	559	266	625	69	67	157
88	FND0103600091	09/16/22	23	410	9430	3830	DPF811350	74	78	27	36	187	0.934	0.38	2.1	10	272	559	266	625	69	67	157
89	FND0103600092	09/16/22	23	410	9430	3818	DPF811350	73	78	26	30	187	0.934	0.38	2.4	10	275	548	273	600	69	67	157
90	FND0103600093	09/16/22	23	410	9430	3826	DPF811350	71	79	29	35	187	0.934	0.38	2.4	10	275	548	273	600	69	67	157
91	FND0103600094	09/16/22	23	410	9430	3812	DPF811350	76	78	27	33	187	0.934	0.38	2.4	10	275	548	273	600	69	67	157
92	FND0103600095	09/16/22	23	410	9430	3826	DPH810510	76	81	23	35	187	0.934	0.38	2.1	10	275	548	273	600	69	67	157
93	FND0103600096	09/16/22	23	410	9430	3816	DPH810510	76	78	28	31	187	0.934	0.38	2.1	10	275	548	273	600	69	67	157
94	FND0103600097	09/16/22	23	410	9430	3828	DPH810510	74	77	27	32	238	0.934	0.34	2.1	10	267	546	282	629	67	64	155
95	FND0103600098	09/16/22	23	410	9430	3826	DPH810510	76	79	24	29	238	0.934	0.34	2.1	10	267	546	282	629	67	64	155
96	FND0103600099	09/16/22	23	410	9430	3828	DPH810510	77	79	27	28	238	0.934	0.34	2.1	10	267	546	282	629	67	64	155
97	FND0103600100	09/16/22	23	410	9430	3820	DPH810510	74	80	29	30	238	0.934	0.34	2.2	10	267	546	282	629	67	64	155
98	FND0103600101	09/16/22	23	410	9430	3872	DPH810510	74	78	27	36	238	0.934	0.34	2.1	10	267	546	282	629	67	64	155
99	FND0103600102	09/16/22	23	410	9430	3868	DPH810510	76	80	28	29	238	0.934	0.34	2.2	10	287	570	282	629	67	64	155
100	FND0103600103	09/16/22	23	410	9430	3870	DPH810510	75	79	27	32	238	0.934	0.34	2.2	10	287	570	282	629	67	64	155
101	FND0103600106	09/17/22	23	410	9430	3850	DPH810510	75	80	27	29	238	0.934	0.34	2.2	10	287	570	282	629	67	64	155
102	FND0103600107	09/17/22	23	410	9430	3848	DPH810510	76	79	25	29	238	0.934	0.34	2.4	10	287	570	282	629	67	64	155
103	FND0103600108	09/17/22	23	410	9430	3856	DPH810510	75	80	26	29	238	0.934	0.34	2.4	10	287	570	282	629	67	64	155
104	FND0103600109	09/17/22	23	410	9430	3850	DPH810510	77	80	26	28	238	0.931	0.34	2.2	10	258	546	264	606	64	63	156
105	FND0103600110	09/17/22	23	410	9430	3852	DPH810510	77	80	26	27	238	0.931	0.34	2.2	10	258	546	264	606	64	63	156
106	FND0103600111	09/17/22	23	410	9430	3848	DPH810510	75	80	29	28	238	0.931	0.34	2.2	10	258	546	264	606	64	63	156
107	FND0103600112	09/17/22	23	410	9430	3858	DPH810510	77	78	28	35	238	0.931	0.34	2.3	10	258	546	264	606	64	63	156
108	FND0103600114	09/17/22	23	410	9430	3858	DPH810510	78	81	27	35	238	0.931	0.34	2.2	10	258	546	264	606	64	63	156
109	FND0103600115	09/17/22	23	410	9430	3864	DPH810510	76	79	26	33	238	0.931	0.34	2.2	10	269	572	253	616	64	63	156
110	FND0103600116	09/17/22	23	410	9430	3854	DPH810510	77	81	26	35	238	0.931	0.34	2.2	10	269	572	253	616	64	63	156
111	FND0103600117	09/17/22	23	410	9430	3858	DPH810510	77	80	28	31	238	0.931	0.34	2.2	10	269	572	253	616	64	63	156
112	FND0103600118	09/17/22	23	410	9430	3892	DPH810510	78	82	27	33	238	0.931	0.34	2.3	10	269	572	253	616	64	63	156
113	FND0103600119	09/17/22	23	410	9430	3834	DPH810510	76	80	27	31	238	0.931	0.34	2.2	10	269	572	253	616	64	63	156
114	FND0103600120	09/17/22	23	410	9430	3840	DPH810510	76	78	26	29	238	0.932	0.34	2.4	10	270	559	265	618	67	61	155
115	FND0103600121	09/18/22	23	410	9430	3842	DPH810510	75	79	26	28	238	0.932	0.34	2.4	10	270	559	265	618	67	61	155

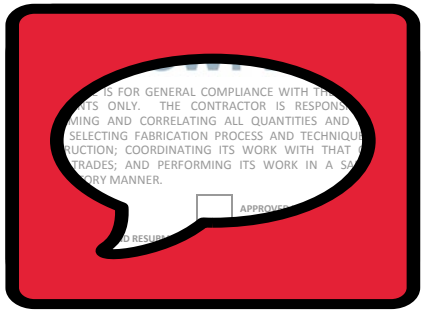
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min	ASTM D5994 Thickness-Avg	ASTM D7466 Asperity (top)	ASTM D7466 Asperity (bottom)	ASTM D8117 OIT	ASTM D792 Density	ASTM D1238 Melt Flow	ASTM D4218 Carbon Content	ASTM D5596 Category 1 Disp.	ASTM D6693 Tensile Break Str (MD)	ASTM D6693 Break Elong (MD)	ASTM D6693 Tensile Break Str (TD)	ASTM D6693 Break Elong (TD)	ASTM D1004 Tear Strength (MD)	ASTM D1004 Tear Strength (TD)	ASTM D4833 Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
116	FND0103600122	09/18/22	23	410	9430	3840	DPH810510	77	79	28	27	238	0.932	0.34	2.4	10	270	559	265	618	67	61	155
117	FND0103600123	09/18/22	23	410	9430	3838	DPH810510	75	79	27	29	238	0.932	0.34	2.4	10	270	559	265	618	67	61	155
118	FND0103600124	09/18/22	23	410	9430	3844	DPH810510	73	79	26	29	238	0.932	0.34	2.4	10	270	559	265	618	67	61	155
119	FND0103600125	09/18/22	23	410	9430	3844	DPH810510	75	79	27	29	238	0.932	0.34	2.1	10	256	550	249	599	67	61	155
120	FND0103600126	09/18/22	23	410	9430	3834	DPH810510	77	79	27	28	238	0.932	0.34	2.1	10	256	550	249	599	67	61	155
121	FND0103600127	09/18/22	23	410	9430	3842	DPH810510	75	80	27	34	238	0.932	0.34	2.1	10	256	550	249	599	67	61	155
122	FND0103600128	09/18/22	23	410	9430	3836	DPH810510	74	78	27	31	238	0.932	0.34	2.2	10	256	550	249	599	67	61	155
123	FND0103600129	09/18/22	23	410	9430	3842	DPH810510	75	78	27	32	238	0.932	0.34	2.1	10	256	550	249	599	67	61	155
124	FND0103600130	09/18/22	23	410	9430	3840	DPH810510	76	78	25	31	238	0.933	0.34	2.3	10	241	551	257	627	66	64	153
125	FND0103600131	09/18/22	23	410	9430	3834	DPH810510	76	79	25	30	238	0.933	0.34	2.3	10	241	551	257	627	66	64	153
126	FND0103600132	09/18/22	23	410	9430	3832	DPH810510	77	78	30	30	238	0.933	0.34	2.3	10	241	551	257	627	66	64	153
127	FND0103600133	09/18/22	23	410	9430	3840	DPH810510	76	78	26	31	238	0.933	0.34	2.3	10	241	551	257	627	66	64	153
128	FND0103600134	09/18/22	23	410	9430	3840	DPH810510	74	79	29	33	238	0.933	0.34	2.3	10	241	551	257	627	66	64	153

Ryan Steele, Lab Manager

For Questions, Please Contact: Lab Manager, Fernley
Ryan Steele
775-835-8282
Ext 2015



Geomembrane Quality Certification



Customer: Newmont Mining
Project: Cripple Creek
Destination: Cripple Creek, CO
Report Date: 21-Sep-2022 1:02 PM

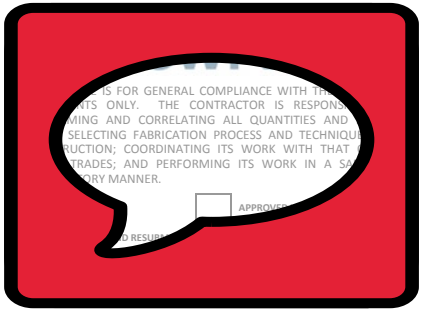
S.O.# SO00016473
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 36 (From 129 To 164)

								ASTM D5994		ASTM D7466		ASTM D8117	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	Thickness-Min	Thickness-Avg	Asperity (top)	Asperity (bottom)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Tensile Break Str (MD)	Break Elong (MD)	Tensile Break Str (TD)	Break Elong (TD)	Tear Strength (MD)	Tear Strength (TD)	Puncture Resistance
								mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	ppi	%	ppi	%	lb	lb	lb
129	FND0103600135	09/19/22	23	410	9430	3834	DPH810510	75	80	26	34	238	0.933	0.34	2.2	10	278	555	259	631	66	64	153
130	FND0103600136	09/19/22	23	410	9430	3840	DPH810510	76	79	32	30	238	0.933	0.34	2.2	10	278	555	259	631	66	64	153
131	FND0103600137	09/19/22	23	410	9430	3834	DPH810510	75	78	26	33	238	0.933	0.34	2.2	10	278	555	259	631	66	64	153
132	FND0103600138	09/19/22	23	410	9430	3840	DPH810510	77	80	24	32	238	0.933	0.34	2.3	10	278	555	259	631	66	64	153
133	FND0103600139	09/19/22	23	410	9430	3838	DPH810510	76	80	26	34	238	0.933	0.34	2.2	10	278	555	259	631	66	64	153
134	FND0103600140	09/19/22	23	410	9430	3832	DPH810510	74	79	26	34	238	0.933	0.34	2.5	10	275	549	263	615	74	74	154
135	FND0103600141	09/19/22	23	410	9430	3842	DPH810510	77	80	24	33	238	0.933	0.34	2.5	10	275	549	263	615	74	74	154
136	FND0103600142	09/19/22	23	410	9430	3826	DPH810510	76	78	26	28	238	0.933	0.34	2.5	10	275	549	263	615	74	74	154
137	FND0103600143	09/19/22	23	410	9430	3836	DPH810510	76	79	25	35	238	0.933	0.34	2.1	10	275	549	263	615	74	74	154
138	FND0103600144	09/19/22	23	410	9430	3832	DPH810510	77	80	26	31	238	0.933	0.34	2.5	10	275	549	263	615	74	74	154
139	FND0103600145	09/19/22	23	410	9430	3834	DPH810510	75	78	26	33	238	0.933	0.34	2.3	10	274	540	278	635	66	64	153
140	FND0103600146	09/19/22	23	410	9430	3834	DPH810510	76	78	26	33	238	0.933	0.34	2.3	10	274	540	278	635	66	64	153
141	FND0103600147	09/19/22	23	410	9430	3834	DPH810510	75	79	26	33	238	0.933	0.34	2.3	10	274	540	278	635	66	64	153
142	FND0103600148	09/19/22	23	410	9430	3836	DPH810510	76	80	26	33	238	0.933	0.34	2.3	10	274	540	278	635	66	64	153
143	FND0103600149	09/19/22	23	410	9430	3836	DPH810510	75	80	26	33	238	0.933	0.34	2.3	10	274	540	278	635	66	64	153
144	FND0103600150	09/20/22	23	410	9430	3840	DPH810510	75	80	24	34	238	0.931	0.34	2.4	10	258	624	254	550	65	66	155
145	FND0103600151	09/20/22	23	410	9430	3838	DPH810510	76	81	25	32	238	0.931	0.34	2.4	10	258	624	254	550	65	66	155
146	FND0103600152	09/20/22	23	410	9430	3840	DPH810510	77	82	25	33	238	0.931	0.34	2.4	10	258	624	254	550	65	66	155
147	FND0103600153	09/20/22	23	410	9430	3832	DPH810510	75	79	25	33	238	0.931	0.34	2.4	10	258	624	254	550	65	66	155
148	FND0103600154	09/20/22	23	410	9430	3836	DPH810510	75	79	25	31	238	0.931	0.34	2.4	10	258	624	254	550	65	66	155
149	FND0103600155	09/20/22	23	410	9430	3832	DPH810510	73	78	28	30	238	0.931	0.34	2.2	10	243	537	260	624	65	66	155
150	FND0103600156	09/20/22	23	410	9430	3836	DPH810510	76	78	29	29	238	0.931	0.34	2.2	10	243	537	260	624	65	66	155
151	FND0103600157	09/20/22	23	410	9430	3816	DPH810510	76	79	26	31	238	0.931	0.34	2.2	10	243	537	260	624	65	66	155
152	FND0103600158	09/20/22	23	410	9430	3822	DPH810510	74	77	27	29	238	0.931	0.34	2.3	10	243	537	260	624	65	66	155
153	FND0103600159	09/20/22	23	410	9430	3842	DPH810510	72	77	27	30	238	0.931	0.34	2.2	10	243	537	260	624	65	66	155
154	FND0103600160	09/20/22	23	410	9430	3854	DPH810510	75	77	27	27	238	0.933	0.34	2.3	10	241	528	255	615	68	66	155
155	FND0103600161	09/20/22	23	410	9430	3852	DPH810510	75	77	27	29	238	0.933	0.34	2.3	10	241	528	255	615	68	66	155
156	FND0103600162	09/20/22	23	410	9430	3860	DPH810510	74	77	28	30	238	0.933	0.34	2.3	10	241	528	255	615	68	66	155
157	FND0103600163	09/20/22	23	410	9430	3848	DPH810510	75	78	28	28	238	0.933	0.34	2.2	10	241	528	255	615	68	66	155
158	FND0103600164	09/21/22	23	410	9430	3850	DPH810510	75	79	27	27	238	0.933	0.34	2.2	10	241	528	255	615	68	66	155
159	FND0103600165	09/21/22	23	410	9430	3860	DPH810510	76	79	25	29	238	0.933	0.34	2.1	10	243	541	246	588	68	66	155
160	FND0103600166	09/21/22	23	410	9430	3872	DPH810510	77	79	28	27	238	0.933	0.34	2.1	10	243	541	246	588	68	66	155

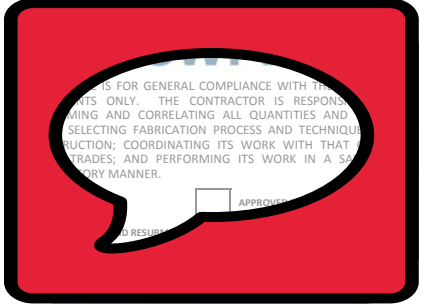
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Min (mil)	ASTM D5994 Thickness-Avg (mil)	ASTM D7466 Asperity (top) (mil)	ASTM D7466 Asperity (bottom) (mil)	ASTM D8117 OIT (minut)	ASTM D792 Density (g/cc)	ASTM D1238 Melt Flow (g/10)	ASTM D4218 Carbon Content (%)	ASTM D5596 Category 1 Disp. (Categ)	ASTM D6693 Tensile Break Str (MD) (ppi)	ASTM D6693 Break Elong (MD) (%)	ASTM D6693 Tensile Break Str (TD) (ppi)	ASTM D6693 Break Elong (TD) (%)	ASTM D1004 Tear Strength (MD) (lb)	ASTM D1004 Tear Strength (TD) (lb)	ASTM D4833 Puncture Resistance (lb)
161	FND0103600167	09/21/22	23	410	9430	3864	DPH810510	75	77	28	27	238	0.933	0.34	2.1	10	243	541	246	588	68	66	155
162	FND0103600168	09/21/22	23	410	9430	3870	DPH810510	76	78	28	26	238	0.933	0.34	2.1	10	243	541	246	588	68	66	155
163	FND0103600169	09/21/22	23	410	9430	3872	DPH810510	76	78	25	26	238	0.933	0.34	2.1	10	243	541	246	588	68	66	155
164	FND0103600170	09/21/22	23	410	9430	3868	DPH810510	78	81	25	28	238	0.931	0.34	2.2	10	244	533	238	571	67	61	156

Ryan Steele, Lab Manager

For Questions, Please Contact: Lab Manager, Fernley
Ryan Steele
775-835-8282
Ext 2015



Geomembrane Quality Certification



Customer: Newmont Mining
Project: Cripple Creek
Destination: Cripple Creek, CO
Report Date: 26-Sep-2022 10:56 AM

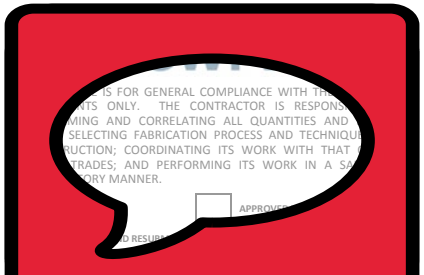
S.O.# SO00016473
Item Number: FG-LDMSDS080BBBEG
Liner Type: LLDPE DS MicroSpike 80mil Black GM17
Roll Count: 66 (From 165 To 230)

								ASTM D5994		ASTM D7466		ASTM D8117	ASTM D792	ASTM D1238	ASTM D4218	ASTM D5596	ASTM D6693				ASTM D1004		ASTM D4833
								Thickness-Avg	Thickness-Min	Asperity (bottom)	Asperity (top)	OIT	Density	Melt Flow	Carbon Content	Category 1 Disp.	Break Elong (MD)	Break Elong (TD)	Tensile Break Str (MD)	Tensile Break Str (TD)	Tear Strength (TD)	Tear Strength (MD)	Puncture Resistance
#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	mil	mil	mil	mil	minut	g/cc	g/10	%	Categ	%	%	ppi	ppi	lb	lb	lb
165	FND0103600171	09/21/22	23	410	9430	3868	DPH810510	78	73	32	27	238	0.931	0.34	2.2	10	533	571	244	238	61	67	156
166	FND0103600173	09/21/22	23	410	9430	3872	DPH810510	79	75	29	27	238	0.931	0.34	2.2	10	533	571	244	238	61	67	156
167	FND0103600174	09/21/22	23	410	9430	3874	DPH810510	78	75	30	27	238	0.931	0.34	2.3	10	533	571	244	238	61	67	156
168	FND0103600175	09/21/22	23	410	9430	3866	DPH810510	78	76	28	26	238	0.931	0.34	2.2	10	533	571	244	238	61	67	156
169	FND0103600176	09/21/22	23	410	9430	3872	DPH810510	77	74	31	27	238	0.931	0.34	2.4	10	557	632	262	279	61	67	156
170	FND0103600177	09/21/22	23	410	9430	3870	DPH810510	79	75	30	27	238	0.931	0.34	2.4	10	557	632	262	279	61	67	156
171	FND0103600178	09/21/22	23	410	9430	3848	DPH810510	77	75	33	27	238	0.931	0.34	2.4	10	557	632	262	279	61	67	156
172	FND0103600179	09/22/22	23	410	9430	3868	DPH810510	79	75	30	25	238	0.931	0.34	2.3	10	557	632	262	279	61	67	156
173	FND0103600180	09/22/22	23	410	9430	3868	DPH810510	79	76	33	27	238	0.931	0.34	2.2	10	557	632	262	279	61	67	156
174	FND0103600181	09/22/22	23	410	9430	3850	DPH810510	79	74	32	24	238	0.931	0.34	2.4	10	533	604	244	247	69	70	156
175	FND0103600182	09/22/22	23	410	9430	3866	DPH810510	78	75	28	29	238	0.931	0.34	2.4	10	533	604	244	247	69	70	156
176	FND0103600183	09/22/22	23	410	9430	3864	DPH810510	78	74	31	25	238	0.931	0.34	2.4	10	533	604	244	247	69	70	156
177	FND0103600184	09/22/22	23	410	9430	3874	DPH810510	78	75	29	26	238	0.931	0.34	2.2	10	533	604	244	247	69	70	156
178	FND0103600185	09/22/22	23	410	9430	3878	DPH810510	79	76	29	27	238	0.931	0.34	2.4	10	533	604	244	247	69	70	156
179	FND0103600186	09/22/22	23	410	9430	3878	DPH810510	79	76	34	28	238	0.931	0.34	2.2	10	631	597	259	275	61	67	156
180	FND0103600187	09/22/22	23	410	9430	3878	DPH810510	79	75	32	26	238	0.931	0.34	2.2	10	631	597	259	275	61	67	156
181	FND0103600188	09/22/22	23	410	9430	3894	DPH810490	79	77	34	28	208	0.935	0.31	2.2	10	631	597	259	275	61	67	156
182	FND0103600189	09/22/22	23	410	9430	3862	DPH810490	80	77	33	27	208	0.935	0.31	2.2	10	631	597	259	275	61	67	156
183	FND0103600190	09/22/22	23	410	9430	3828	DPH810490	77	74	33	28	208	0.935	0.31	2.2	10	631	597	259	275	61	67	156
184	FND0103600191	09/22/22	23	410	9430	3830	DPH810490	78	75	33	26	208	0.933	0.31	2.2	10	530	579	242	232	63	67	155
185	FND0103600192	09/22/22	23	410	9430	3826	DPH810490	79	74	32	28	208	0.933	0.31	2.2	10	530	579	242	232	63	67	155
186	FND0103600193	09/22/22	23	410	9430	3836	DPH810490	78	72	31	25	208	0.933	0.31	2.2	10	530	579	242	232	63	67	155
187	FND0103600194	09/23/22	23	410	9430	3840	DPH810490	79	75	30	25	208	0.933	0.31	2.3	10	530	579	242	232	63	67	155
188	FND0103600195	09/23/22	23	410	9430	3842	DPH810490	78	71	29	27	208	0.933	0.31	2.3	10	530	579	242	232	63	67	155
189	FND0103600196	09/23/22	23	410	9430	3836	DPH810490	80	75	33	23	208	0.933	0.31	2.6	10	587	548	242	239	63	67	155
190	FND0103600197	09/23/22	23	410	9430	3838	DPH810490	79	73	33	23	208	0.933	0.31	2.6	10	587	548	242	239	63	67	155
191	FND0103600198	09/23/22	23	410	9430	3840	DPH810490	78	74	32	24	208	0.933	0.31	2.6	10	587	548	242	239	63	67	155
192	FND0103600199	09/23/22	23	410	9430	3838	DPH810490	79	75	29	31	208	0.933	0.31	2.3	10	587	548	242	239	63	67	155
193	FND0103600200	09/23/22	23	410	9430	3850	DPH810490	77	75	36	25	208	0.933	0.31	2.6	10	587	548	242	239	63	67	155
194	FND0103600201	09/23/22	23	410	9430	3824	DPH810490	78	76	33	27	208	0.934	0.31	2.3	10	565	581	263	246	69	70	157
195	FND0103600202	09/23/22	23	410	9430	3824	DPH810490	77	76	33	28	208	0.934	0.31	2.3	10	565	581	263	246	69	70	157
196	FND0103600203	09/23/22	23	410	9430	3822	DPH810490	77	75	33	25	208	0.934	0.31	2.3	10	565	581	263	246	69	70	157

#	Roll Number	Prod. Date	Width (ft)	Length (ft)	Area (sqft)	Weight (lb)	Resin Lot#	ASTM D5994 Thickness-Avg mil	ASTM D5994 Thickness-Min mil	ASTM D7466 Asperity (bottom) mil	ASTM D7466 Asperity (top) mil	ASTM D8117 OIT minut	ASTM D792 Density g/cc	ASTM D1238 Melt Flow g/10	ASTM D4218 Carbon Content %	ASTM D5596 Category 1 Disp. Categ	ASTM D6693 Break Elong (MD) %	ASTM D6693 Break Elong (TD) %	ASTM D6693 Tensile Break Str (MD) ppi	ASTM D6693 Tensile Break Str (TD) ppi	ASTM D1004 Tear Strength (TD) lb	ASTM D1004 Tear Strength (MD) lb	ASTM D4833 Puncture Resistance lb
197	FND0103600204	09/23/22	23	410	9430	3824	DPH810490	78	75	35	26	208	0.934	0.31	2.3	10	565	581	263	246	69	70	157
198	FND0103600205	09/23/22	23	410	9430	3822	DPH810490	77	74	35	26	208	0.934	0.31	2.3	10	565	581	263	246	69	70	157
199	FND0103600206	09/23/22	23	410	9430	3824	DPH810490	77	75	33	27	208	0.934	0.31	2.5	10	532	558	247	236	69	70	157
200	FND0103600207	09/23/22	23	410	9430	3822	DPH810490	78	75	29	25	208	0.934	0.31	2.5	10	532	558	247	236	69	70	157
201	FND0103600208	09/23/22	23	410	9430	3824	DPH810490	78	73	34	28	208	0.934	0.31	2.1	10	532	558	247	236	69	70	157
202	FND0103600209	09/24/22	23	410	9430	3826	DPH810490	78	75	32	27	208	0.934	0.31	2.1	10	532	558	247	236	69	70	157
203	FND0103600210	09/24/22	23	410	9430	3822	DPH810490	78	77	33	27	208	0.934	0.31	2.5	10	532	558	247	236	69	70	157
204	FND0103600211	09/24/22	23	410	9430	3826	DPH810490	79	75	32	26	208	0.936	0.31	2.4	10	531	606	245	255	67	66	157
205	FND0103600212	09/24/22	23	410	9430	3828	DPH810490	78	76	33	32	208	0.936	0.31	2.4	10	531	606	245	255	67	66	157
206	FND0103600213	09/24/22	23	410	9430	3830	DPH810490	79	76	39	26	208	0.936	0.31	2.4	10	531	606	245	255	67	66	157
207	FND0103600214	09/24/22	23	410	9430	3824	DPH810490	78	76	32	28	208	0.936	0.31	2.4	10	531	606	245	255	67	66	157
208	FND0103600215	09/24/22	23	410	9430	3830	DPH810490	77	75	35	26	208	0.936	0.31	2.4	10	531	606	245	255	67	66	157
209	FND0103600216	09/24/22	23	410	9430	3822	DPH810490	78	77	35	27	208	0.936	0.31	2.2	10	550	596	253	249	67	66	157
210	FND0103600217	09/24/22	23	410	9430	3822	DPH810490	77	74	36	25	208	0.936	0.31	2.2	10	550	596	253	249	67	66	157
211	FND0103600218	09/24/22	23	410	9430	3806	DPH810490	78	77	35	26	208	0.936	0.31	2.2	10	550	596	253	249	67	66	157
212	FND0103600219	09/24/22	23	410	9430	3816	DPH810490	77	75	34	26	208	0.936	0.31	2.0	10	550	596	253	249	67	66	157
213	FND0103600220	09/24/22	23	410	9430	3818	DPH810490	78	76	34	26	208	0.936	0.31	2.2	10	550	596	253	249	67	66	157
214	FND0103600222	09/24/22	23	410	9430	3822	DPH810490	79	75	32	26	208	0.934	0.31	2.2	10	557	575	261	243	64	68	157
215	FND0103600223	09/25/22	23	410	9430	3814	DPH810490	77	73	29	30	208	0.934	0.31	2.2	10	557	575	261	243	64	68	157
216	FND0103600224	09/25/22	23	410	9430	3824	DPH810490	79	75	26	30	208	0.934	0.31	2.2	10	557	575	261	243	64	68	157
217	FND0103600225	09/25/22	23	410	9430	3818	DPH810490	77	74	30	30	208	0.934	0.31	2.2	10	557	575	261	243	64	68	157
218	FND0103600226	09/25/22	23	410	9430	3822	DPH810490	78	76	25	28	208	0.934	0.31	2.2	10	557	575	261	243	64	68	157
219	FND0103600227	09/25/22	23	410	9430	3822	DPH810490	78	72	28	28	208	0.934	0.31	2.3	10	525	563	233	239	64	68	157
220	FND0103600228	09/25/22	23	410	9430	3826	DPH810490	77	75	30	27	208	0.934	0.31	2.3	10	525	563	233	239	64	68	157
221	FND0103600229	09/25/22	23	410	9430	3822	DPH810490	78	77	33	27	208	0.934	0.31	2.3	10	525	563	233	239	64	68	157
222	FND0103600230	09/25/22	23	410	9430	3824	DPH810490	77	74	33	26	208	0.934	0.31	2.4	10	525	563	233	239	64	68	157
223	FND0103600231	09/25/22	23	410	9430	3822	DPH810490	78	75	33	26	208	0.934	0.31	2.3	10	525	563	233	239	64	68	157
224	FND0103600232	09/25/22	23	410	9430	3824	DPH810490	78	74	33	26	208	0.935	0.31	2.5	10	561	583	259	240	68	68	154
225	FND0103600233	09/25/22	23	410	9430	3810	DPH810490	77	73	34	27	208	0.935	0.31	2.5	10	561	583	259	240	68	68	154
226	FND0103600234	09/25/22	23	410	9430	3800	DPH810490	78	75	33	26	208	0.935	0.31	2.5	10	561	583	259	240	68	68	154
227	FND0103600235	09/25/22	23	410	9430	3808	DPH810490	78	76	32	28	208	0.935	0.31	2.4	10	561	583	259	240	68	68	154
228	FND0103600236	09/25/22	23	410	9430	3800	DPH810490	77	75	31	25	208	0.935	0.31	2.4	10	561	583	259	240	68	68	154
229	FND0103600237	09/25/22	23	410	9430	3826	DPH810490	79	77	29	29	208	0.935	0.31	2.5	10	560	606	254	258	68	68	154
230	FND0103600238	09/26/22	23	410	9430	3824	DPH810490	78	72	28	28	208	0.935	0.31	2.5	10	560	606	254	258	68	68	154

Ryan Steele, Lab Manager

For Questions, Please Contact: Lab Manager, Fernley
Ryan Steele
775-835-8282



APPENDIX D.4 - 80-MIL LLDPE DSMS GEOMEMBRANE RESIN QC CERTIFICATES

CoA Date: 10/25/2021

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80540994
PO #: 18729
Weight: 179600.000 LB
Ship Date: 10/25/2021
Package: BULK
Mode: Hopper Car
Car #: CPCX816394
Seal No: 263746

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DNK810410

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	14.20	g/10min
Pellet Count	ST-905	32	pelet/gram
Production date		20211014	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Formosa Plastics

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

Certificate of Analysis

(CONFIDENTIAL)

CUSTOMER:AGRU/AMERICA, INC.
2000 E NEWLAND DRIVE

FERNLEY NV 89408
PRODUCT :L91904B
RAILCAR ACFX041846
CLEANING/INSPECTION NO: 041846111121

S/O NO : JWCA232
CUSTOMER PO : PO 18939
DATE SHIPPED: 12/29/21
LOT NO : 21KB544
WEIGHT (LB) : 180,000.00
CUSTID:FT03888 SPIDM1

TEST ITEM	REFERENCE METHOD	TEST VALUE
Melt Index, g/10min	ASTM D1238	.44
Density, g/cm3	ASTM D1505	.9201

Linda Kao

QC SUPERVISOR: LINDA KAO

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

September 29, 2016
January 11, 2017 Updated UV Resistance (D 7238) & Oven Aging (D 5721)

Mail To:

Nathan Ivy
Agru America
500 Garrison Rd
Georgetown, SC 29440

email: nivy@agruamerica.com

Bill To:

<= Same

Dear Mr. Ivy:

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

Project: **Trial 16-006**

TRI Job Reference Number: 24280

Material(s) Tested: One, Agru 40 mil Smooth LLDPE Geomembrane

Test(s) Requested: 2% Secant Modulus (ASTM D 5323)
Multi-axial Tensile (ASTM D 5617)
Data Updated==> UV Resistance (ASTM D 7238)
Data Updated==> Oven Aging (ASTM D5721)

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

Sincerely,

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

*Signature is on file

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America
Project: Trial 16-006

Material: Agru 40 mil Smooth LLDPE Geomembrane
Sample Identification: G16D002549 , , Formasa L91507H
TRI Log #: 24280

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D 5323, 2 ipm strain rate, modulus at 2% strain)												
MD 2% Secant Modulus (psi)	30710	32447	32924	31549	30236						**31573**	1132
MD 2% Secant Modulus (ppi)	1367	1430.9	1481.6	1303	1285						**1373**	83
TD 2% Secant Modulus (psi)	33432	30097	32079	34335	32442						**32477**	1596
TD 2% Secant Modulus (ppi)	1381	1258.1	1340.9	1407.7	1326.9						**1343**	57
Multi-axial Tensile (ASTM D 5617)												
Thickness (mils)	40	38	40								**40**	1
Maximum Stress (psi)	1540	1612	1590								**1581**	37
% Elongation @ Rupture (%)	90.6	107.6	86.3								**94.8**	11.3
Failure Description	H-CAT N-EF	TDT N-EF	MDT N-EF									

MDT	A tear in the machine direction.
H	Circular or elliptical hole in the specimen.
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF	No edge failure

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America
Project: Trial 16-006

Material: Agru 40 mil Smooth LLDPE Geomembrane
Sample Identification: G16D002549 , , Formasa L91507H
TRI Log #: 24280

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	
	1	2	3	4	5	6	7	8	9	10			
UV Resistance (ASTM D 7238)													
The resistance to degradation due to exposure to ultraviolet light and moisture was determined in accordance with GRI-GM11, Accelerated Weathering of Geomembranes Using a Fluorescent UVA Device. This standard covers the basic principles for using the QUV apparatus to accelerate the weathering of geomembranes using UVA bulbs and condensation. To comply with Specification GRI GM13, the sample was exposed to 1600 hours of UV exposure composed of 80 cycles of UA at 75 C for 20 hours followed by condensation at 60 C for 4 hours. The High Pressure Oxidative Induction Time (HPOIT) was evaluated before and after the exposure and results were as follows.													
													PERCENT RETAINED
HPOIT (minutes) - Baseline	574										**574**		
HPOIT (minutes) - After QUV Aging	418										**418**		73
Note: No surface cracking was observed.													
Oven Aging (ASTM D 5721)													
The geomembrane was exposed to 90 days of elevated temperature exposure in an air oven maintained at 85°C ± 0.5°C in accordance with ASTM D 5721-95, Standard Practice for Air-Oven Aging of Polyolefin Geomembranes. High Pressure Oxidative Induction Time (HPOIT) was tested after exposure and compared to values generated for unexposed material. The results are provided below.													
													PERCENT RETAINED
HPOIT (minutes) - Baseline	574										**574**		
HPOIT (minutes) - After Oven Aging	561										**561**		98
Note: No surface cracking was observed.													

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT	A tear in the machine direction.
H	Circular or elliptical hole in the specimen.
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF	No edge failure

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

CoA Date: 07/15/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

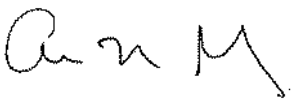
Delivery #: 80715572
PO #: 19485
Weight: 185350.000 LB
Ship Date: 07/15/2022
Package: BULK
Mode: Hopper Car
Car #: CPCX805072
Seal No: 302679

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPF811480

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	13.20	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20220621	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 539-529-4279 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

November 12, 2021
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2021_111221.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Geomembrane samples have been received from Agru, and test specimens were taken from the smooth areas of the samples. Test results are reported on the following two pages. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in July 2021 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- Marlex® K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick.

- Marlex® 7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next two pages. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1174	**89.4%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	802	**82.4%**	GRI-GM17: % HP-OIT: 60% minimum

Continued on Page 3 - - -

UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1053	**80.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	768	**78.9%**	GRI-GM17: % HP-OIT: 35% minimum

Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT	A tear in the machine direction.
H	Circular or elliptical hole in the specimen.
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF	No edge failure

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

CoA Date: 07/15/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

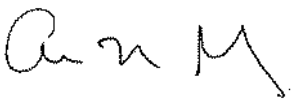
Delivery #: 80715572
PO #: 19485
Weight: 185350.000 LB
Ship Date: 07/15/2022
Package: BULK
Mode: Hopper Car
Car #: CPCX805072
Seal No: 302679

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPF811480

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	13.20	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20220621	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

CoA Date: 08/31/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

Delivery #: 80745750
PO #: 19616
Weight: 188450.000 LB
Ship Date: 08/31/2022
Package: BULK
Mode: Hopper Car
Car #: TILX624120
Seal No: 303241

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPH810510

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	15.10	g/10min
Pellet Count	ST-905	34	pelet/gram
Production date		20220818	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

CoA Date: 06/22/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

Delivery #: 80699959
PO #: 19423
Weight: 188350.000 LB
Ship Date: 06/22/2022
Package: BULK
Mode: Hopper Car
Car #: CHVX889338
Seal No: 298633

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPF811350

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.35	g/10min
HLMI	ASTM D1238	14.70	g/10min
Pellet Count	ST-905	35	pelet/gram
Production date		20220620	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 539-529-4279 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

November 12, 2021
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2021_111221.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Geomembrane samples have been received from Agru, and test specimens were taken from the smooth areas of the samples. Test results are reported on the following two pages. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in July 2021 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- Marlex® K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick.

- Marlex® 7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next two pages. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1174	**89.4%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	802	**82.4%**	GRI-GM17: % HP-OIT: 60% minimum

Continued on Page 3 - - -

UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1053	**80.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	768	**78.9%**	GRI-GM17: % HP-OIT: 35% minimum

Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT	A tear in the machine direction.
H	Circular or elliptical hole in the specimen.
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF	No edge failure

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

CoA Date: 06/22/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

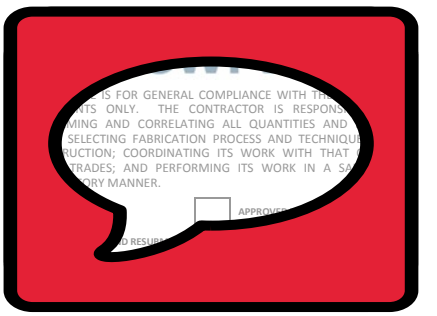
Delivery #: 80699959
PO #: 19423
Weight: 188350.000 LB
Ship Date: 06/22/2022
Package: BULK
Mode: Hopper Car
Car #: CHVX889338
Seal No: 298633

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPF811350

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.35	g/10min
HLMI	ASTM D1238	14.70	g/10min
Pellet Count	ST-905	35	pelet/gram
Production date		20220620	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

CoA Date: 08/31/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

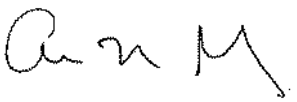
Delivery #: 80745750
PO #: 19616
Weight: 188450.000 LB
Ship Date: 08/31/2022
Package: BULK
Mode: Hopper Car
Car #: TILX624120
Seal No: 303241

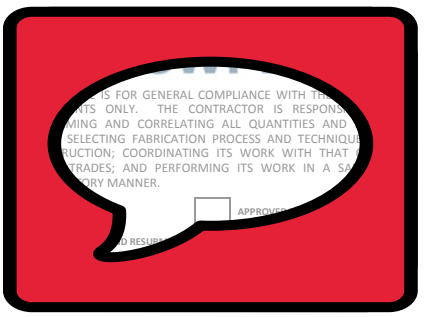
Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPH810510

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	15.10	g/10min
Pellet Count	ST-905	34	pelet/gram
Production date		20220818	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**





AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 539-529-4279 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

November 12, 2021
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2021_111221.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Geomembrane samples have been received from Agru, and test specimens were taken from the smooth areas of the samples. Test results are reported on the following two pages. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in July 2021 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- Marlex® K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick.

- Marlex® 7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next two pages. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

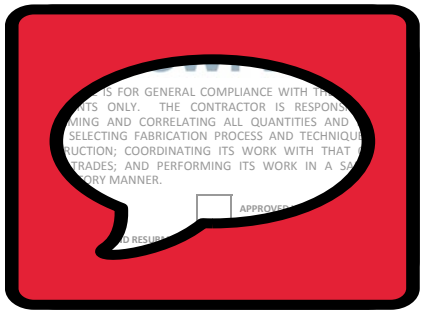
Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

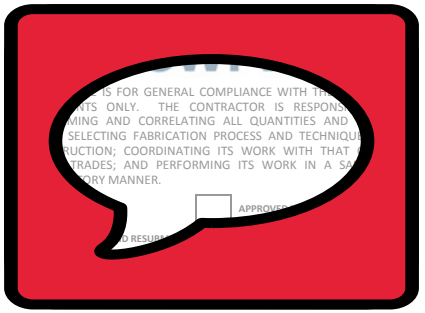
Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1174	**89.4%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	802	**82.4%**	GRI-GM17: % HP-OIT: 60% minimum



Continued on Page 3 - - -

UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1053	**80.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	768	**78.9%**	GRI-GM17: % HP-OIT: 35% minimum



Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

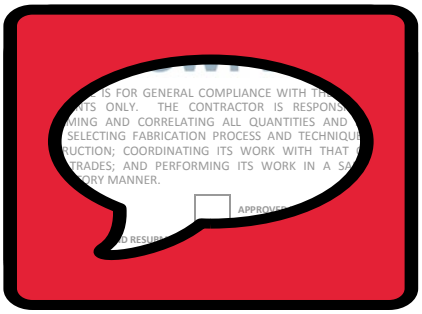
GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT A tear in the machine direction.
H Circular or elliptical hole in the specimen.
H-CAT Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF No edge failure

MD Machine Direction TD Transverse Direction



TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

CoA Date: 08/31/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

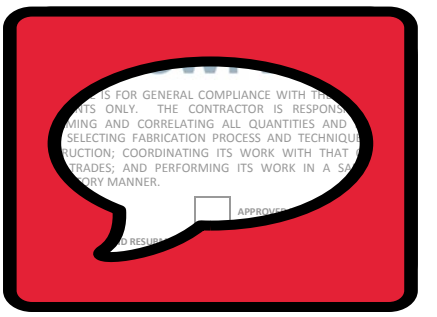
Delivery #: 80745750
PO #: 19616
Weight: 188450.000 LB
Ship Date: 08/31/2022
Package: BULK
Mode: Hopper Car
Car #: TILX624120
Seal No: 303241

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPH810510

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	15.10	g/10min
Pellet Count	ST-905	34	pelet/gram
Production date		20220818	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 539-529-4279 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

November 12, 2021
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2021_111221.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Geomembrane samples have been received from Agru, and test specimens were taken from the smooth areas of the samples. Test results are reported on the following two pages. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in July 2021 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- Marlex® K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick.

- Marlex® 7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next two pages. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

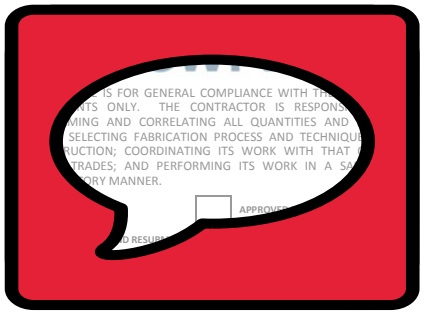
If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885



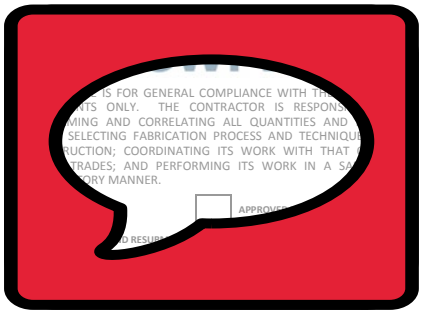
Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1174	**89.4%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	802	**82.4%**	GRI-GM17: % HP-OIT: 60% minimum

Continued on Page 3 - - -

UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1053	**80.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	768	**78.9%**	GRI-GM17: % HP-OIT: 35% minimum



Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

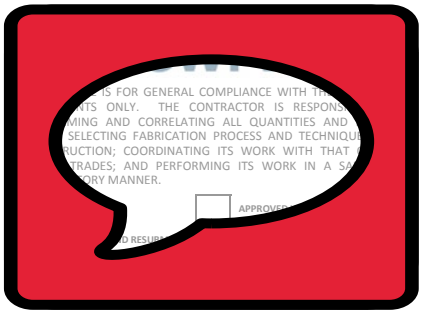
GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT A tear in the machine direction.
H Circular or elliptical hole in the specimen.
H-CAT Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF No edge failure

MD Machine Direction TD Transverse Direction



TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

CoA Date: 08/31/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

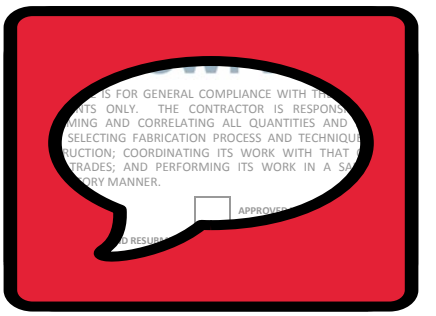
Delivery #: 80745750
PO #: 19616
Weight: 188450.000 LB
Ship Date: 08/31/2022
Package: BULK
Mode: Hopper Car
Car #: TILX624120
Seal No: 303241

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPH810510

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.34	g/10min
HLMI	ASTM D1238	15.10	g/10min
Pellet Count	ST-905	34	pelet/gram
Production date		20220818	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

CoA Date: 08/31/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 Newlands Dr E
FERNLEY NV 89408-8944
USA

Recipient: PALMER
Fax:

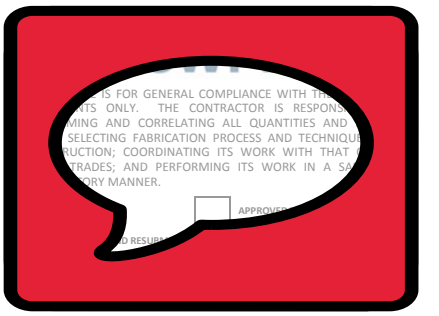
Delivery #: 80745751
PO #: 19616
Weight: 188350.000 LB
Ship Date: 08/31/2022
Package: BULK
Mode: Hopper Car
Car #: SHPX463810
Seal No: 292597

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPH810490

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.31	g/10min
HLMI	ASTM D1238	14.30	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20220818	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem). **However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.**



AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Vergil H. Rhodes, PE, CPlasT - Tech Svc & App Dev Engineer, Geomembranes
Highways 60 & 123, Bartlesville Research and Technology Center, Room 103 PTC
Bartlesville, OK 74003
■ 539-529-4279 ■ rhodevh@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

November 12, 2021
Filename: Agru Oven and QUV Exposure for HP-OIT Testing_2021_111221.pdf

Nathan Ivy - Corporate Quality Control/Technical Manager
Agru America, Inc.
800 Rockmead #122
Kingwood, TX 77339
281-358-4741

Dear Mr. Ivy:

Please recall your request for testing of oven-exposed and UV-exposed geomembrane samples produced primarily from Marlex® 7104 LLDPE and Marlex® K307 MDPE. Agru blended other components with each of these polyethylenes to produce the geomembrane samples for testing. Geomembrane samples have been received from Agru, and test specimens were taken from the smooth areas of the samples. Test results are reported on the following two pages. The samples were tested for HP-OIT in their as-received condition and were also tested after oven and UV exposures of 90 days and 1600 hours of irradiance, respectively, in accordance with GRI-GM13 and GRI-GM17 requirements.

The following geomembrane sheet samples were received from Agru in July 2021 and were reported to be primarily composed of each of the Chevron Phillips Chemical Company grades in the description below:

- Marlex® K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick.

- Marlex® 7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick.

The exposure and testing conditions along with the corresponding test results are tabulated on the next two pages. GM-13 and GM-17 require a minimum % HP-OIT retention after a 90-day oven exposure and after a 1600-hour UV irradiance exposure. These test results indicate the GM-13 and GM-17 minimum % HP-OIT retentions were exceeded by the Agru-supplied K307 and 7104 sheet samples, respectively.

If you have any questions, please feel free to contact me (contact information given above).

Sincerely,

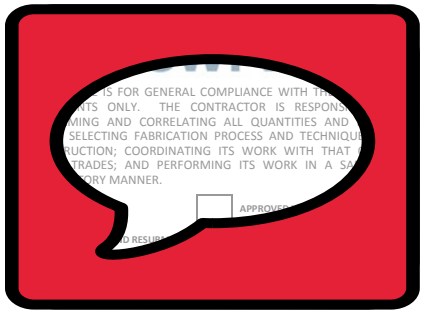
Vergil Rhodes
Polyethylene Technical Service and Applications Development, Geomembrane

The following oven aging and UV exposure test methods were conducted in accordance with the GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) requirements:

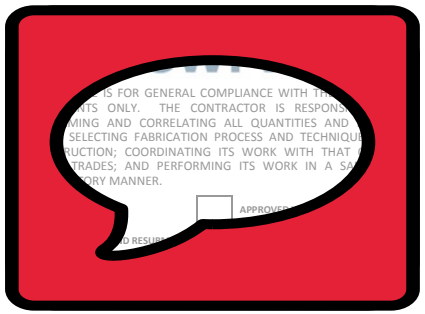
Test Name	**Exposure Conditions**	**Test Method**
Oven Aging	90 days in an oven at 85 °C	ASTM D5721
UV Exposure	1600 UV irradiance hours. Cycle: 20 hours UVA-340 at 75 °C followed by 4 hours dark with condensation at 60 °C. Irradiance was 0.78 W/m^2 at wavelength 340 nm. Note: This implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of dark/condensation.	ASTM D7238
HP-OIT	150 °C in an oxygen atmosphere at 500 psi	ASTM D5885

Oven Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 90 days of oven aging. (min)	**% HP-OIT** Retained after 90 days of oven aging.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 90 days of oven aging.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1174	**89.4%**	GRI-GM13: % HP-OIT: 80% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	802	**82.4%**	GRI-GM17: % HP-OIT: 60% minimum



Continued on Page 3 - - -



UV Aging Results:

Sample	Initial HP-OIT (min)	HP-OIT after 1600 hrs of UV exposure. (min)	**% HP-OIT** Retained after 1600 hrs of UV exposure.	GRI-GM13 and GRI-GM17 minimum % HP-OIT requirements after 1600 hours of UV exposure.
K307 Lot # PND821550, Agru Roll # GTC0078250016, black sheet, smooth, nominal 0.057" thick	1313	1053	**80.2%**	GRI-GM13: % HP-OIT: 50% minimum
7104 Lot # DNE810980, Agru Roll # GTA0077190117, black sheet, textured, nominal 0.055" thick	973	768	**78.9%**	GRI-GM17: % HP-OIT: 35% minimum

Notes:

- 1600 hours of UV exposure in accordance with ASTM D7238 implies a total UV chamber residence time of 1920 hours, e.g., 1600 hours of irradiance and 320 hours of darkness with condensation.
- Sheet samples were aged with the shiny side of the sheet facing the UV bulbs.

January 29, 2014

Mail To:

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

email: gp@AgruAmerica.com

Bill To:

<= Same

Dear Mr. Palmer:

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

TRI Job Reference Number:	E2386-59-09
Material(s) Tested:	One Agru 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	2% Secant (ASTM D5323 via ASTM D638, GM17) Multi-axial Tensile (ASTM D 5617)

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

Sincerely,

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

GEOMEMBRANE TEST RESULTS
TRI Client: Agru America

Material: Agru 80 mil Microspike LLDPE Geomembrane
Sample Identification: G14D031009 , Chevron 7104 LLDPE Resin, Resin Lot # CDG810350
TRI Log #: E2386-59-09

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
2% Secant Modulus (ASTM D5323 via ASTM D638, GM17)												
MD 2% Secant Modulus (psi)	30887	30305	30617	32594	31327						**31146**	892
MD 2% Secant Modulus (ppi)	2662	2530	2596	2533	2444						**2553**	82
TD 2% Secant Modulus (psi)	35037	35745	35187	37057	34833						**35572**	897
TD 2% Secant Modulus (ppi)	2950	2760	3065	2827	2675						**2855**	154
Multi-axial Tensile (ASTM D 5617)												
Test Method A: Centerpoint Deflection Versus Pressure												
Thickness (mils)	81.0	78.0	79.0								**79.3**	1.5
Maximum Stress (psi)	1873	1781	1899								**1851**	62
% Elongation @ Rupture (%)	77.6	77.0	85.0								**79.9**	4.5
Failure Description	MDT N-EF	MDT N-EF	MDT N-EF									

MDT	A tear in the machine direction.
H	Circular or elliptical hole in the specimen.
H-CAT	Circular or elliptical hole in an area where the material has significantly necked down or thinned. The large thinned area resembles a pupil of a cat eye.
N-EF	No edge failure

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

APPENDIX D.5 – WELDING ROD QUALITY CONTROL CERTIFICATES

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10089910004

Lot Number DNK810490 **Date Printed:** 27-Sep-2022 10:41 AM

Material FNWR10089910004 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.1
Density ASTM D792	g/cc	0.931
Melt Flow ASTM D1238	g/10 min	0.36

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00013688

Ryan Steele, Lab Manager

Production Date: 03/09/22

CoA Date: 10/28/2021

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80544120
PO #: 18729
Weight: 187350.000 LB
Ship Date: 10/28/2021
Package: BULK
Mode: Hopper Car
Car #: CPCX816492
Seal No: 267520

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DNK810490

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
HLMI	ASTM D1238	17.00	g/10min
Pellet Count	ST-905	32	pelet/gram
Production date		20211015	
Density	D1505	0.920	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10089910005

Lot Number DNK810490 **Date Printed:** 27-Sep-2022 10:11 AM

Material FNWR10089910005 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.2
Density ASTM D792	g/cc	0.931
Melt Flow ASTM D1238	g/10 min	0.36

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00013688

Ryan Steele, Lab Manager

Production Date: 03/10/22

CoA Date: 10/28/2021

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80544120
PO #: 18729
Weight: 187350.000 LB
Ship Date: 10/28/2021
Package: BULK
Mode: Hopper Car
Car #: CPCX816492
Seal No: 267520

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DNK810490

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
HLMI	ASTM D1238	17.00	g/10min
Pellet Count	ST-905	32	pelet/gram
Production date		20211015	
Density	D1505	0.920	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10089910006

Lot Number DNM810240 **Date Printed:** 27-Sep-2022 10:38 AM

Material FNWR10089910006 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.2
Density ASTM D792	g/cc	0.933
Melt Flow ASTM D1238	g/10 min	0.35

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00013688

Ryan Steele, Lab Manager

Production Date: 03/11/22

CoA Date: 02/04/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80608492
PO #: 19065
Weight: 185250.000 LB
Ship Date: 02/04/2022
Package: BULK
Mode: Hopper Car
Car #: SHQX041928
Seal No: 273863

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DNM810240

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.35	g/10min
HLMI	ASTM D1238	14.10	g/10min
Pellet Count	ST-905	31	pelet/gram
Production date		20211104	
Density	D1505	0.920	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10093340003

Lot Number DNM810400 **Date Printed:** 27-Sep-2022 10:43 AM

Material FNWR10093340003 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.3
Density ASTM D792	g/cc	0.932
Melt Flow ASTM D1238	g/10 min	0.33

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00013688

Ryan Steele, Lab Manager

Production Date: 03/18/22

CoA Date: 02/04/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80608491
PO #: 19065
Weight: 187900.000 LB
Ship Date: 02/04/2022
Package: BULK
Mode: Hopper Car
Car #: CPCX817372
Seal No: 268336

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DNM810400

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.33	g/10min
HLMI	ASTM D1238	14.30	g/10min
Pellet Count	ST-905	31	pelet/gram
Production date		20211106	
Density	D1505	0.920	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10100700003

Lot Number DPC810470 **Date Printed:** 04-Oct-2022 10:15 AM

Material FNWR10100700003 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.5
Density ASTM D792	g/cc	0.935
Melt Flow ASTM D1238	g/10 min	0.36

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00016473

Ryan Steele, Lab Manager

Production Date: 07/22/22

CoA Date: 04/06/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80649495
PO #: 19241
Weight: 183950.000 LB
Ship Date: 04/06/2022
Package: BULK
Mode: Hopper Car
Car #: CPCX816600
Seal No: 278667

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPC810470

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
HLMI	ASTM D1238	14.30	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20220315	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

WELDING ROD CERTIFICATE OF CONFORMITY

Item: FW-WR-LLDPE-BK-5MM Weld Rod Black LLDPE 5MM

Prod Run # FNWR10100700005

Lot Number DPC810470 **Date Printed:** 30-Sep-2022 10:14 AM

Material FNWR10100700005 **Page:** 1/1

Test / Method	U of M	Results Value
Carbon Content ASTM D4218	%	2.5
Density ASTM D792	g/cc	0.935
Melt Flow ASTM D1238	g/10 min	0.36

Customer: NEWMIN
Newmont Mining

Destination:

SO #: SO00016473

Ryan Steele, Lab Manager

Production Date: 07/27/22

CoA Date: 04/06/2022

Certificate of Analysis

Shipped To: AGRU AMERICA INC:FERNLEY
2000 EAST NEWLANDS
FERNLEY NV 89408
USA

Recipient: PALMER
Fax:

Delivery #: 80649495
PO #: 19241
Weight: 183950.000 LB
Ship Date: 04/06/2022
Package: BULK
Mode: Hopper Car
Car #: CPCX816600
Seal No: 278667

Product:
MARLEX 7104 POLYETHYLENE in Bulk

Lot Number: DPC810470

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.36	g/10min
HLMI	ASTM D1238	14.30	g/10min
Pellet Count	ST-905	33	pelet/gram
Production date		20220315	
Density	D1505	0.919	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

AMANDA ROBY
QUALITY ASSURANCE SUPERINTENDENT

For CoA questions contact Leslie Dziamara at +1-832-813-4806

Cripple Creek & Victor Gold Mining Company
Valley Leach Facility 2
Phase 3 Stage A.1 Liner Recertification Record of Construction
CQA Earthworks Testing Summary - Drain Cover Fill (Crushed Ore)

SAMPLE NUMBER	DATE SAMPLED	LOCATION		ELEVATION (FT)	NATURAL MOISTURE (%)	GRAIN SIZE DISTRIBUTION - PERCENT PASSING														USCS	ATTERBERG LIMITS		
						3.0"	2.0"	1.5"	1.0"	0.75"	0.5"	0.375"	#4	#10	#16	#30	#50	#100	#200		PLASTIC LIMIT	LIQUID LIMIT	PLASTIC INDEX
						SPECIFICATION - PERCENT PASSING															SPECIFICATION		
		PHASE	Liner Panel Number			100	97-100	-	-	40-100	-	-	5-35	-	-	-	-	-	0-8		-	-	NP
DCFO-1-R	04/16/24	A.1	4100	FG	-	100	97	95	77	67	55	47	34	25	19	15	11	8	5.7	GP-GM	NP	NV	NP
DCFO-2-R	04/16/24	A.1	4954	FG	-	100	100	99	80	67	53	46	33	24	19	15	12	10	7.7	GP-GM	NP	NV	NP
DCFO-3-R	04/16/24	A.1	4957	FG	-	100	100	100	85	65	50	42	30	23	19	16	13	11	9.4	GP-GC	20	26	6

Notes:

1. Samples with a Plasticity Index 5 or less are reported as Non Plastic

R - Record Sample; FG - Finished Grade

NP - Non Plastic; NV - No Value