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CQA / CQC REPORT

Date: _August 2009__

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August 2009
Project No. 520.01.01

ENGINEERING CERTIFICATION REPORT
FOR
EVAPORATION POND 3 CONSTRUCTION

BASIN DISOPAL, INC.
BLOOMFIELD, NEW MEXICO

August 2009

SUBMITTED TO:

ENERGY, MINERALS &
NATURAL RESOURCES DPEARTMENT
OIL CONSERVATION DIVISION
1120 S. ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505

PREPARED FOR:

BASIN DISPOSAL, INC.
MR. JOHN VOLKERDING, PHD
200 MONTANA STREET
BLOOMFIELD, NEW MEXICO, 87413

I. KEITH GORDON NEW MEXICO 10984 08/25/09 REGISTERED PROFESSIONAL ENGINEER

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Gordon Environmental, Inc.
Consulting Engineers

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(505) 867-6991 Fax *Consulting Engineers* Bernalillo, New Mexico 87004

August 25, 2009

Submitted via CD-ROM
Hard copy hand delivered

Mr. Edward J. Hansen
Hydrologist, Environmental Bureau
Oil Conservation Division
NM Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Basin Disposal Inc: [OCD Permit No. 1-0005]
Engineering Certification Report: Evaporation Pond 3 Construction [520.01.01]

Dear Mr. Hansen:

This submittal is provided as Engineering Certification for the construction of Evaporation Pond 3 at Basin Disposal Inc., in Bloomfield, New Mexico 87413. Specifically, this certification demonstrates that the double containment liner and leak detection system for Evaporation Pond 3 have been installed in compliance with the following applicable documents and regulatory requirements:

- Liner Construction Quality Assurance (CQA) Plan dated December 2008
- Engineering Design Plans and Project Specifications for Evaporation Pond 3 Earthwork, Liner and Leak Detection System Installation, dated April 2009.
- New Mexico Energy, Minerals and Natural Resources Department Regulations (19.15.36.1-19.15.36.20).
- Oil Conservation Division (OCD), New Mexico Energy, Minerals and Natural Resources Department correspondence dated March 8, 2009, May 1, 2009, and June 17, 2009.

The Division was notified in advance of construction, and visited the project on June 11, 2009 to review the project, and returned to inspect the new Evaporation Pond 3 on June 18, 2009 and June 29, 2009. The following Certification Report describes the activities and procedures performed during the construction of Evaporation Pond 3 in order to document compliance with the approved Engineering Design Plans, Project Specifications, and CQA Plan.

Gordon Environmental, Inc.
Consulting Engineers

We appreciate the opportunity of working with you and OCD regarding the construction quality assurance for the construction of Evaporation Pond 3 at Basin Disposal Inc. Please contact us with your questions and comments regarding this Certification Report.

Very truly yours,

Gordon Environmental, Inc.

Michael R. Heinstein, P.E.
CQA Officer

I. Keith Gordon, P.E.
Principal

cc: Mr. John Volkerding PhD, General Manager, Basin Disposal Inc.
Mr. James W. Jordan, P.E., Jordan Engineering Inc.

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1.0 INTRODUCTION

This Certification Report describes the activities and procedures applied during the construction of Evaporation Pond 3 and the Construction Quality Assurance (CQA) activities performed. Documentation that Evaporation Pond 3 has been constructed in accordance with the approved design documents, regulatory standards, and CQA protocol is provided in this Report.

1.1. Project Overview

From May 18, 2009 through July 20, 2009, Evaporation Pond 3 was constructed at Basin Disposal Inc., (BDI) located at 200 Montana Street, Bloomfield, New Mexico 87412. Gordon Environmental, Inc. (GEI) performed the engineering design and on-site CQA activities. The primary construction activities for Evaporation Pond 3 are:

- Mass excavation
- Perimeter berm construction
- Subgrade preparation
- Installation of the Geosynthetic Clay Liner (GCL)
- Installation of the Secondary Flexible Membrane Liner (FML)
- Installation of the Leak Detection System
- Installation of the Geonet
- Installation of the Primary Flexible Membrane Liner (FML)
- Installation of the Textured panels of Flexible Membrane Liner (FML)

A GEI CQA Technician was on-site at critical junctions during mass excavation and berm construction, and on-site continually to observe, inspect, and record liner installation procedures. The purpose of the CQA work is to document that construction activities performed at Basin Disposal Inc. comply with the CQA Plan, engineering design plans, project specifications and regulatory requirements. Engineering design plans, technical specifications, field observations, and tests were used to provide quantitative criteria with which to evaluate the final product. GEI personnel were responsible for a variety of CQA activities, including:

- Reviewing surveying results to confirm subgrade elevations
- Measuring subgrade, berm, and anchor trench densities
- Observing liner storage and installation procedures
- Observing liner material seaming and testing procedures

- Observing geonet material installation and seaming
- Observing leak detection system construction
- Reviewing documentation, including laboratory and field test results
- Providing this Engineering Certification Report documenting completed construction

1.2. Report Organization

This Certification Report describes the CQA activities and procedures performed during the construction of Evaporation Pond 3 at Basin Disposal Inc. The attached figures, appendices, photographs and daily logs provide appropriate quantitative and qualitative documentation. Cross-reference to the Figures and Attachments are in **bold** type to facilitate the Division's review.

2.0 EVAPORATION POND 3 CONSTRUCTION

2.1. Summary

Evaporation Pond 3 is located north and immediately adjacent to the previously constructed Evaporation Pond 1, and the total project area is approximately 2.2 acres in size as shown on the site plan (**Figure 1**). Mass excavation, berm construction, and subgrade preparation were performed from May 18, 2009 to June 15, 2009. Geosynthetic Clay Liner (GCL), Secondary Flexible Membrane Liner (FML), Geonet, Leak Detection System, and Primary FML installation activities for Evaporation Pond 3 were performed from June 16, 2009 to June 24, 2009. Anchor trench backfilling/compaction; and stormwater drainage channel excavation and stormwater detention pond excavation was performed from June 25, 2009 to July 2, 2009. Bollard installation was completed on July 20, 2009.

Mass excavation, berm construction, and fine-grading of the subgrade was conducted by Foutz and Bursum Construction Co., Inc. (FAB); Southwest Liner Systems, Inc. (SWLS) performed the installation of the GCL, Secondary FML, placed the Geotextile, Geonet, and Primary FML. Conformance testing of geosynthetics was performed by SWLS, while documentation and quality assurance were performed by GEI.

2.2. Subgrade Preparation

The following sections describe the activities performed during mass excavation, berm construction, subgrade preparation, and CQA testing.

2.2.1. *Clearing, Grubbing and Mass Excavation*

Foutz and Bursum Construction Co., Inc. performed the mass excavation and the fine grading to Evaporation Pond design grades. A previously constructed but unused Evaporation Pond along with a large stockpile of soil was present within the footprint of Evaporation Pond 3. During pond construction, excavated soils as well as the soils from the stockpile were pre-tested and used in perimeter berm construction. The remaining soils were removed to a stockpile area located west of Evaporation Pond 2.

2.2.2. *Coordinate System*

The project area was surveyed in a grid pattern so that the locations of sample and testing points used during construction were readily discernible by the CQA Technician. The survey grid, shown on **Figures 4-9**, was established by GEI for use during construction.

2.2.3. *Subgrade and Berm Compaction*

During excavation, berms were built surrounding the evaporation pond using both excavated soils as well as soils from the on-site stockpile. Soils were placed in ten maximum one-foot thick lifts and were compacted to 90% of Standard Proctor Dry Density as verified by field density tests. After berm construction, mass excavation, and fine grading to the elevations shown on **Figure 3** was completed, the floor soils were compacted using a vibratory roller. The in-place density was measured at a minimum frequency of 4 tests per acre, using a Troxler® 3440 Moisture-Density Gauge, requiring 8 tests for the 2.2-acre± footprint and 24 tests for berm construction. A total of 15 density tests on the floor, 14 for the anchor trench, and 128 for the berms was performed (**Figure 4**), and all results passed the required specification of 90%, or higher, of the Reference Standard Proctor. The results for the Standard Proctor laboratory tests used as references are provided in **Appendix A.3,** and field compaction testing results are

tabulated in **Appendix B.1.** Maximum densities of 119.0 lb/ft^3, 116.1 lb/ft^3, and 111.5 lb/ft^3 were used as the Reference Maximum Densities for each of three identified on-site soil types.

2.2.4. Subgrade Acceptance

Upon completion of subgrade construction, Evaporation Pond 3 was surveyed by Russell Surveying Inc., of Aztec, NM. The topography of the base grade was then verified and approved by the GEI CQA Officer prior to liner deployment. **Figure 2** shows the design grades, and **Figure 3** provides the as-built grades for the finished subgrade surface.

The GEI Site CQA Technician and the Installer's Field Installation Manager (FIM) inspected the subgrade surface prior to beginning liner installation activities. The subgrade surface was found to be in good condition and free from sticks, sharp stones, vegetation and other deleterious material. The GEI Site CQA Technician and the FIM continued to inspect the subgrade surface during liner installation in areas immediately ahead of deployment to identify and remove any large or angular particles, sharp objects, etc. The results of the inspection and the FIM's acceptance of the subgrade were annotated in the Daily Reports and Approval Forms which are included in the **Field Log and Photographs** section.

2.3. Geosynthetic Clay Liner

In accordance with project specifications, the Geosynthetic Clay Liner (GCL) was placed in direct contact with the prepared subgrade. The following sections describe the procedures and activities performed during the GCL installation, observation, and CQA testing.

2.3.1. Geosynthetic Clay Liner Product

Approximately 1,560 ft^2 of BENTOMAT–ST, a reinforced GCL material manufactured by CETCO of Lovell, Wyoming, was used in the construction of Evaporation Pond 3 and installed in the leak detection sump areas. All GCL rolls applied to Evaporation Pond 3 were equipped with the Winning Edge®, an upgrade to the original BENTOMAT–ST that eliminates the need for free bentonite application to the longitudinal seams. Copies of the manufacturer's quality

control test results and certifications were reviewed by the GEI CQA Officer to determine that the materials met or exceeded the minimum properties specified for all GCL used for the project. Copies of the manufacturer's quality test results and certifications are included in **Appendix C.1**. Upon arrival at the site, the rolls of GCL were stored in their original, unopened packaging until deployment on the subgrade.

2.3.2. Geosynthetic Clay Liner Installation

The guidelines stipulated in the CQA Plan, project specifications, permit drawings, engineering design drawings, and the generally accepted GCL installation procedures were strictly followed during this project. The roll of GCL was carefully transported from the storage area to Evaporation Pond 3 using a forklift equipped with extendable spreader bars. As the roll was moved, the label was removed and submitted to the Site CQA Technician for documentation in the GCL Deployment Log (**Appendix D.1**) and panel location (**Figure 5**). The labels were compared with the shipping invoice to verify that the materials received corresponded with materials subjected to manufactures quality control/manufactures quality assurance testing (**Section 2.3.3**). With the primary backing, non-woven geotextile side facing upward, each GCL roll was placed over the prepared subgrade in the leak detection sump areas as shown on the engineering drawings. GCL was not placed in standing water or deployed during rainfall.

After each roll had been deployed, adjoining rolls were positioned with a 6-inch minimum overlap on the longitudinal seams per manufacturer's guidelines and technical specifications. All longitudinal seams were equipped with the Winning Edge®. Each seam overlap was placed such that the direction of potential flow is from the top sheet to the bottom sheet creating a shingle effect. Material placement was observed by the Site CQA Technician for potential damage due to handling or installation.

2.3.3. Geosynthetic Clay Liner Testing

GCL testing included manufacturing quality control (MQC) and manufacturing quality assurance (MQA), conformance testing, construction quality control (CQC) and construction quality assurance (CQA). Each type of testing is described in the following sections.

2.3.3.1. *Manufacturing Quality Control (MQC) and Manufacturing Quality Assurance (MQA)*

MQC and MQA testing of the bentonite and geotextile components, as well as the finished geosynthetic clay liner, were performed by the manufacturer. Random samples were collected from each day's production and tested for uniformity, thickness, bentonite weight and tensile properties. The GCL quality control certification and GCL property values and testing frequencies are provided in **Appendix C.1**.

2.3.3.2. *Conformance Testing*

The Site CQA Technician verified that the FIM collected random a sample from the roll of GCL. A sample approximately two feet long was collected from the entire roll width and shipped to an independent laboratory for conformance testing. Conformance samples were collected at a frequency of at least one per 100,000 ft^2 of GCL installed to verify that the GCL delivered to the site met the minimum project specifications. Approximately 1,560 ft^2 of GCL was installed, requiring one (1) conformance sample. An independent laboratory (TRI/Environmental, Inc., Austin, Texas) tested for free swell (ASTM D 5890) and mass per unit area (ASTM D 993). The results of this testing are presented in **Appendix C.2.** Conformance test results for the sample was reviewed by the GEI CQA Officer and accepted in accordance with the project specifications. Conformance test results indicate that the installed GCL meets the project specifications.

2.3.3.3. *Construction Quality Control (CQC) and Construction Quality Assurance (CQA)*

The Site CQA Technician and the FIM inspected each roll of material as it arrived on-site. The material was inspected for potential damage and uniformity. Roll identification numbers were compared with those on the manufacturer certifications to verify proper delivery.

The Site CQA Technician and the FIM visually inspected all GCL for potential damage during installation. No areas of damage were observed.

2.3.4. Geosynthetic Clay Liner Deployment Records

Documentation of the GCL deployment, and CQA review of each panel, was required prior to approval and acceptance. The GCL installation was not accepted until the deployment records and manufacturer's certification reports were submitted to and approved by the GEI CQA Officer. The As-built Panel Layout for Evaporation Pond 3 GCL is included as **Figure 5**. The Daily Summary Reports and documentation of GCL placement at the leak detection sumps were recorded at the end of each construction day. Copies of the Daily Summary Reports and photographs documenting GCL placement activities are provided in the **Field Log and Photographs** section of this report.

2.4. 60-Mil Secondary Flexible Membrane Liner

The Secondary FML was installed directly above the GCL in leak detection sumps, and the subgrade in accordance with the engineering design drawings, project specifications, and the CQA plan. The following sections describe the procedures and activities performed during FML installation, observation, and CQA testing.

2.4.1. Flexible Membrane Liner Product

The Secondary FML utilized in Evaporation Pond 3 construction is 60-mil, high-density polyethylene (HDPE) smooth liner, manufactured by Poly-Flex, Inc. of Grand Prairie, Texas. Smooth liner material is specified for the floor and sidewalls of Evaporation Pond 3, with the sidewalls requiring a minimum 10 foot run-out extending onto the floor from the toe of slope. The FML was delivered on-site in rolls 23 feet wide by 500 feet long, and was staged along the western perimeter of Evaporation Pond 3 to provide easy access and to minimize handling of the material. In accordance with the CQA Plan and project specifications, material was not stacked more than two rolls high. The labels were compared with the shipping invoice to verify that the materials received corresponded with materials subjected to manufactures quality control/manufactures quality assurance testing (see **Section 2.4.3**). The material was also inspected for damage during off-loading and staging.

2.4.2. *Flexible Membrane Liner Installation*

The FML installation activities were performed in accordance with the guidelines stipulated in the project CQA Plan, project specifications, the engineering design drawings, and industry standards for FML handling, placement, and testing. Each roll of FML was carefully moved from the staging area to Evaporation Pond 3 using a rubber-tired extendable forklift. FML was not placed in standing water or deployed during rainfall. Upon deployment, each roll label was removed and submitted to the Site CQA Technician, and panel location documented (see **Figure 6**).

After each FML panel had been placed, adjoining panels were positioned with a 4 to 6 inch overlap required for hot-wedge fusion welding. The overlap distance is required for proper seaming, and to allow peel and shear tests to be performed on the seams. Seams were oriented at approximately 45 degrees to the line of prevailing base grade slope. No perpendicular seams were placed on the sideslopes.

2.4.3. *Flexible Membrane Liner Testing*

FML testing included manufacturer's quality control (MQC) and quality assurance (MQA), conformance testing, construction quality control (CQC), CQA, and seam testing. Each type of testing is discussed in the following sections.

2.4.3.1. *Manufacturer's Quality Control (MQC)*

INEOS Olefins & Polymers USA LLC., performed resin testing on the raw materials used in the manufacturing of the FML. These test results and written certifications that the product delivered has been extruded from an acceptable resin are included in **Appendix C.3**.

2.4.3.2. *Manufacturer's Quality Assurance (MQA)*

As a part of the MQA testing, specific performance and characterization qualities were evaluated on random samples collected from the geomembrane rolls prior to their delivery to the site:

- Thickness (ASTM D 5199 for smooth)
- Density (ASTM D 1505)
- Tensile Properties (ASTM D 6693)
- Tear Resistance (ASTM D 1004)
- Carbon Black Content (ASTM D 1603) or (ASTM D 4218)
- Carbon Black Dispersion (ASTM D 5596)
- Puncture Resistance (ASTM D 4833)
- UV Resistance (ASTM D 5885)
- Oxidation induction time (ASTM D 3895)

Test results are included in **Appendix C.3**. These MQA results were reviewed by the GEI CQA Officer and approved for consistency with the project specifications (see **Section 2.4.3.3.** Conformance Testing).

2.4.3.3. Conformance Testing

The Site CQA Technician verified that the FIM collected random samples from selected rolls of the 60-mil smooth FML that were delivered to the site. A sample approximately two feet long was collected from the entire roll width and shipped to an independent laboratory (TRI/Environmental Inc., Austin, Texas) for conformance testing. Conformance samples were collected at a frequency of at least one per 100,000 ft^2 of liner to confirm that the FML delivered to the site conformed to the minimum requirements of the project specifications. Approximately 93,500 ft^2 of 60-mil smooth Secondary FML was installed requiring one (1) conformance test. The samples were sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) and tested for qualities as outlined in the Geosynthetic Technical Specifications. Conformance test results were reviewed by the GEI CQA Officer and accepted in accordance with project specifications. The test results for the sample is included in **Appendix C.4**.

2.4.3.4. Construction Quality Control (CQC)

The quality control procedures specified in the project documents were strictly followed in order to provide a method to measure and regulate the quality of liner installation. These procedures included such activities as start-up trial welds, destructive and non-destructive seam testing, and verification that the deployment and seaming procedures were performed in accordance with project specifications.

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Bernalillo, New Mexico
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Trial welds were performed at the start and midpoint of each workday; after each break in seaming of one hour or more; and after any equipment shutdown. The trial welds were a minimum of ten feet in length for fusion welders, and a minimum of three feet in length for extrusion fillet welders. One-inch-wide cutouts of the trial welds were field tested for shear and peel strength using a tensiometer. All testing was performed in the presence of the Site CQA Technician. If the results of the trial weld testing did not comply with the CQA Plan and project specifications, the welder was not permitted to continue seaming until the deficiencies were corrected and a trial weld was performed which passed the field testing requirements. Trial weld documentation is included in **Appendix D.6**.

The seam testing program for Evaporation Pond 3 included peel and shear testing on random samples cut from the installed FML, and nondestructive testing (air pressure and/or vacuum box testing) on all field seams. The seam testing program is detailed in **Section 2.4.3.6** of this report.

Both the Site CQA Technician and FIM observed placement activities to verify that the deployment and seaming procedures were performed in accordance with the CQA Plan and project specifications including subgrade inspection, seam cleaning, and precautions against potential liner damage.

2.4.3.5. Construction Quality Assurance (CQA)

The Site CQA Technician and FIM visually inspected all material for manufacturing and installation defects. No manufacturing flaws were observed in the installed FML. The Site CQA Technician inspected all seamed and non-seamed areas of the geomembrane for wrinkles, defects, holes, blisters, etc. After each panel was deployed, the Site CQA Technician and FIM walked the length of each panel and identified any suspect areas (e.g., defects or holes) by marking these areas for repair with a highly visible paint marker. All repairs are documented in the Seam Vacuum Test and Defect-repair Log

2.4.3.6. Seam Testing

In accordance with the CQA Plan and project specifications, the field seam verification program consisted of destructive and non-destructive testing. All sampling and field-testing was performed by the installer in the presence of the Site CQA Technician. In addition to field-testing, destructive samples were sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) for peel and shear strength testing.

A. Destructive Seam Testing

In accordance with the project specifications, a minimum of one destructive test for every 500 linear feet of welded seam was performed on the FML requiring nine tests. Nine (9) test samples (SDT-1 through SDT-9) were evaluated in accordance with the CQA Plan and project specifications. Each destructive test sample was divided into three segments. The first segment was tested in the field for peel and shear strength by the installer. The second segment was shipped to TRI/Environmental, Inc. in Austin, Texas for laboratory testing. The third sample segment was retained by the Site CQA Technician and delivered to Basin Disposal Inc. to be archived on-site. Results of the field destructive tests are provided in **Appendix D.10**. The laboratory test results are included in **Appendix E**.

B. Non-Destructive Seam Testing

Air pressure testing was performed on all double-wedge fusion welded seams except where channel intersections occurred. Where intersections occurred, the seam section was extrusion welded. Vacuum box testing was performed on all extrusion welded portions of seams and patches and where intersections occurred on double-wedge fusion-welded seams. Test results are documented on the *Geomembrane Seam – Pressure Test Log* (**Appendix D.8**) and the *Geomembrane Seam – Vacuum Test and Defect-repair Log* (**Appendix D.9**). All seams and repairs were required to pass the non-destructive testing specifications outlined in the CQA Plan and Project Specifications before being accepted.

2.4.4. Liner Deployment Records

Documentation for liner deployment and testing of each area was required prior to liner approval and acceptance. Submittals for the lined area included:

- FML Deployment Log (**Appendix D.2**)
- Geomembrane Pre-weld Qualification Test Record (**Appendix D.6**)
- Geomembrane Seaming Log (**Appendix D.7**)
- Geomembrane Seam Pressure Test Log (**Appendix D.8**)
- Geomembrane Seam Vacuum Test and Defect Repair Log (**Appendix D.9**)
- Geomembrane Seam Field Destructive Test Log (**Appendix D.10**)

The Secondary FML installation was accepted after the above-listed data were submitted to, reviewed, and approved by the GEI CQA Officer. The As-built Secondary FML Panel Layout for Evaporation Pond 3 is included as **Figure 6**. Daily Summary Reports were logged during each construction day, and photographs were taken showing the FML placement activity. The Daily Summary Reports and project photographs are provided in the **Field Log and Photographs** Section.

2.5. Leak Detection Sump Construction

The leak detection system for Evaporation Pond 3 was constructed as described in the engineering design plans, CQA Plan and project specifications. Construction activities are summarized below.

2.5.1. Leak Detection Sumps

The geotextile was aligned in the leak detection sumps prior to placement of select aggregate. The purpose of the geotextile is to provide a cushion between the aggregate and the secondary HDPE liner. Four layers of 200-Mil geonet were banded together and attached at the base of the 4" HDPE leak detection riser pipe for support and protection of the secondary liner. The perforations in the riser pipe were then covered with a wrap of geotextile and secured with several zip ties to prevent the intrusion of fines into the leak detection riser pipe. Prior to installation, all leak detection sump collection system piping was inspected to verify that identification markings, pipe construction, and perforations met project specifications. To finish,

the leak detection sumps were filled with select aggregate, and the geotextile was "enveloped". During the entire process of constructing the leak detection sumps, extreme caution was taken as to not jeopardize the integrity, alignment, and slope of the piping, or integrity of the secondary liner.

2.5.2. Geotextile Fabric

Approximately 2,430 ft^2 of 12-oz/yd^2 geotextile fabric were installed in the Evaporation Pond 3 leak detection sumps. The geotextile fabric was delivered, stored and handled in strict accordance with the CQA Plan, project specifications, and applicable industry standards. As required by the CQA Plan and project specifications, the manufacturer (Propex) performed the following evaluations of the material prior to delivery to the site:

- Mass/Unit Area (ASTM D 5261)
- Thickness (ASTM D 5199)
- Grab Tensile Strength (ASTM D 4632)
- Puncture Strength (ASTM D 4833)
- Mullen Burst Strength (ASTM D 3786)
- Trapezoidal Tear Strength (ASTM D 4533)

Appendix C.7 provides the Geotextile Materials Certification provided by the manufacturer. Per the CQA Plan and project specifications, independent laboratory conformance test results, consisted of the following:

- Mass/Unit Area (ASTM D 5261)
- Grab Tensile Strength (ASTM D 4632)
- Puncture Strength (ASTM D 4833)
- Mullen Burst Strength (ASTM D 3786)
- Permittivity (ASTM D 4491)
- Apparent opening size (ASTM D 4751)

Appendix C.8 provides the results of laboratory testing. The results were reviewed by the GEI CQA Officer and compared with the project specifications and CQA Plan for geotextile fabric. The geotextile meets all technical specification requirements.

2.5.3. *Leak Detection Sump Aggregate*

Project specifications require one (1) gradation from each source of the select aggregate used. Approximately 34 cubic yards of material were used, all from a single source requiring 1 gradation analysis; a summary of the gradation test is provided below, and test results are provided in **Appendix F.2.**:

Specification	Coarse Aggregate (Average)
• 90-100% by weight passing the 1½-inch sieve	100%
• 20-55% by weight passing the 1-inch sieve	48.3%
• <2% by weight passing the ¾-inch sieve	8.2%
• <1% by weight passing the ½-inch sieve (NS)	0.6%

Initial sieve analysis of the aggregate reported a 1% fines content. In communications with both the Contractor and the Site CQA Officer it was decided to wash the material and take a second sieve analysis. The material was washed using a water truck and the slightly elevated bed of a dump truck containing the aggregate. Once the sieve analysis was presented to the Site CQA Technician, the Site CQA Officer was contacted to discuss the issue of > 2% passing the ¾-inch sieve. After reviewing the second sieve analysis, the Site CQA Officer approved this material on the condition that the leak detection riser pipe be wrapped with geotextile material, to prevent the potential intrusion of material less than ½-inch in size. This decision was also based on the fact that materials smaller than the pipe perforations (i.e. ½") are less than 1% by weight. GEI's Site CQA Technician was on-site for the verification of this process, as documented in the **Field Log and Photographs** section of this report.

2.5.4. *Leak Detection Sump Riser Pipe*

The two leak detection sumps for Evaporation Pond 3 consist of inclined riser pipes that are placed along the southern berm and do not penetrate the liner system. The lowest two-feet for the pipes have been perforated using a ½" drill bit. This perforated area is located within the aggregate filled areas of the leak detection sumps; and the remaining pipe is solid and transverses up the southern slope and is protected with a HDPE cap. Two yellow painted bollards were

placed surrounding the exposed riser pipe at the top of slope for protection. **Appendix F.1** provides the leak detection riser pipe material certifications.

2.6. Geonet Drainage Layer

The Geonet was installed directly above the Secondary FML in accordance with the engineering design drawings, project specifications, and CQA plan. The following sections describe the procedures and activities performed during Geonet installation, observation, and CQA testing.

2.6.1. Geonet Drainage Layer Product

The Geonet utilized in Evaporation Pond 3 construction is 200-mil, high-density polyethylene (HDPE), manufactured by Poly-Flex, Inc. of Grand Prairie, Texas. Geonet is specified for the floor and sidewalls of Evaporation Pond 3, and was delivered on-site in rolls 14 feet wide by 325 feet long. Rolls were staged along the western perimeter of Evaporation Pond 3 to provide easy access, and to minimize handling of the material. In accordance with the CQA Plan and project specifications, material was not stacked more than two rolls high. The labels were compared with the shipping invoice to verify that the materials received corresponded with materials subjected to manufactures quality control/manufactures quality assurance testing (see **Section 2.6.3**). The material was also inspected for damage during off-loading and staging.

2.6.2. Geonet Drainage Layer Installation

The Geonet installation activities were performed in accordance with the guidelines stipulated in the BDI CQA Plan, project specifications, the engineering design drawings, and industry standards for Geonet handling, and placement. Each roll of Geonet was carefully moved from the staging area to Evaporation Pond 3 using a rubber-tired extendable forklift. The forklift was not allowed on the Secondary FML, and the Geonet was placed by hand. Upon deployment, each role label was removed and submitted to the Site CQA Technician, and panel location documented (see **Figure 7**).

After each Geonet panel had been placed, adjoining panels were positioned with a 4 to 6 inch overlap. The overlap distance is required for proper attachment using zip ties placed at 6" and

5', longitudinally and end-to-end seams respectively. Seams were oriented at approximately 45 degrees to the line of prevailing base grade slope, and perpendicular to the side-slopes.

2.6.3. Geonet Drainage Layer Testing

Geonet testing included manufacturer's quality control (MQC) and quality assurance (MQA), conformance testing, construction quality control (CQC), CQA, and seam testing. Each type of testing is discussed in the following sections.

2.6.3.1. Manufacturer's Quality Control (MQC)

Chevron Phillips Chemical Company LP., performed resin testing on the raw materials used in the manufacturing of the Geonet. These test results and written certifications that the product delivered has been extruded from an acceptable resin are included in **Appendix C.5**.

2.6.3.2. Manufacturer's Quality Assurance (MQA)

As a part of the MQA testing, specific performance and characterization qualities were evaluated on random samples collected from the geonet rolls prior to their delivery to the site:

- Thickness (ASTM D 5199)
- Density (ASTM D 1505)
- Tensile Properties (ASTM D 7179)
- Carbon Black Content (ASTM D 1603)
- Transmissivity (ASTM D 4716)

Test results are included in **Appendix C.5**. These results were reviewed by the GEI CQA Officer; compared with the conformance testing results for consistency with the project specifications (see **Section 2.6.3.3.** Conformance Testing); and confirmed to be in compliance.

2.6.3.3. Conformance Testing

The Site CQA Technician verified that the FIM collected random samples from selected rolls of the Geonet that was delivered to the site. A sample approximately two feet long was collected from the entire roll width and shipped to an independent laboratory for conformance testing. Conformance samples were collected at a frequency of at least one per 100,000 ft^2 to confirm

that the Geonet delivered to the site conformed to the minimum requirements of the project specifications. Approximately 93,500 ft^2 of Geonet was installed requiring one (1) conformance test. The sample was sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) and tested for Thickness (ASTM D 1777), Mass/Unit area (ASTM D 3776), Density (ASTM D 1505), Carbon Content (ASTM D 1603, mod), Melt Index (ASTM D 1238), and Wide Width Tensile (ASTM D4595, mod). Conformance test results were reviewed by the GEI CQA Officer and accepted in accordance with project specifications. The test results for the sample are included in **Appendix C.6**.

2.6.3.4. Construction Quality Control (CQC)

The quality control procedures specified in the project documents were strictly followed in order to provide a method to measure and regulate the quality of geonet installation. These procedures included such activities as proper overlap and correct tie spacing on floor and slopes.

Both the Site CQA Technician and FIM observed placement activities to verify that the deployment and seaming procedures were performed in accordance with the CQA Plan and project specifications.

2.6.3.5. Construction Quality Assurance (CQA)

The Site CQA Technician and FIM visually inspected all material for manufacturing and installation defects. No manufacturing flaws were observed in the installed Geonet. The Site CQA Technician inspected all seamed and non-seamed areas of the geonet for wrinkles, defects, etc. After each panel was deployed, the Site CQA Technician and FIM walked the length of each panel to identify any suspect areas (e.g., defects or tears) by marking these areas for repair with a highly visible paint. No suspect areas were found.

2.6.4. Geonet Deployment Records

Documentation for geonet deployment was required prior to liner approval and acceptance. Submittals for the lined area included:

- Geonet Deployment Log (**Appendix D.4**)

The Geonet installation was accepted after the above-listed data were submitted to, reviewed, and approved by the GEI CQA Officer. The As-built Geonet Panel Layout for Evaporation Pond 3 is included as **Figure 7**. Daily Summary Reports were logged during each construction day, and photographs were taken showing the Geonet placement activity. The Daily Summary Reports and project photographs are provided in the **Field Log and Photographs** Section.

2.7. 60-Mil Primary Flexible Membrane Liner

The Primary FML was installed directly above the Geonet in accordance with the engineering design drawings, project specifications, and CQA plan. The following sections describe the procedures and activities performed during FML installation, observation, and CQA testing.

2.7.1. Flexible Membrane Liner Product

The Primary FML utilized in Evaporation Pond 3 construction is 60-mil, high-density polyethylene (HDPE) smooth liner, manufactured by Poly-Flex, Inc. of Grand Prairie, Texas. Smooth liner material is specified for the floor and sidewalls of Evaporation Pond 3, with the sidewalls requiring a minimum 10 foot run-out extending onto the floor from the toe of slope. The FML was delivered on-site in rolls 23 feet wide by 500 feet long, was staged along the western perimeter of Evaporation Pond 3 to provide easy access and to minimize handling of the material. In accordance with the CQA Plan and project specifications, material was not stacked more than two rolls high. The labels were compared with the shipping invoice to verify that the materials received corresponded with materials subjected to manufactures quality control/manufactures quality assurance testing (see **Section 2.7.3**). The material was also inspected for damage during off-loading and staging.

2.7.2. Flexible Membrane Liner Installation

The Primary FML installation activities were performed in accordance with the guidelines stipulated in the project CQA Plan, project specifications, the engineering design drawings, and industry standards for FML handling, placement, and testing. Each roll of FML was carefully moved from the staging area to Evaporation Pond 3 using a rubber-tired extendable forklift. The forklift was not allowed on the Geonet, the Primer HDPE Liner was placed by hand. FML was

not placed in standing water or deployed during rainfall. Upon deployment, each roll label was removed and submitted to the Site CQA Technician, and panel location documented (see **Figure 8**).

After each FML panel had been placed, adjoining panels were positioned with a 4 to 6 inch overlap required for hot-wedge fusion welding. The overlap distance is required for proper seaming, and to allow peel and shear tests to be performed on the seams. Seams were oriented at approximately 45 degrees to the line of prevailing base grade slope. No perpendicular seams were placed on the sideslopes.

2.7.3. Flexible Membrane Liner Testing

FML testing included manufacturer's quality control (MQC) and quality assurance (MQA), conformance testing, construction quality control (CQC), CQA, and seam testing. Each type of testing is discussed in the following sections.

2.7.3.1 Manufacturer's Quality Control (MQC)

INEOS Olefins & Polymers USA LLC., performed resin testing on the raw materials used in the manufacturing of the FML. These test results and written certifications that the product delivered has been extruded from an acceptable resin are included in **Appendix C.3**.

2.7.3.2 Manufacturer's Quality Assurance (MQA)

As a part of the MQA testing, specific performance and characterization qualities were evaluated on random samples collected from the geomembrane rolls prior to their delivery to the site:

- Thickness (ASTM D 5199 for smooth)
- Density (ASTM D 1505)
- Tensile Properties (ASTM D 6693)
- Tear Resistance (ASTM D 1004)
- Carbon Black Content (ASTM D 1603) or (ASTM D 4218)
- Carbon Black Dispersion (ASTM D 5596)
- Puncture Resistance (ASTM D 4833)
- UV Resistance (ASTM D 5885)
- Oxidation induction time (ASTM D 3895)

Test results are included in **Appendix C.3**. These MQA results were reviewed by the GEI CQA Officer and approved for consistency with the project specifications (see **Section 2.7.3.3.** Conformance Testing).

2.7.3.3. Conformance Testing

The Site CQA Technician verified that the FIM collected random samples from selected rolls of the 60-mil smooth FML that were delivered to the site. A sample approximately two feet long was collected from the entire roll width and shipped to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) for conformance testing. Conformance samples were collected at a frequency of at least one per 100,000 ft^2 of liner to confirm that the FML delivered to the site conformed to the minimum requirements of the project specifications. Approximately 93,500 ft^2 of 60-mil smooth Primary FML was installed requiring one (1) conformance test. The samples were sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) and tested for qualities as outlined in the Geosynthetic Technical Specifications. Conformance test results were reviewed by the GEI CQA Officer and accepted in accordance with project specifications. The test results for the sample are included in **Appendix C.4**.

2.7.3.4. Construction Quality Control (CQC)

The quality control procedures specified in the project documents were strictly followed in order to provide a method to measure and regulate the quality of liner installation. These procedures included such activities as start-up trial welds, destructive and non-destructive seam testing, and verification that the deployment and seaming procedures were performed in accordance with project specifications.

Trial welds were performed at the start and midpoint of each workday; after each break in seaming of one hour or more; and after any equipment shutdown. The trial welds were a minimum of ten feet in length for fusion welders, and a minimum of three feet in length for extrusion fillet welders. One-inch-wide cutouts of the trial welds were field tested for shear and peel strength using a tensiometer. All testing was performed in the presence of the Site CQA Technician. If the results of the trial weld testing did not comply with the CQA Plan and project

specifications, the welder was not permitted to continue seaming until the deficiencies were corrected and a trial weld was performed which passed the field testing requirements. Trial weld documentation is included in **Appendix D.11**.

The seam testing program for Evaporation Pond 3 included peel and shear testing on random samples cut from the installed FML, and nondestructive testing (air pressure and/or vacuum box testing) on all field seams. The seam testing program is detailed in **Section 2.7.3.6** of this report.

Both the Site CQA Technician and FIM observed placement activities to verify that the deployment and seaming procedures were performed in accordance with the CQA Plan and project specifications including subgrade inspection, seam cleaning, and precautions against potential liner damage.

2.7.3.5. Construction Quality Assurance (CQA)

The Site CQA Technician and FIM visually inspected all material for manufacturing and installation defects. No manufacturing flaws were observed in the installed FML. The Site CQA Technician inspected all seamed and non-seamed areas of the geomembrane for wrinkles, defects, holes, blisters, etc. After each panel was deployed, the Site CQA Technician and FIM walked the length of each panel and identified any suspect areas (e.g., defects or holes) by marking these areas for repair with a highly visible paint marker. All repairs are documented in the Seam Vacuum Test and Defect-repair Log

2.7.3.6. Seam Testing

In accordance with the CQA Plan and project specifications, the field seam verification program consisted of destructive and non-destructive testing. All sampling and field-testing was performed by the installer in the presence of the Site CQA Technician. In addition to field-testing, destructive samples were sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) for peel and shear strength testing.

A. Destructive Seam Testing

In accordance with the project specifications, a minimum of one destructive test for every 500 linear feet of welded seam was performed on the FML requiring nine tests. Nine (9) test samples (PDT-1 through PDT-9) were evaluated in accordance with the CQA Plan and project specifications. Each destructive test sample was divided into three segments. The first segment was tested in the field for peel and shear strength by the installer. The second segment was shipped to TRI/Environmental, Inc. in Austin, Texas for laboratory testing. The third sample segment was retained by the Site CQA Technician and delivered to Basin Disposal Inc. to be archived on-site. Results of the field destructive tests are provided in **Appendix D.15**. The laboratory test results are included in **Appendix E.**

B. Non-Destructive Seam Testing

Air pressure testing was performed on all double-wedge fusion welded seams except where channel intersections occurred. Where intersections occurred, the seam section was extrusion welded. Vacuum box testing was performed on all extrusion welded portions of seams and patches and where intersections occurred on double-wedge fusion-welded seams. Test results are documented on the *Geomembrane Seam – Pressure Test Log* (**Appendix D.13**) and the *Geomembrane Seam – Vacuum Test and Defect-repair Log* (**Appendix D.14**). All seams and repairs were required to pass the non-destructive testing specifications outlined in the CQA Plan and Project Specifications before being accepted.

2.7.4. Liner Deployment Records

Documentation for liner deployment and testing of each area was required prior to liner approval and acceptance. Submittals for the lined area included:

- Primary FML Deployment Log (**Appendix D.5**)
- Geomembrane Pre-weld Qualification Test Record (**Appendix D.11**)
- Geomembrane Seaming Log (**Appendix D.12**)
- Geomembrane Seam Pressure Test Log (**Appendix D.13**)
- Geomembrane Seam Vacuum Test and Defect Repair Log (**Appendix D.14**)
- Geomembrane Seam Field Destructive Test Log (**Appendix D.15**)

The Primary FML installation was accepted after the above-listed data were submitted to, reviewed, and approved by the GEI CQA Officer. The As-built Primary FML Panel Layout for Evaporation Pond 3 is included as **Figure 8**. Daily Summary Reports were logged during each construction day, and photographs were taken showing the FML placement activity. The Daily Summary Reports and project photographs are provided in the **Field Log and Photographs** Section.

2.8. 60-Mil Textured Flexible Membrane Liner Panels

Textured FML was installed directly above the Primary liner in accordance with the engineering design drawings, project specifications, and CQA plan. The following sections describe the procedures and activities performed during FML installation, observation, and CQA testing.

2.8.1. Flexible Membrane Liner Product

The Textured FML utilized in the cell construction is 60-mil, high-density polyethylene (HDPE), manufactured by GSE, Inc. of Houston, Texas. This liner material is used in select locations of Evaporation Pond 3 for safe walkways and additional protection from the discharge of fluids into the evaporation pond. FML was delivered on-site in rolls 22.5 feet wide by 460 feet long, and was staged along the western perimeter of Evaporation Pond 3 to provide easy access, and to minimize handling of the material. The label was compared with the shipping invoice to verify that the materials received corresponded with materials subjected to manufactures quality control/manufactures quality assurance testing (see **Section 2.8.3**). The material was also inspected for damage during off-loading and staging.

2.8.2. Flexible Membrane Liner Installation

Textured FML installation activities were performed in accordance with the guidelines stipulated in the project CQA Plan, project specifications, the engineering design drawings, and industry standards for FML handling, placement, and testing. Each roll of FML was carefully moved from the staging area to Evaporation Pond 3 using a rubber-tired extendable forklift. FML was not placed in standing water or deployed during rainfall. Upon deployment, each roll label was

removed and submitted to the Site CQA Technician, and panel location documented (see **Figure 9**).

2.8.3. *Flexible Membrane Liner Testing*

FML testing included manufacturer's quality control (MQC) and quality assurance (MQA), conformance testing, construction quality control (CQC), CQA, and seam testing. Each type of testing is discussed in the following sections.

2.8.3.1 Manufacturer's Quality Control (MQC)

Chevron Phillips Chemical CO LP., performed resin testing on the raw materials used in the manufacturing of the FML. These test results and written certifications that the product delivered has been extruded from an acceptable resin are included in **Appendix C.3**.

2.8.3.2 Manufacturer's Quality Assurance (MQA)

As a part of the MQA testing, specific performance and characterization qualities were evaluated on random samples collected from the geomembrane rolls prior to their delivery to the site:

- Thickness (ASTM D 5194 for textured)
- Density (ASTM D 1505)
- Tensile Properties (ASTM D 6693)
- Tear Resistance (ASTM D 1004)
- Carbon Black Content (ASTM D 1603) or (ASTM D 4218)
- Carbon Black Dispersion (ASTM D 5596)
- Puncture Resistance (ASTM D 4833)

Test results are included in **Appendix C.3**. These results were reviewed by the GEI CQA Officer and compared with the conformance testing results for consistency with the project specifications (see **Section 2.8.3.3.** Conformance Testing).

2.8.3.3. Conformance Testing

The Site CQA Technician verified that the FIM collected random samples from selected rolls of textured FML that were delivered to the site. A sample approximately two feet long was collected from the entire roll width and shipped to an independent laboratory for conformance

testing. Conformance samples were collected at a frequency of at least one per 100,000 ft^2 of each type of liner to confirm that the FML delivered to the site conformed to the minimum requirements of the project specifications. Approximately 5,300 ft^2 of 60-mil textured FML was installed requiring one (1) conformance test. The sample was sent to an independent laboratory (TRI/Environmental, Inc., Austin, Texas) and tested for the previously mentioned qualities (see *§2.8.3.2*). Conformance test results were reviewed by the GEI CQA Officer and accepted in accordance with project specifications. The test results for the sample is included in **Appendix C.4**.

2.8.3.4. Construction Quality Control (CQC)

The quality control procedures specified in the project documents were strictly followed in order to provide a method to measure and regulate the quality of liner installation. These procedures included such activities as start-up trial welds, non-destructive seam testing, and verification that the deployment and seaming procedures were performed in accordance with project specifications.

Trial welds were performed at the start and midpoint of each workday; after each break in seaming of one hour or more; and after any equipment shutdown. The trial welds were a minimum of three feet in length for extrusion fillet welders. One-inch-wide cutouts of the trial welds were field tested for shear and peel strength using a tensiometer. All testing was performed in the presence of the Site CQA Technician. If the results of the trial weld testing did not comply with the CQA Plan and project specifications, the welder was not permitted to continue seaming until the deficiencies were corrected and a trial weld was performed which passed the field testing requirements. Trial weld documentation is included in **Appendix D.11**.

The seam testing program for textured liner consisted of trial-weld testing and vacuum testing. The seam testing program is detailed in **Section 2.8.3.6** of this report. Both the Site CQA Technician and FIM observed placement activities to verify that the deployment and seaming procedures were performed in accordance with the CQA Plan and project specifications including seam preparation and precautions against potential liner damage.

2.8.3.5. Construction Quality Assurance (CQA)

The Site CQA Technician and FIM visually inspected all material for manufacturing and installation defects. No manufacturing flaws were observed in the installed FML. The Site CQA Technician inspected all seamed and non-seamed areas of the geomembrane for wrinkles, defects, holes, blisters, etc. After each panel was deployed, the Site CQA Technician and FIM walked the length of each panel to identify any suspect areas (e.g., defects or holes) by marking these areas for repair with a highly visible paint marker. No suspect areas were found.

2.8.3.6. Seam Testing

In accordance with the CQA Plan and project specifications, the field seam verification program consisted of non-destructive testing. All sampling and field-testing was performed by the installer in the presence of the Site CQA Technician.

A. Non-Destructive Seam Testing

Vacuum box testing was performed on all extrusion welded seams and where intersections occurred on double-wedge fusion-welded seams. Test results are documented on the *Geomembrane Seam – Vacuum Test and Defect-repair Log* (**Appendix D.16**). All seams and repairs were required to pass the non-destructive testing specifications outlined in the CQA Plan and Project Specifications before being accepted.

2.8.4. Liner Deployment Records

Documentation for liner deployment and testing of each area was required prior to liner approval and acceptance. Submittals for the lined area included:

- Textured FML Deployment Log (**Appendix D.16**)
- Geomembrane Pre-weld Qualification Test Record (**Appendix D.11**)
- Geomembrane Seam Vacuum Test and Defect Repair Log (**Appendix D.17**)

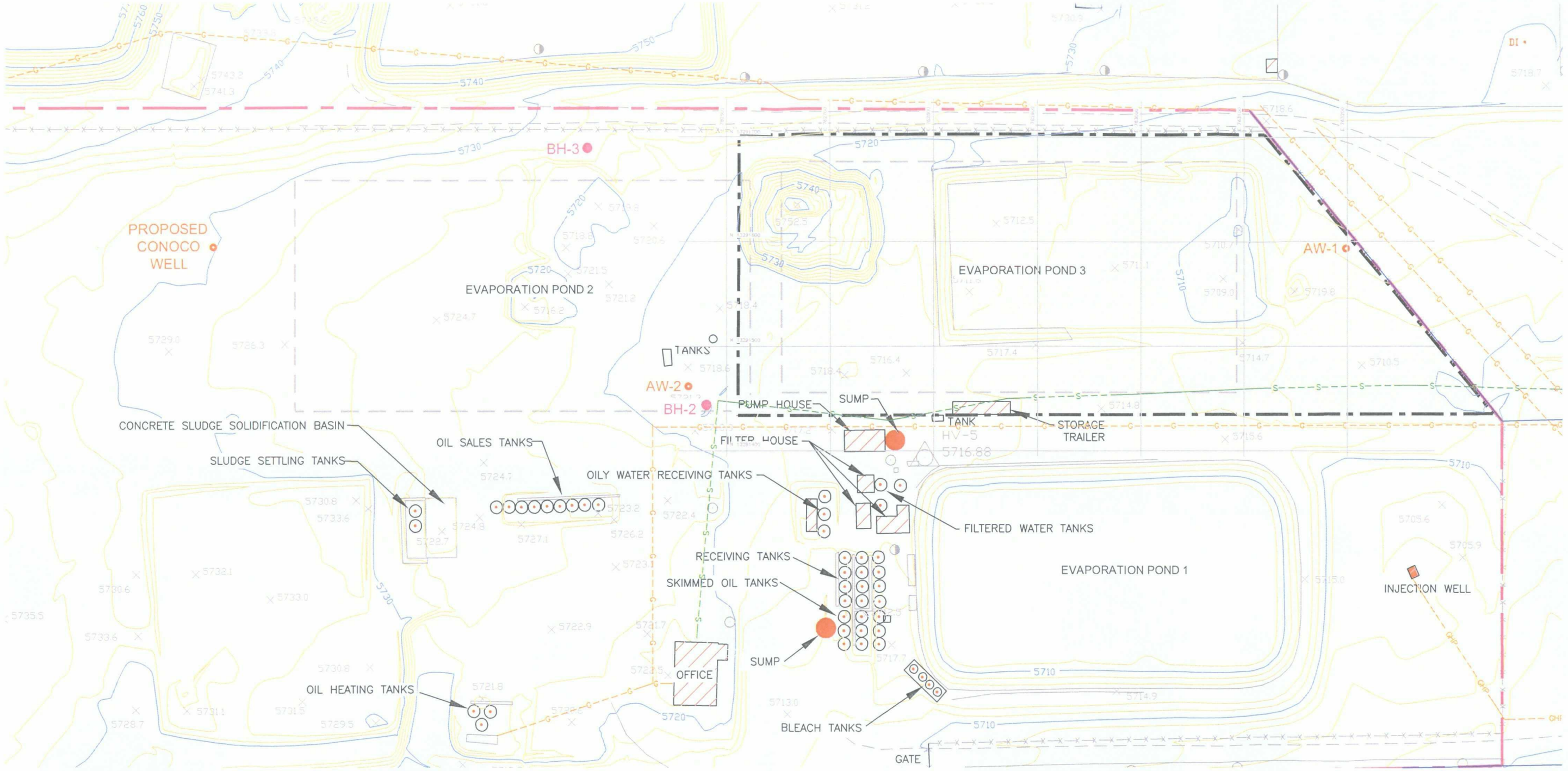
The textured FML installation was accepted after the above-listed data were submitted to, reviewed, and approved by the GEI CQA Officer. The As-built textured FML Panel Layout for Evaporation Pond 3 is included as **Figure 9**. Daily Summary Reports were logged during each

construction day, and photographs were taken showing the FML placement activity on the cell sidewalls. The Daily Summary Reports and project photographs are provided in the **Field Log and Photographs** Section.

2.9. Air Vents

Per the engineering design drawings, project specifications, and CQA plan air vents were installed at the top of the Evaporation Pond, and are shown on **Figure 9**. The vents penetrated all three layers (i.e., secondary HDPE liner, Geonet, primary HDPE liner). The purpose of the vents is to allow any air build-up beneath the liners to vent to the atmosphere, and thereby protect the integrity of the liner system.

FIGURES



NOTES:

1. LOCATION OF SITE UTILITIES IS APPROXIMATE. LOCATIONS OF SITE UTILITIES WILL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

BOREHOLE LOCATIONS	
BH-2	LAT 36°45'20.54269"N (NAD 83) LONG 107°59'02.70950"W (NAD83) ELEV: 5717.98 (GROUND)
BH-3	LAT 36°45'22.92950"N (NAD 83) LONG 107°59'04.21563"W (NAD83) ELEV: 5727.46 (GROUND)
AW-1	LAT 36°45'22.01797"N (NAD 83) LONG 107°58'55.15402"W (NAD83) ELEV: 5717.85 (TOP OF CAP)
AW-2	LAT 36°45'20.58589"N (NAD 83) LONG 107°59'02.96163"W (NAD83) ELEV: 5722.20 (TOP OF CAP)

LEGEND

- SITE BOUNDARY
- 2' CONTOUR (EXISTING)
- 5700 10 CONTOUR (EXISTING)
- 2' DEPRESSION CONTOUR (EXISTING)
- 5700 10' DEPRESSION CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- FENCE (EXISTING)
- GHP 3" GAS LINE (EXISTING)
- S SEWER LINE (EXISTING)
- G GAS LINE (EXISTING)
- UTILITY EASEMENT
- STRUCTURE
- PROPOSED POND LOCATION
- PROJECT AREA
- AW-1 ASSESSMENT WELL
- BH-3 BOREHOLE LOCATION
- TANKS
- LIGHT POLE
- POWER POLE
- HV-5 5716.88 SURVEY CONTROL POINT AND ELEVATION
- 5705.6 SPOT ELEVATIONS

NORTH

0 50' 100'

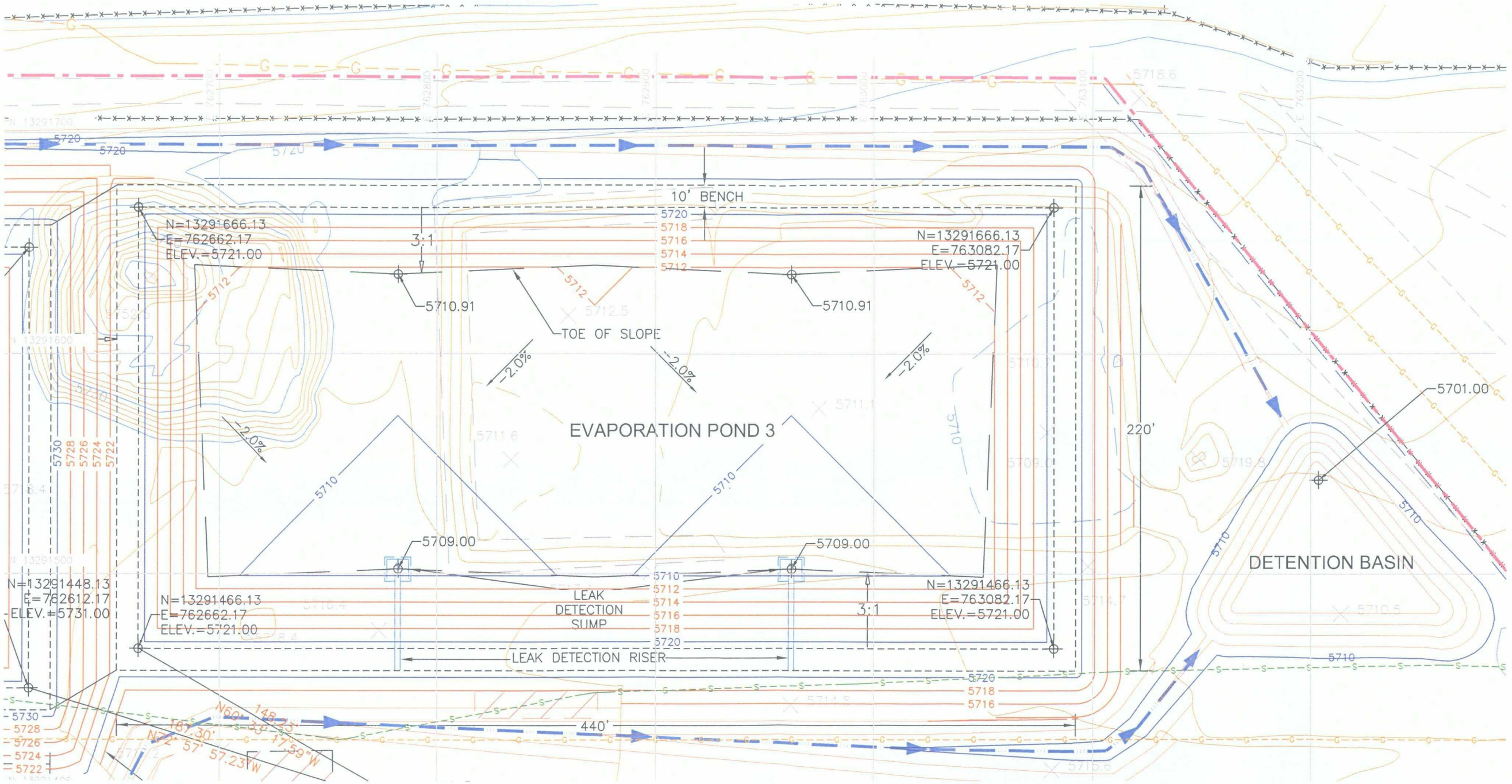
SITE PLAN

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/27/09	CAD: EXISTING.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 1
APPROVED BY: IKG	gei@gordonenvironmental.com	

Drawing:P:\acad 2003\520.01.01\FIGURES\EXISTING.dwg
Date/Time:Aug. 24, 2009-15:32:26



NOTE:

1. TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- SITE BOUNDARY
- 2' CONTOUR (EXISTING)
- 5700 10' CONTOUR (EXISTING)
- 2' DEPRESSION CONTOUR (EXISTING)
- 5700 10' DEPRESSION CONTOUR (EXISTING)
- 5720 DESIGN 10' CONTOUR
- 5716 DESIGN 2' CONTOUR
- UNPAVED ROADWAY (EXISTING)
- CHP 3" GAS LINE (EXISTING)
- S SEWER LINE (EXISTING)
- G GAS LINE (EXISTING)
- UTILITY EASEMENT
- FENCE (EXISTING)
- LEAK DETECTION SUMP AND RISER PIPE
- CHANNEL FLOW LINE
- STRUCTURE
- 5705.6 SPOT ELEVATION (EXISTING)
- HV-5 5718.88 SURVEY CONTROL POINT AND ELEVATION
- 5711.04 SPOT ELEVATION (DESIGN)

NORTH

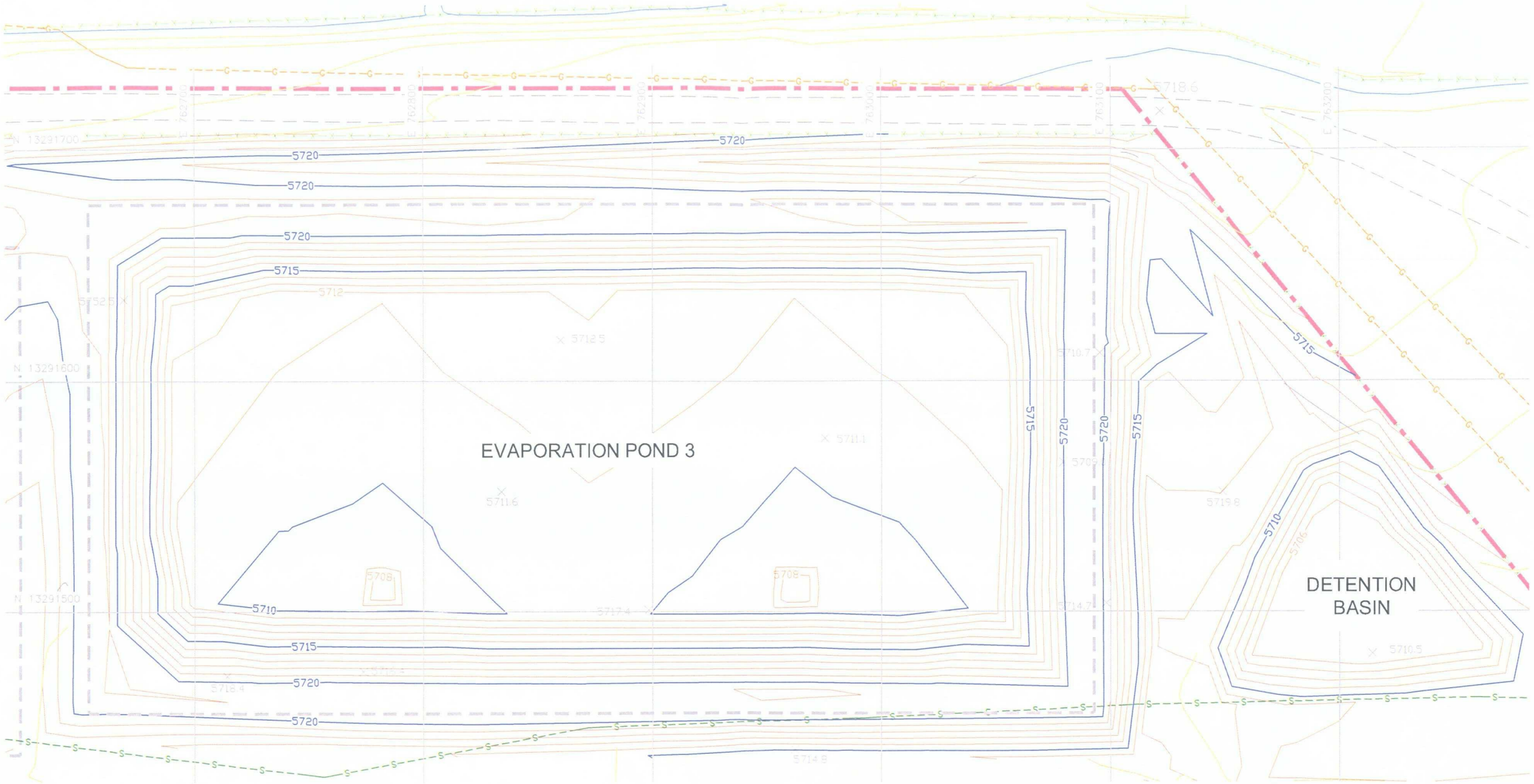
0 25' 50'

SUBGRADE DESIGN GRADES

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/2809	CAD: SUB GRADE.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 2
APPROVED BY: IKG	gei@gordonenvironmental.com	



NOTE

1. AS-BUILT TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- SITE BOUNDARY
- PROPOSED POND LOCATION
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 2' CONTOUR (EXISTING)
- 5710 — 10 CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- FENCE (EXISTING)
- S — SEWER LINE (EXISTING)
- G — GAS LINE (EXISTING)
- UTILITY EASEMENT
- 5705.6 × SPOT ELEVATIONS

NORTH

0 25' 50'

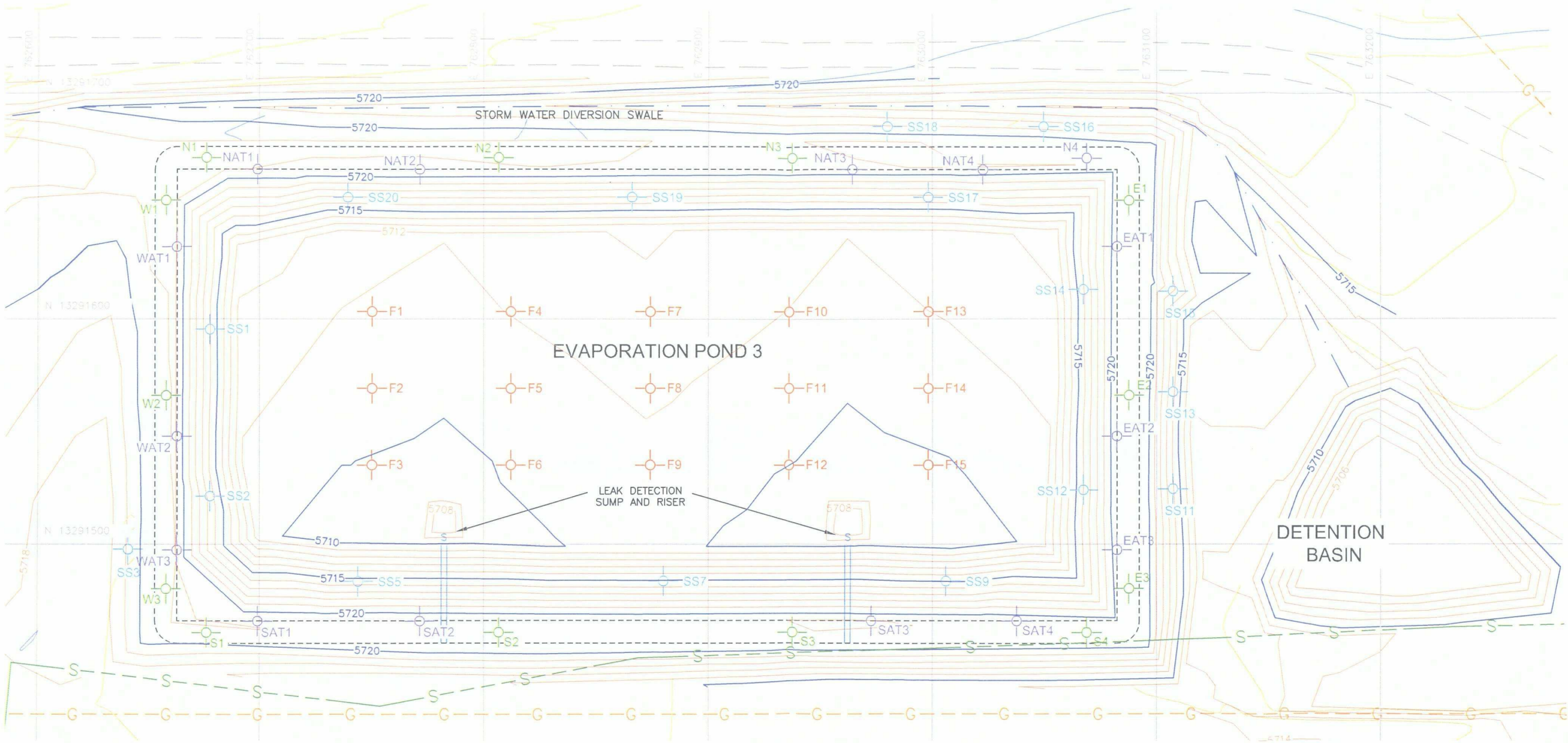
POND 3
SUBGRADE AS-BUILT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/28/09	CAD: SUBGR AB.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 3
APPROVED BY: IKG	gei@gordonenvironmental.com	

Drawing:P:\acad 2003\520.01.01\FIGURES\SUBGR AB.dwg
Date/Time:Aug. 24, 2009-16:39:00



NOTE

1. AS-BUILT TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- BENCH/ROADWAY
- 5720 — AS-BUILT 5 AND 10' CONTOUR
- AS-BUILT 2' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- G — GAS LINE (EXISTING)
- S — SEWER LINE (EXISTING)
- F2 — FLOOR DENSITY TEST LOCATION AND NUMBER
- SS2 — SIDESLOPE DENSITY TEST LOCATION AND NUMBER
- N2 | E2 / W2 | S2 — BERM DENSITY TEST LOCATION AND NUMBER
- NAT2 | EAT2 / WAT2 | SAT2 — ANCHOR TRENCH DENSITY TEST LOCATION AND NUMBER

NORTH

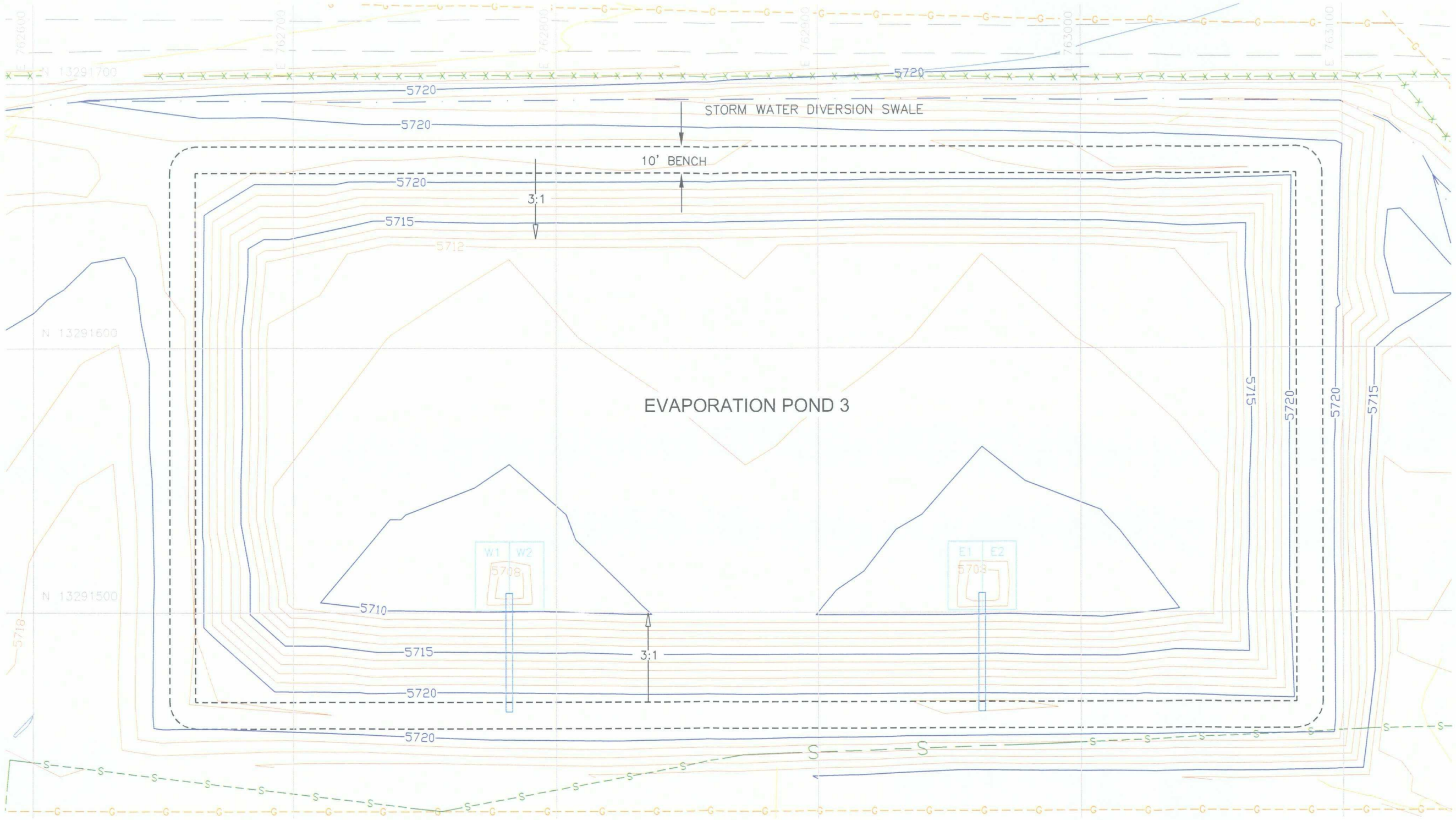
0 25' 50'

EVAPORATION POND 3 DENSITY TEST LOCATIONS

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/28/09	CAD: DENSITY FIG 4.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: DLG II	FIGURE 4
APPROVED BY: IKG	gei@gordonenvironmental.com	



NOTES

1. AS-BUILT TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- BENCH
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- W1 — APPROXIMATE LOCATION OF GCL PANEL LAYOUT
- UNPAVED ROADWAY (EXISTING)
- FENCE (EXISTING)
- GAS LINE (EXISTING)
- SEWER LINE (EXISTING)

NORTH

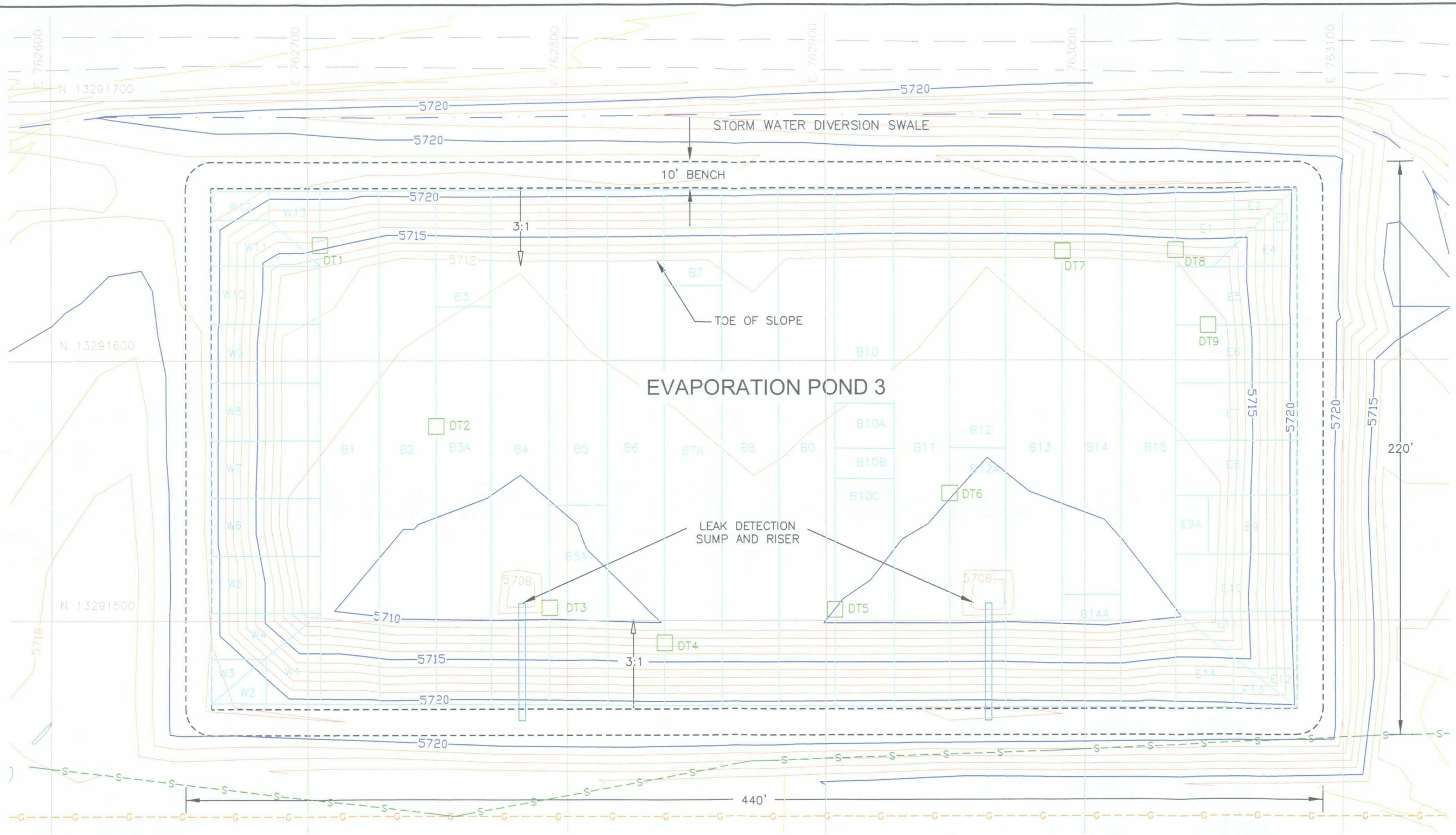
0 20' 40'

POND 3
GCL PANEL LAYOUT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/28/09	CAD: GCL SUMP.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 5
APPROVED BY: IKG	gei@gordonenvironmental.com	



NOTES

1. TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- BENCH
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- G — GAS LINE (EXISTING)
- S — SEWER LINE (EXISTING)
- B8 — APPROXIMATE LOCATION OF SECONDARY PANEL LAYOUT
- DT5 — APPROXIMATE LOCATION OF DESTRUCT TEST

NORTH

0 20' 40'

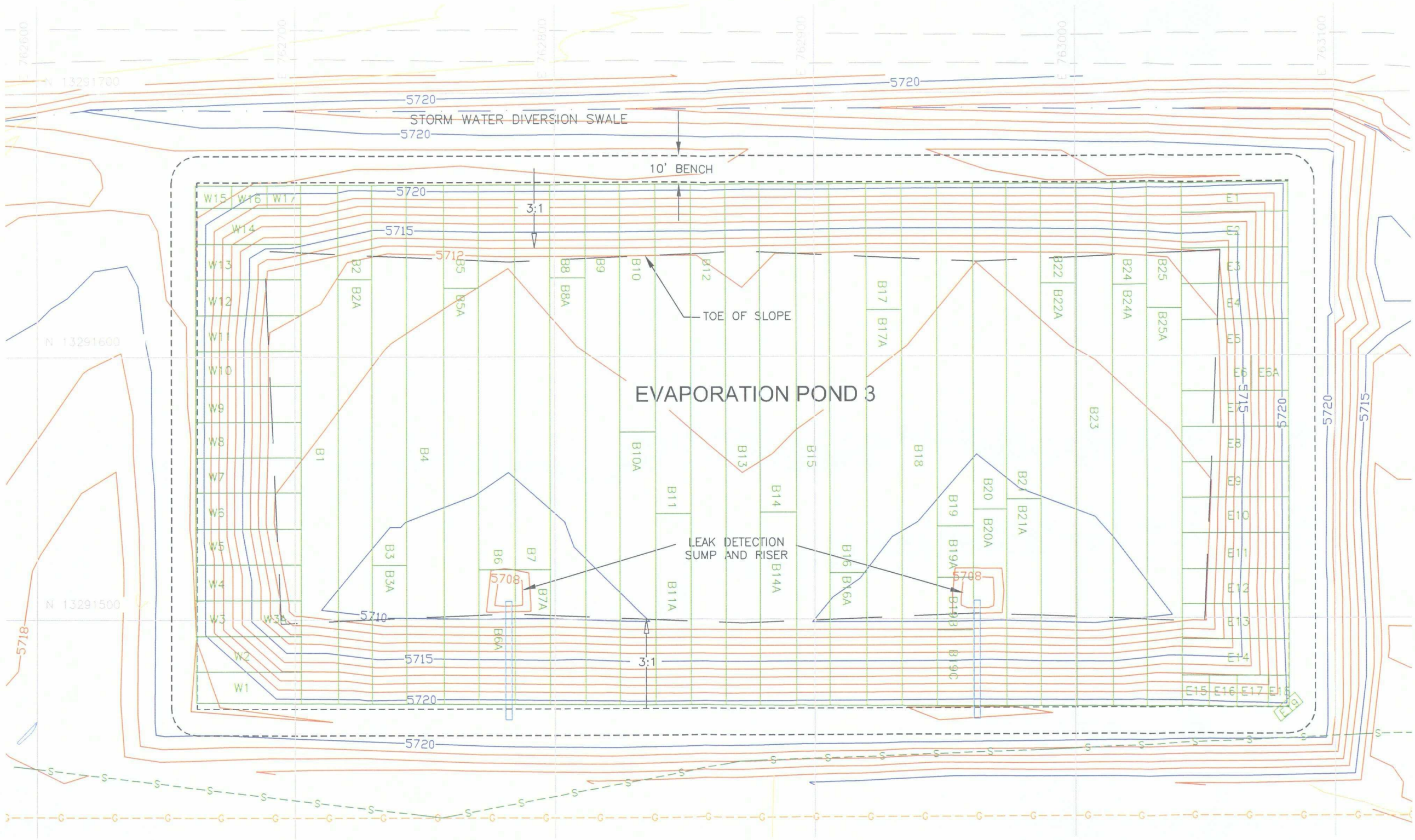
SECONDARY LINER FML PANEL LAYOUT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 08/25/09	CAD: SEC LINER.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 6
APPROVED BY: IKG	gei@gordonenvironmental.com	

Drawing:P:\acad 2003\520.01.01\FIGURES\SEC LINER.dwg
Date/Time:Aug. 25, 2009-10:44:33



NOTES

1. AS-BUILT TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410.
   DATE OF SURVEY: 07/06/09

LEGEND

- BENCH
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- GAS LINE (EXISTING)
- SEWER LINE (EXISTING)
- E1 — APPROXIMATE LOCATION OF GEONET PANEL LAYOUT

NORTH

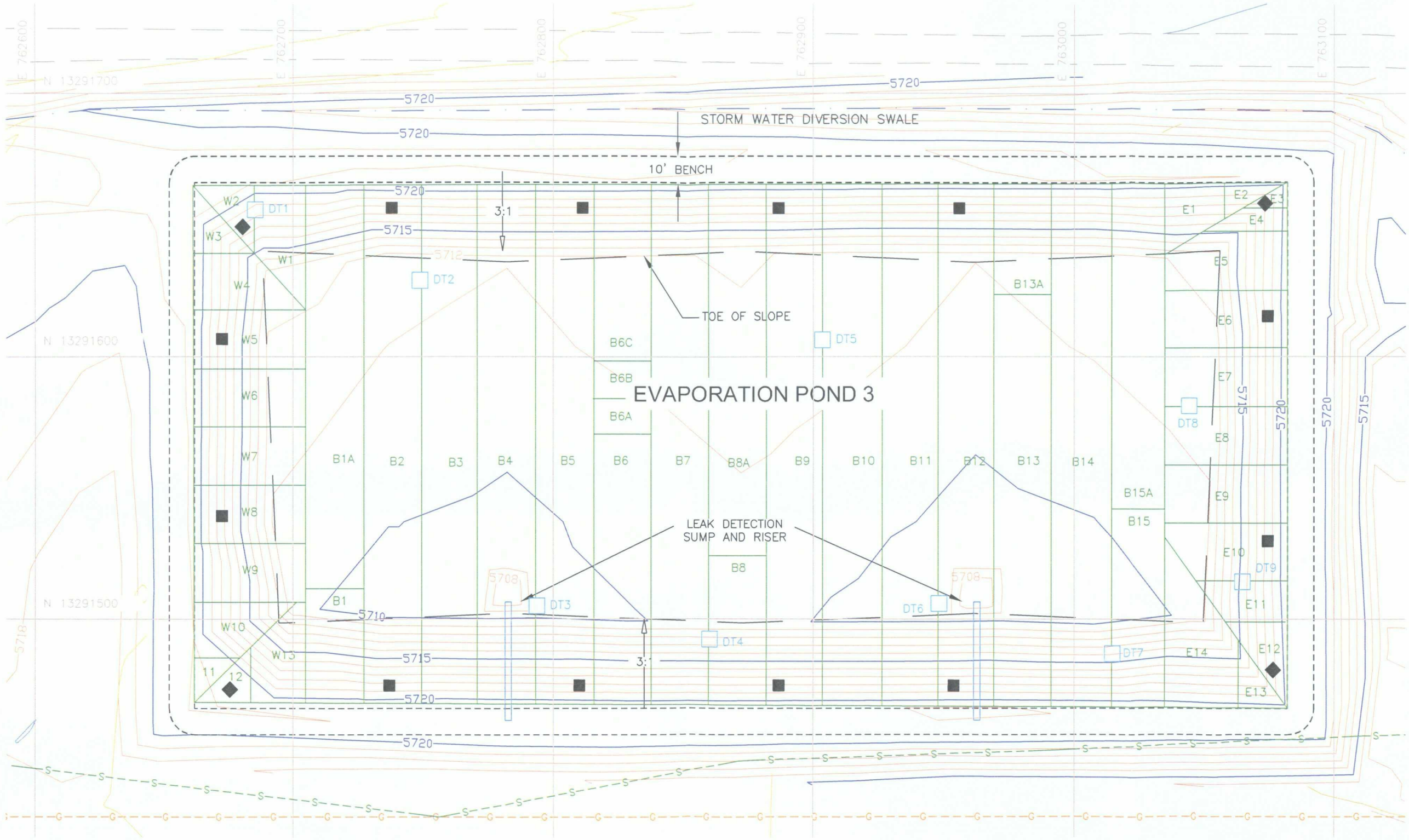
0 20' 40'

GEONET PANEL LAYOUT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/28/09	CAD: GCL.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 7
APPROVED BY: IKG	gei@gordonenvironmental.com	



NOTE

1. TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- BENCH
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- G — GAS LINE (EXISTING)
- S — SEWER LINE (EXISTING)
- B6 — APPROXIMATE LOCATION OF HDPE PANEL LAYOUT
- DT5 — APPROXIMATE LOCATION OF DESTRUCT TEST
- APPROXIMATE LOCATION OF VENT

NORTH

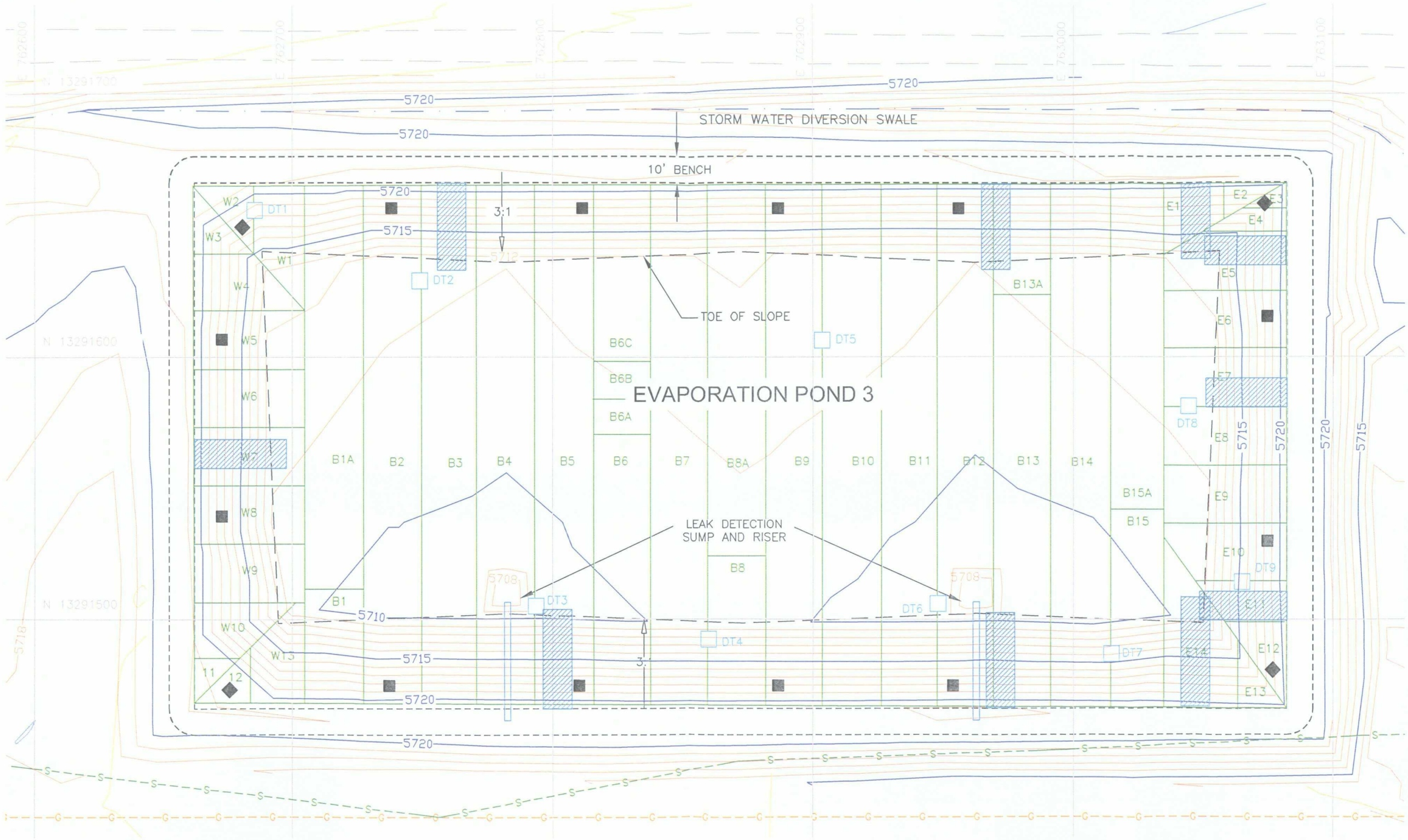
0 20' 40'

PRIMARY FML LINER PANEL LAYOUT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 08/25/09	CAD: FML.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 8
APPROVED BY: IKG	gei@gordonenvironmental.com	



NOTE

1. TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- BENCH
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 5700 — 10' CONTOUR (EXISTING)
- 2' CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- G — GAS LINE (EXISTING)
- S — SEWER LINE (EXISTING)
- B6 — APPROXIMATE LOCATION OF HDPE PANEL LAYOUT
- APPROXIMATE LOCATION OF TEXTURED PANEL LAYOUT
- DT5 — APPROXIMATE LOCATION OF DESTRUCT TEST
- APPROXIMATE LOCATION OF VENT

NORTH

0 20' 40'

60-mil TEXTURED LINER PANEL LAYOUT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/29/09	CAD: FML TEXTURED.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	FIGURE 9
APPROVED BY: IKG	gei@gordonenvironmental.com	

FIELD LOG AND PHOTOGRAPHS

Daily Summary Reports

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	4-24-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	1
Weather:	A.M: N/A		
	P.M.: 75°F, Clear, Windy		

Contractor(s): Gordon Environmental, Inc (GEI)

Summary of Daily Construction Progress and Inspections: Don Gray of GEI on-site to collect samples for soils analysis. Twelve 5-gallon composite samples were collected.

Summary of Problems and Resolutions: N/A

Equipment: Trucks and shovel.

Summary of Meeting Held and Attendees: Dr. John Volkerding of Basin Disposal met with Don Gray to discuss up coming pond construction and discussed site operations.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	5-13-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	2
Weather:	A.M: 73°F, Clear, 12.7MPH West wind		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), Basin Disposal Inc. (BDI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: N/A

Summary of Problems and Resolutions: N/A

Equipment: N/A

Summary of Meeting Held and Attendees: Jim Jordan and Don Gray of GEI; John Volkerding, Jimmy Barnes, and Bill Schneider of BDI; Steve Steele of FAB; and Juan Zazpe of SWLS met for a pre-construction meeting. Construction plan-sets along with Technical Specification binders were distributed to all involved. Jim Jordan asked specifically if there were any questions regarding construction. Don Gray spoke about scheduling with FAB on berm construction and density testing.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	5-21-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	3
Weather:	A.M: 66°F, Clear, Light breeze		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: FAB constructed the first one foot lift of the berm. North, South and East sides have been constructed. North and South berms are at the one foot mark on the east end only and at ground level on the west end. Seven density tests were taken; all passed the required 90% of Reference Standard Proctor (RSP) of 119.0lb/ft^3.

Summary of Problems and Resolutions: Due to the distance of Basin Disposal to GEI, Keith Gordon of GEI approved 2' of berm construction at a time. Densities will be taken on the second lift and then a flat blade back hoe will dig down one foot for densities on the previous lift. This will allow for more efficient construction. GEI to return on 5-27-09.

Equipment: Blade, Dozer, two front end loaders, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: Don Gray of GEI spoke with Dave York and Steve Steele of FAB on proctors, scheduling, construction, and scheduling.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	5-27-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	4
Weather:	A.M: 55°F, Clear, Calm		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: GEI on-site for density testing of two feet of constructed berm. A total of 14 densities was taken on the top lift; a backhoe was used to excavate to the previous lift for an additional 14 densities. Thirteen tests passed at the 119.0 lb/ft^3 with one test requiring the use of the 111.5 lb/ft^3 proctor because of soil type used in construction.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, backhoe, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: Don Gray of GEI spoke with Dave York and Steve Steele of FAB along with John Volkerding and Jimmy Barnes of Basin Disposal on construction, and scheduling.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	5-29-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	5
Weather:	A.M: 72°F, Clear, Calm		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: GEI on-site for an additional 28 density tests, 14 for each lift tested. Twenty seven of the tests passed at the 119.0 lb/ft^3 RSP with one requiring the use of the 116.1 lb/ft^3 Proctor because of soil type used in construction.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, backhoe, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: GEI spoke with Dave York of FAB about scheduling. GEI will return Monday 6-1-09 and stay through 6-3-9 or 6-4-09 as progress dictates.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-1-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	6
Weather:	A.M: 56°F, Mostly Cloudy, Light Breeze		
	P.M.: 78°F, Clear, Windy		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: GEI on-site for 18 density tests. Seventeen of the tests passed at the 119.0 lb/ft^3 RSP with one requiring the use of the 111.5 lb/ft^3 proctor in the Northwest corner because of soil type used in construction.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, backhoe, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: GEI spoke with Dave York of FAB about scheduling and construction.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-2-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	7
Weather:	A.M: 60°F, Clear, Light Wind		
	P.M.: 82°F, Clear, Windy		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: GEI on-site for 17 density tests. All the tests passed at the 119.0 lb/ft^3 RSP.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, backhoe, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: GEI spoke with Dave York of FAB about scheduling and construction.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-3-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	8
Weather:	A.M: 60°F, Clear, Breezy		
	P.M.: 83°F, Clear, Light Wind		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: GEI on-site for 10 density tests. All the tests passed at the 119.0 lb/ft^3 RSP. Only one foot of berm left to construct; GEI will return when berms and Pond floor are ready for final density testing.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, backhoe, sheep's foot vibratory roller and trucks

Summary of Meeting Held and Attendees: GEI spoke with Dave York of FAB about scheduling and construction.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-9-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	9
Weather:	A.M: 66°F, Partly Cloudy, Light Wind		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), Foutz and Bursum Construction Co. Inc, (FAB) and Russell Surveying

Summary of Daily Construction Progress and Inspections: GEI on-site for 12 density tests taken on the floor of the Pond. Eleven of the tests passed at the 119.0 lb/ft^3 RSP, one required the use of the 116.1 lb/ft^3 RSP because of soil type used in construction.

Summary of Problems and Resolutions: Too many dirt clods were observed on the side-slopes. Dave York of FAB began dragging a metal grate along the slopes, pushing the clods to the toe of slope where they will be collected. A smooth roller is to be brought over to smooth and compact the side-slopes.

Equipment: Blade, Dozer, two front end loaders, track-hoe, and trucks

Summary of Meeting Held and Attendees: Don Gray of GEI spoke with Dave York and Steve Steele on side-slope acceptance and schedule. Steve Steele was reminded of the aggregate specifications required for the leak detection sumps, giving both verbal and the page number in the technical specifications book. Jim Jordan was consulted about OCD inspection on 6-11-09; Don Gray and Jim Jordan will be present for the inspection.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-11-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	10
Weather:	A.M: 67°F, Clear, Calm		
	P.M.: N/A		

Contractor(s): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: Brad Jones and Edward Hansen of the Oil Conservation Division (OCD), Don Gray and Jim Jordan of GEI, John Volkerding and Jimmy Barnes of Basin Disposal Inc., and Dave York of FAB met to inspect construction of Evaporation Pond 3. Construction was not complete; the south slope was in the final stages of removing clods and rocks with shovels and brooms. The eastern slope was being rolled with a smooth Saki roller.

All questions regarding subgrade were answered, the OCD inspectors were pleased with progress and quality of work. It was made clear that per the regulations the OCD would like to inspect the secondary liner, leak detection sumps, and geonet installation prior to construction of the primary liner.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, track-hoe, water trucks, and trucks

Summary of Meeting Held and Attendees: See above

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-15-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	11
Weather:	A.M: 57°F, Clear, Calm		
	P.M.: 77°F, Clear, Breeze		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: FAB still digging anchor trench. SWLS unloaded three trucks of materials and took inventory along with GEI. Anchor trench needs to be completed, at least 90%, before lining can begin. SWLS to return Tuesday 6-16-09 to begin lining of Evaporation Pond 3.

Summary of Problems and Resolutions: Aggregate did not pass the carbonate content test conducted by GEI. Steve Steele of FAB found new source of aggregate and will bring samples Tuesday 6-16-09 for approval.

Equipment: Blade, Dozer, two front end loaders, small and large track-hoe, water trucks, lining equipment, and trucks

Summary of Meeting Held and Attendees: GEI spoke with FAB and SWLS on construction of subgrade and schedule of lining activities.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

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Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-16-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	12
Weather:	A.M: 60°F, Clear, Calm		
	P.M.: 79°F, Clear, Calm		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: SWLS lined up to panel 15 in Evaporation Pond 3. This includes all required GCL under leak detection sumps, seaming and patching required. Only vacuum testing lacks completion.

Summary of Problems and Resolutions: New aggregate arrived at site. While the material was of the correct composition, there were too many pieces sized under the ¾" spec. GEI spoke to FAB about this, a third batch of gravel is to be delivered on Wednesday 6-17-09. Material will be inspected along with the sieve analysis prior to dumping.

Equipment: Blade, Dozer, two front end loaders, small and large track-hoe, water trucks, lining equipment, and trucks

Summary of Meeting Held and Attendees: GEI spoke with SWLS and FAB throughout the day.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-17-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	13
Weather:	A.M: 59°F, Clear, Calm		
	P.M.: 82°F, Clear, Calm with occasional wind gusts		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: SWLS completed installation of secondary liner including all required testing and documentation. Geonet was installed up to panel B20, leaving the sumps and corresponding slopes open for leak detection construction. Aggregate was inspected in the truck prior to unloading. Material was generally acceptable, however the sieve analysis showed approximately 1% of fines contained within the load. Don Gray contacted Keith Gordon concerning this matter. Aggregate will not be accepted unless the fines are washed out. Jim Jordan suggested washing the material on-site and obtaining another sieve analysis from the cleaned material.

Aggregate was washed in the back of a dump truck with the bed tilted and gate opened approximately one half inch (Photo No. 44 in photographs section). Once the material was cleaned a sample was taken for a second (re-test) sieve analysis, which confirmed fines were no longer present above the specified standard. At that point acceptance was given on this material.

Summary of Problems and Resolutions: See above

Equipment: Blade, Dozer, two front end loaders, small and large track-hoe, water truck, lining equipment, and trucks

Summary of Meeting Held and Attendees: N/A

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-18-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	14
Weather:	A.M: 60°F, Clear, Calm		
	P.M.: 81°F, Clear, Calm		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: SWLS completed installation of Geonet, off-site at 10:00 A.M. GEI remained on-site and worked with FAB to complete the installation of both leak detection sumps and protective soil in leak detection riser pipe trenches. Once construction was complete GEI off-site at approximately 15:30.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, small and large track-hoe, water truck, lining equipment, and trucks

Summary of Meeting Held and Attendees: Brandon of the Farmington OCD office inspected secondary liner and leak detection sumps construction. He took photos and relayed construction was positive, no negative comments.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-22-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	15
Weather:	A.M: 59°F, Clear, Light Wind		
	P.M.: 88°F, Clear, Calm		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: SWLS deployed up to panel B-8. All seaming, air testing, and patching completed up to that point.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, track-hoe, lining equipment, and trucks

Summary of Meeting Held and Attendees: Don Gray of GEI met with John Volkerding and David Turner of Basin Disposal on progress and scheduling.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-23-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	16
Weather:	A.M: 66°F, Clear, Breeze		
	P.M.: 89°F, Scattered Clouds, Winds		

Contractor(s): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: Primary liner installation complete. All seaming, testing and logging completed. Three additional panels of textured liner have been installed at locations indicated by Basin Disposal Inc (**Figure 9**).

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, track-hoe, lining equipment, and trucks

Summary of Meeting Held and Attendees: GEI and SWLS met with Jimmy Barnes of Basin Disposal for the placement of textured liner panels.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
Phone: (505) 867-6990 Fax: (505) 867-6991

Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-24-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	17
Weather:	A.M: 69°F, Clear, Light Wind		
	P.M.: 89°F, Clear, Light Wind		

Contractor(s):): Gordon Environmental Inc, (GEI), Southwest Liner Systems Inc. (SWLS), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: All additional textured panels placed, welded and vacuum tested. Pond construction complete. Mark DeCarlo of SWLS on-site for final inspection of liner, one scar found and repaired. FAB to fill and compact trenches in the morning of Thursday 6-25-09 and final compaction on the outer side slopes of the berms for final density testing. GEI to return Monday 6-29-09 for final density testing.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, two front end loaders, track-hoe, lining equipment, and trucks

Summary of Meeting Held and Attendees: GEI spoke with Mark DeCarlo of SWLS, and John Volkerding and David Turner of Basin Disposal regarding completion and schedule.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

213 South Camino Del Pueblo
Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	6-29-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	18
Weather:	A.M: 77°F, Clear, Calm		
	P.M.: 90°F, Clear, Calm		

Contractor(s):): Gordon Environmental Inc, (GEI), and Foutz and Bursum Construction Co. Inc, (FAB).

Summary of Daily Construction Progress and Inspections: A total of 24 density test was taken, 14 on the anchor trenches and an additional 10 on the outer sideslopes of the berm. 15 of the tests passed the required 90% RSP using the 119.0 lb/ft^3 Proctor, seven required the use of the 116.1 lb/ft^3 Proctor and two used the 111.5 lb/ft^3 proctor based on the soils present and used in construction of the berm. Brandon of the Farmington office OCD was out for final liner inspection. He had no questions or negative comments.

Summary of Problems and Resolutions: N/A

Equipment: Blade, Dozer, front end loader, track-hoe, and trucks

Summary of Meeting Held and Attendees: GEI spoke with Dave York of FAB throughout the day.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	7-10-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	19
Weather:	A.M: 87°F, Clear, Calm		
	P.M.: N/A		

Contractor(s):): Gordon Environmental Inc

Summary of Daily Construction Progress and Inspections: GEI on-site for final inspection and photos. It was observed that a 4" PVC pipe was set up to discharge in the drainage channel just north of Evaporation Pond 3. Also noticed was the fact that bollards were positioned direcly in front of the leak detection riser pipes. Photos were taken and concerns were addressed as noted below.

Summary of Problems and Resolutions: GEI spoke with Jimmy Barnes of Basin Disopsal Inc. regarding the placement of bollards and the discharge pipe from neighbors to the north. Discussions were also held with Steve Steele of Foutz and Bursum regarding these items. At this time it was decided that Dr. John Volkerding would be consulted on 7-13-09 regarding these matters before any changes were made.

Equipment: Truck

Summary of Meeting Held and Attendees: GEI spoke with Jimmy Barnes of Basin Disposal Inc., and Steve Steele of Foutz and Bursum regarding concerns at the site.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

Gordon Environmental, Inc.
Consulting Engineers

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Bernalillo, NM 87004
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Daily Summary Report

Project:	Basin Pond 3	**Project No.:**	520.01.01
Client:	Basin Disposal Inc.	**Date:**	7-28-09
Project Location:	Bloomfield, New Mexico	**Report No.:**	20
Weather:	A.M: 82°F, Clear, Calm		
	P.M.: N/A		

Contractor(s):): Gordon Environmental Inc., (GEI) and Basin Disposal Inc., (BDI)

Summary of Daily Construction Progress and Inspections: GEI on-site for final inspection and photos. In discusstions with Dr. John Volkerding it was decided the PVC pipe was to be removed or re-routed and the bollards would be moved to their correct locations.

The 4" PVC drainage pipe of concern was removed. Bollards protecting the leak detection riser pipes have been moved and a second one added per the construction plans.

Summary of Problems and Resolutions: N/A

Equipment: Truck

Summary of Meeting Held and Attendees: GEI spoke with Dr. John Volkerding, Jimmy Barnes, and Bill Schenider of Basin Disposal Inc., regarding bollard placement and drainage pipe removal. All parties were satisfied with construction.

Don Gray
Site CQA Technician

Mike Heinstein, P.E.
GEI CQA Officer

FIELD LOG AND PHOTOGRAPHS

Project Photographs

Basin Disposal Project Photographs – Pond 3

1. 11-13-08 Site conditions prior to Pond 3 construction

2. 4-24-09 Collection of soil sample for analysis

Basin Disposal Project Photographs – Pond 3

3. 5-27-09 Pond construction

4. 5-27-09 Berm compaction during construction

Basin Disposal Project Photographs – Pond 3

5. 5-29-09 Surveying during construction

6. 6-1-09 Soil placement for additional lifts on southern berm

7. 6-1-09 Density testing on 1st of two lifts constructed

8. 6-2-09 Application of water for compaction of soils used in berm construction

9. 6-9-09 Density testing the sideslope of Evaporation Pond 3

10. 6-9-09 Use of a metal grate to clear dirt clods from sideslpoes

11. 6-11-09 Use of rakes, brooms and shovels to complete cleaning of sideslopes

12. 6-11-09 Rolling floor of Evaporation Pond 3

13. 6-15-09 Trench for leak detection riser pipe

14. 6-15-09 Anchor trench construction on southern berm

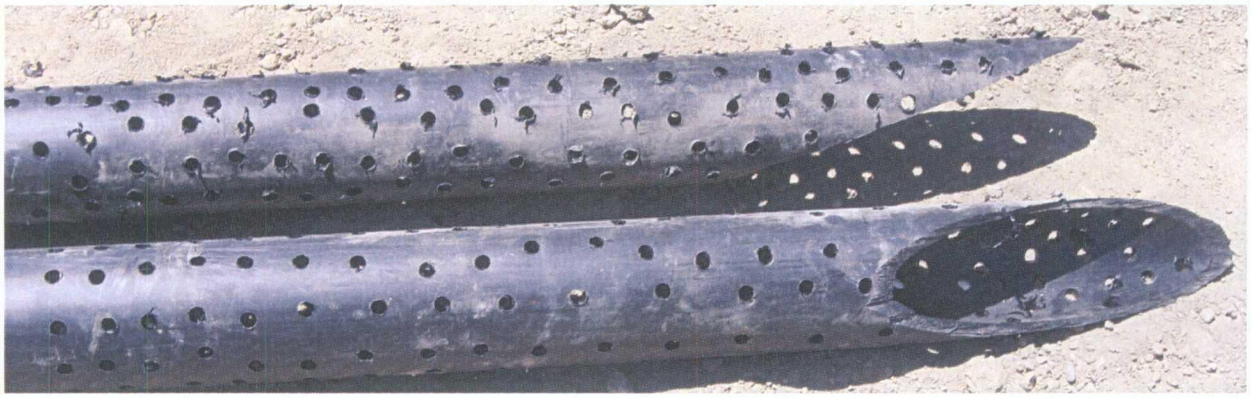
15. 6-15-09 Pond construction complete and ready for lining

16. 6-15-09 Arrival of FML material

17. 6-15-09 Unloading of FML material

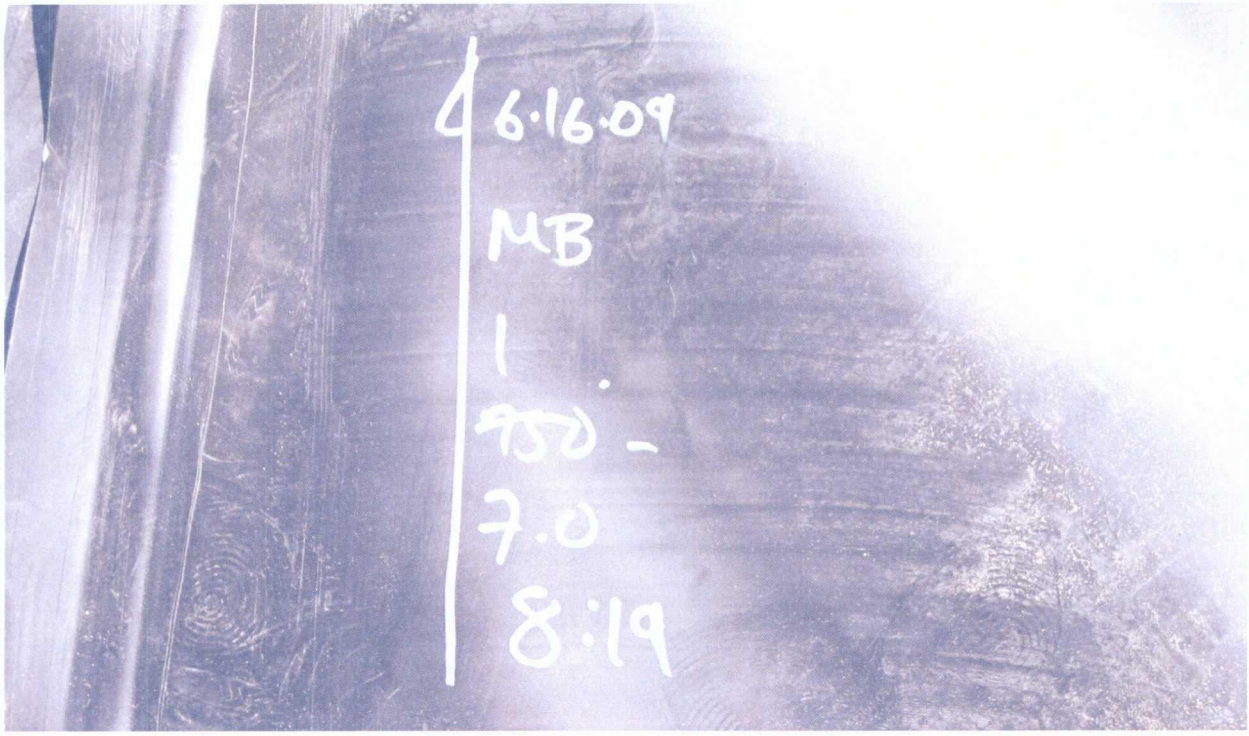
18. 6-15-09 GCL, Geotextile and Textured FML

19. 6-15-09 Leak detection riser pipes fused using thermal butt joints

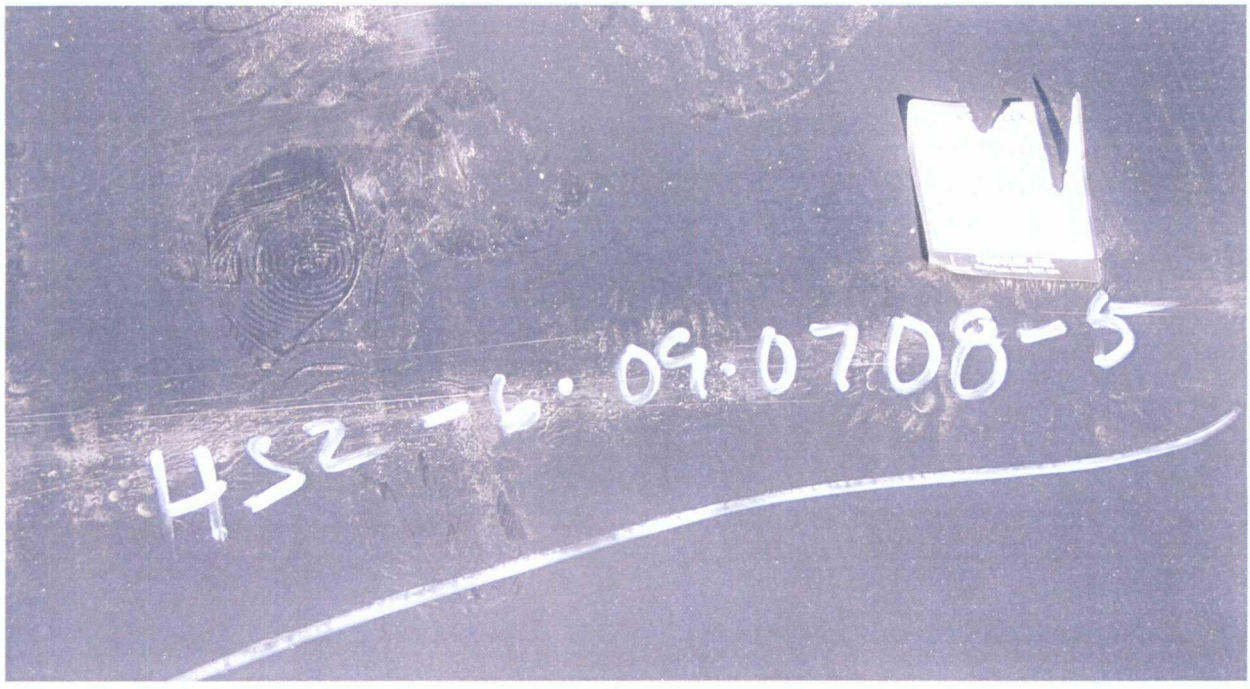


20. 6-15-09 Holes drilled in leak detection riser pipes

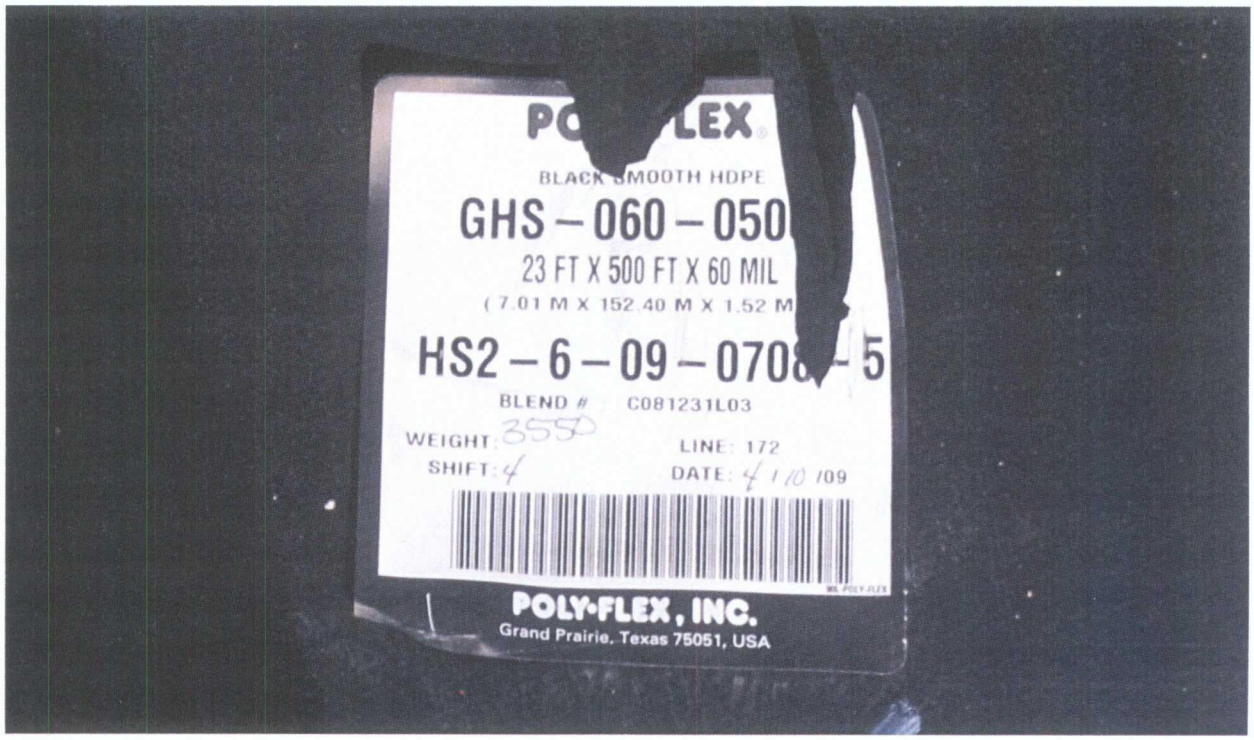
21. 6-15-09 Installation of secondary liner



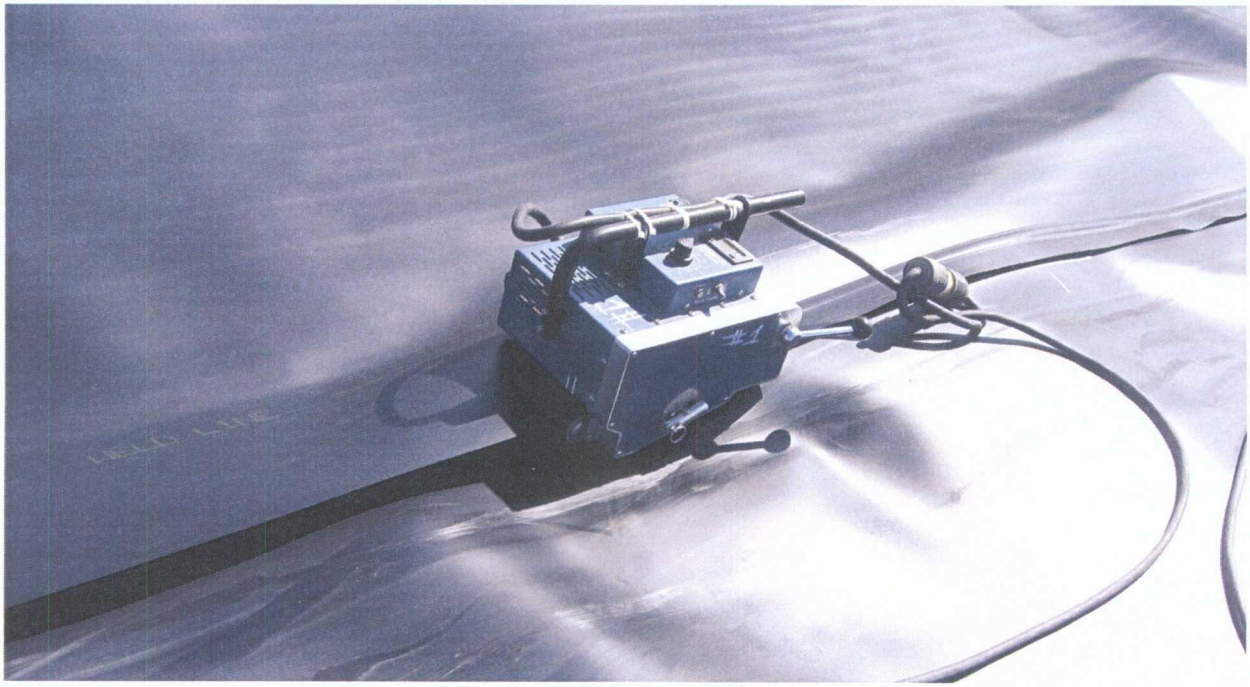
22. 6-16-09 Seaming documentation on secondary liner



23 6-16-09 Roll number

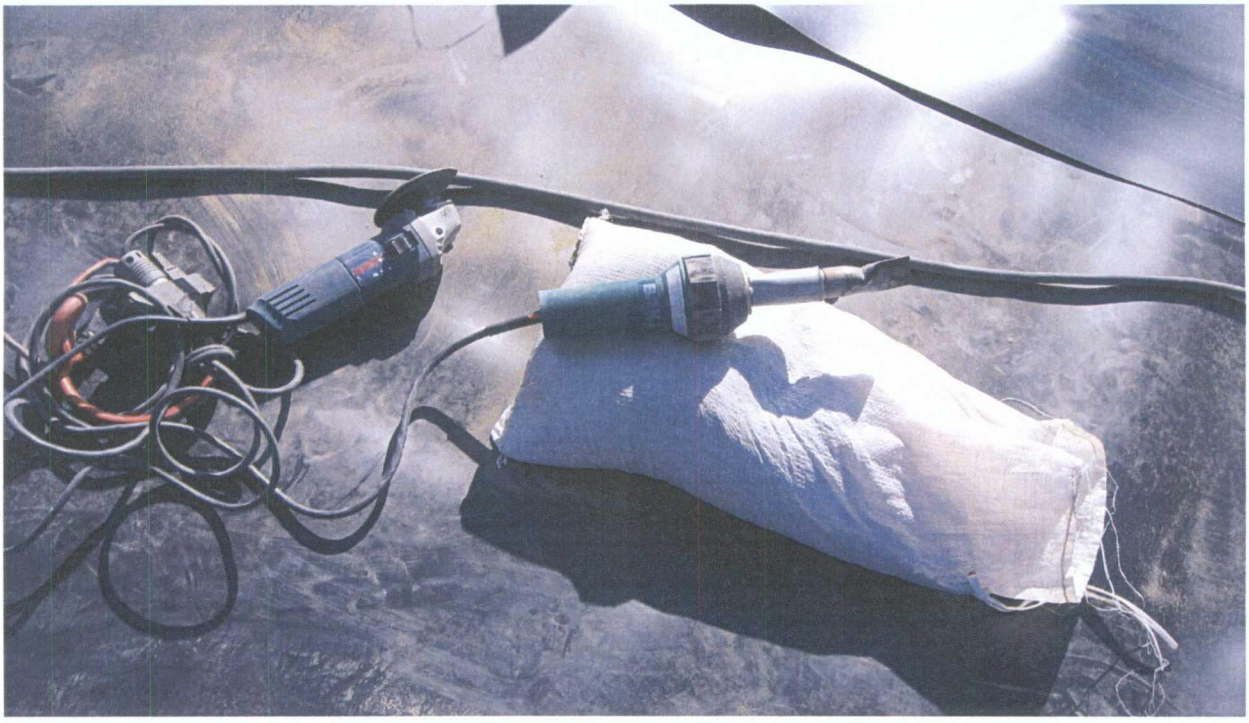


24. 6-16-09 Manufacturer roll number identification



25 6-16-09 Seaming "Wedge welding" in progress

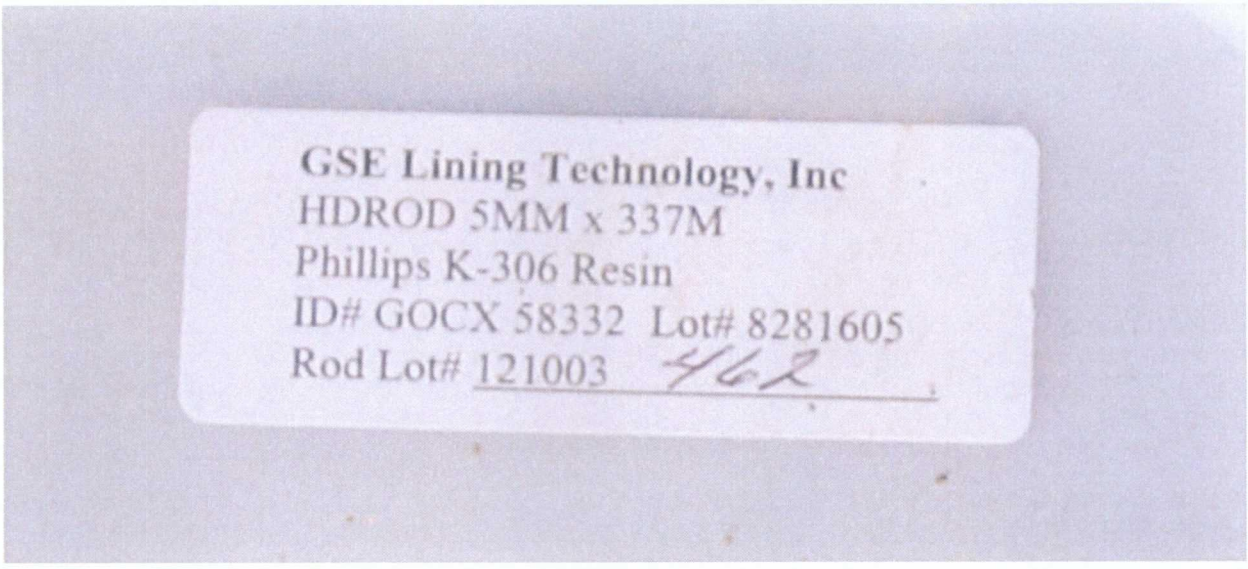
26. 6-16-09 Torch used for seaming wedge welds to do air pressure tests



27. 6-16-09 Grinder and Lyster, used for patches in liner

28. 6-16-09 Extrusion welder

29. 6-16-09 Extrusion welding rod



30. 6-16-09 Manufactures tag on extrusion welding rod

31. 6-16-06 Punch used for cutting destructive tests and pre-weld tests

32. 6-16-09 GCL placement under leak detection sumps

33. 6-16-09 Using Lyster to heat weld geotextile

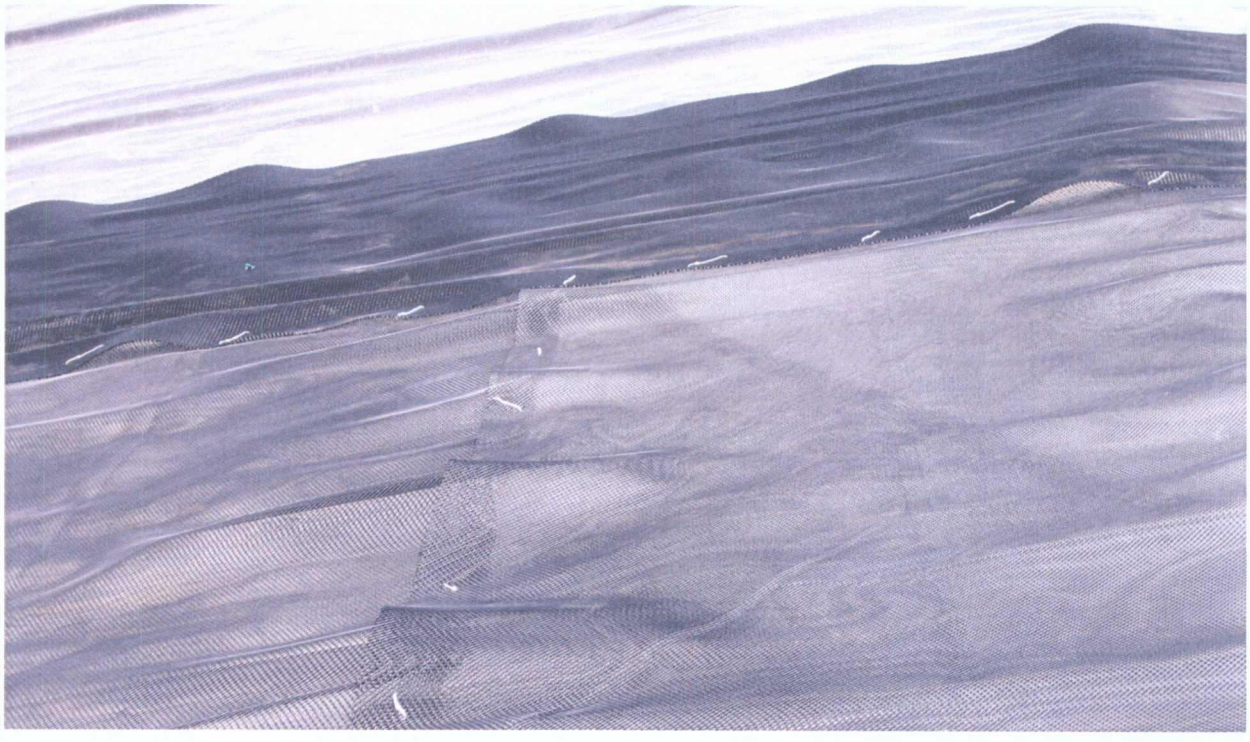
34. 6-16-09 Textured panel in leak detection riser pipe trench for soil stablility

35. 6-16-09 Equipment for use thermal butt fusion welds

36. 6-16-09 Thermal butt fusion in progress

37. 6-16-09 End of day progress, first day of lining activities

38. 6-17-09 Geonet installation in anchor trench



39. 6-17-09 Banding of geonet panels together using zip ties

40. 6-17-09 Secondary liner Destructive Test (DT) cut and ready for patching

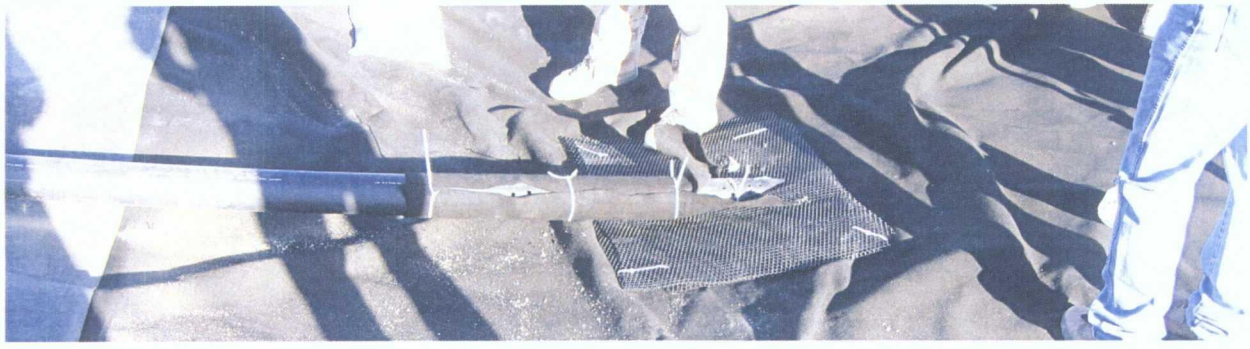
41. 6-17-09 "T" weld completed and vacuum tested

42. 6-17-09 Patch installed and vacuum tested

43. 6-17-09 Four geonet panels to be attached to leak detection riser pipe to protect secondary liner, and geotextile for leak detection sump construction.

44. 6-17-09 Washing aggregate for leak detection sumps

45. 6-17-09 End of day progress – Geonet placement



46. 6-18-09 Textile covering holes in leak detection riser pipe (textile pulled back to show holes underneath)

47. 6-18-09 Installation of aggregate for leak detection system, a sacrificial piece of liner used as protection for the secondary liner underneath

48. 6-18-09 Using flat shovels only, gravel shoveled down into leak detection sump

49. 6-18-09 Leak detection sump filled with aggregate

50. 6-18-09 Use of zip ties to anchor geotextile around leak detection riser pipe

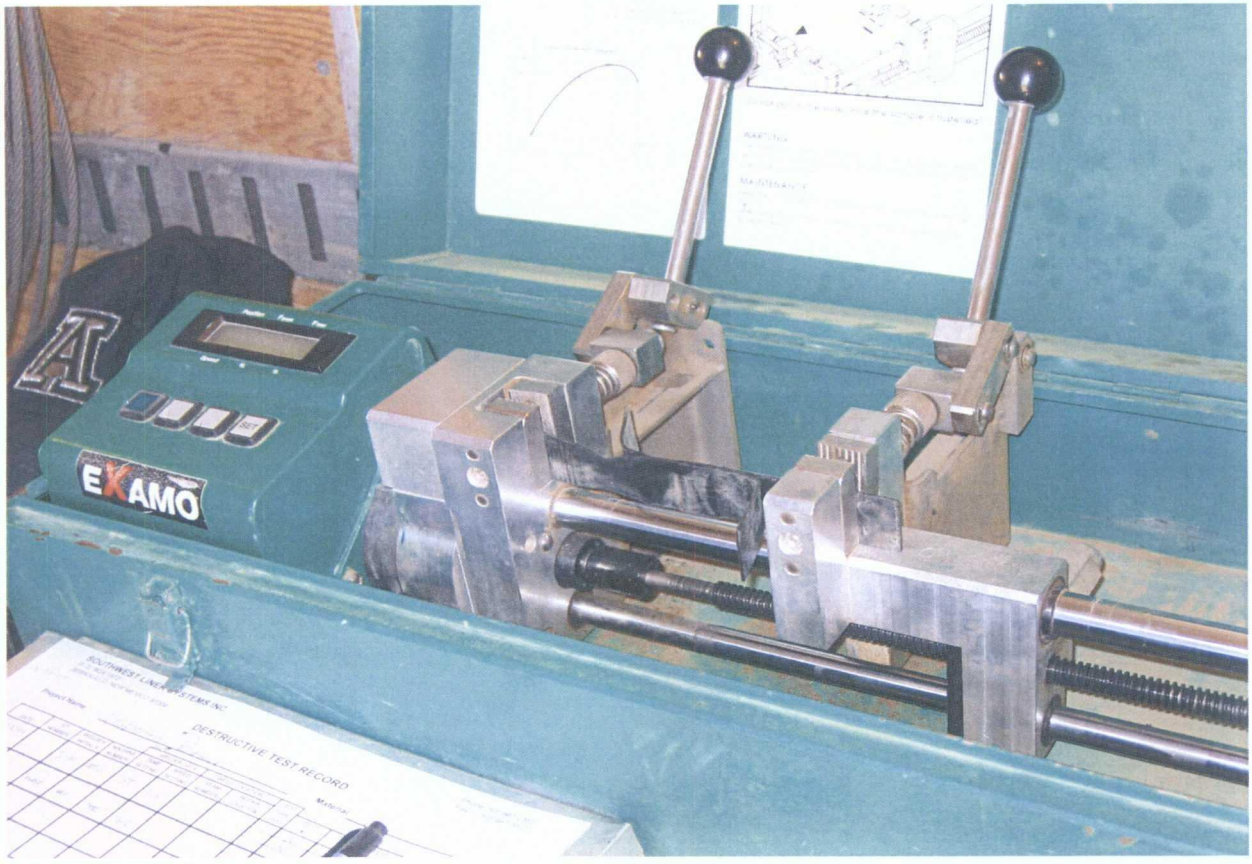
51. 6-18-09 Folding over of geotextile to "burrito" the leak detection sump

52. 6-18-09 Installation of protective soil around leak detection riser pipe

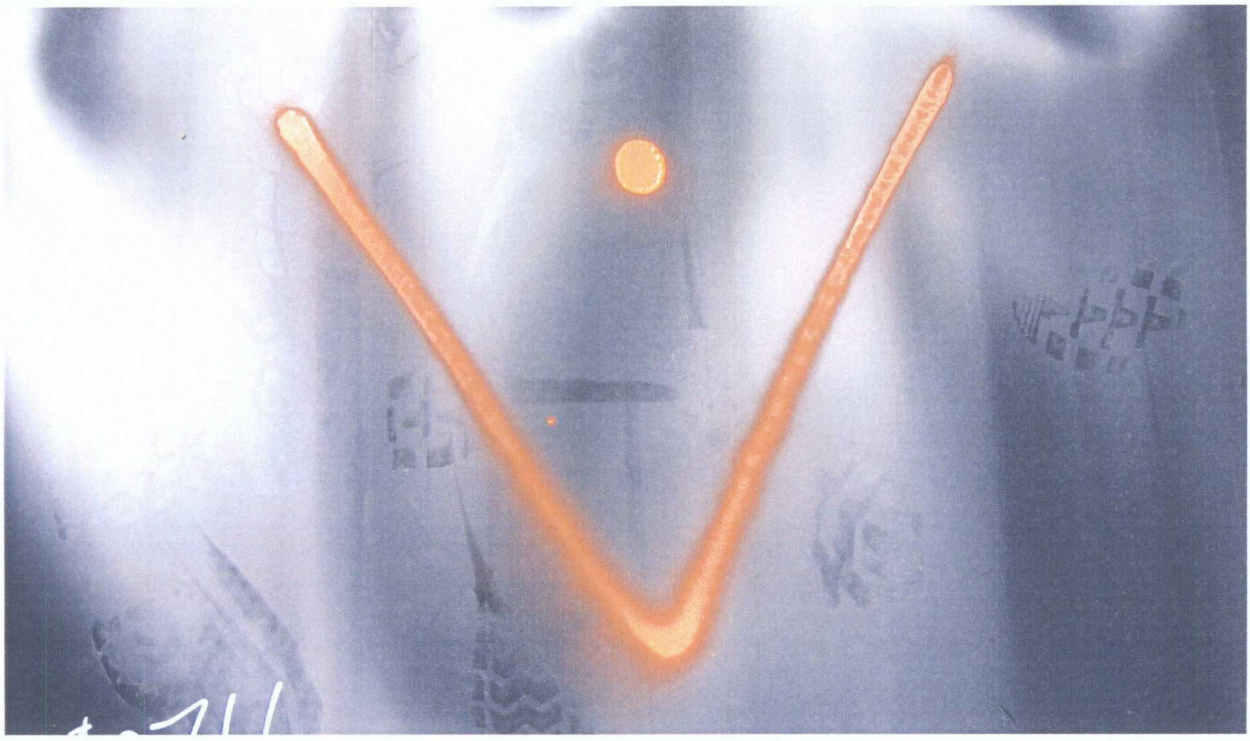
53. 6-18-09 Completed leak detection system

54. 6-22-09 Installation of geonet over leak detection sumps and riser pipes

55. 6-22-09 Installation of primary liner



56. 6-22-09 Tensiometer, used for pre-weld and destructive tests



57. 6-22-09 Location marking for air vent installation

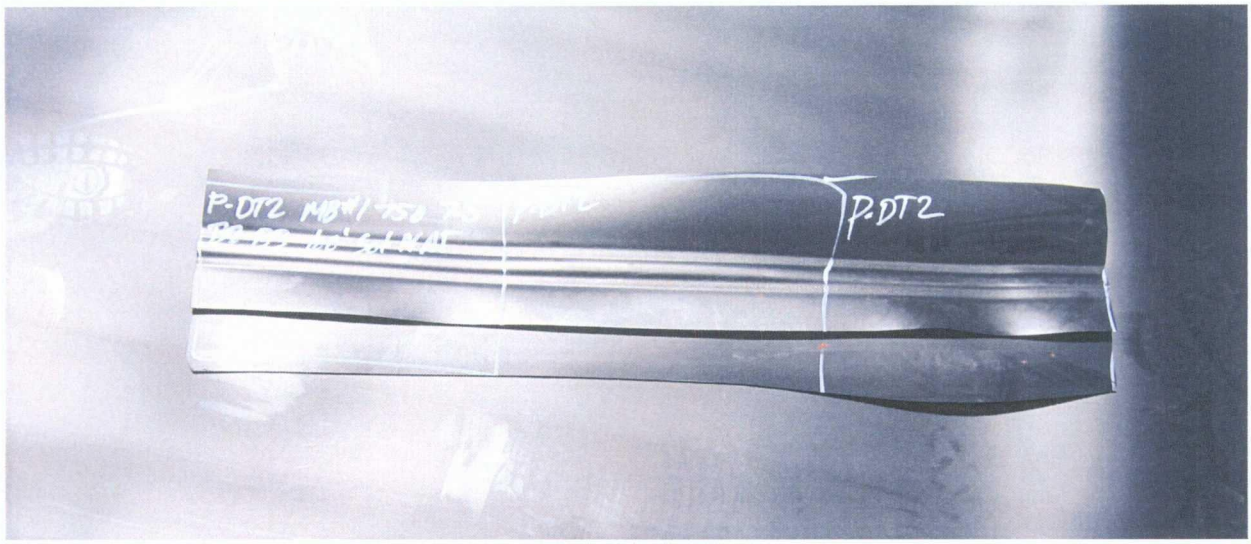
58. 6-22-09 Use of clamp and cable set up to pull primary liner across pond

59. 6-22-09 Using Lyster to heat tack a patch prior to extrusion welding

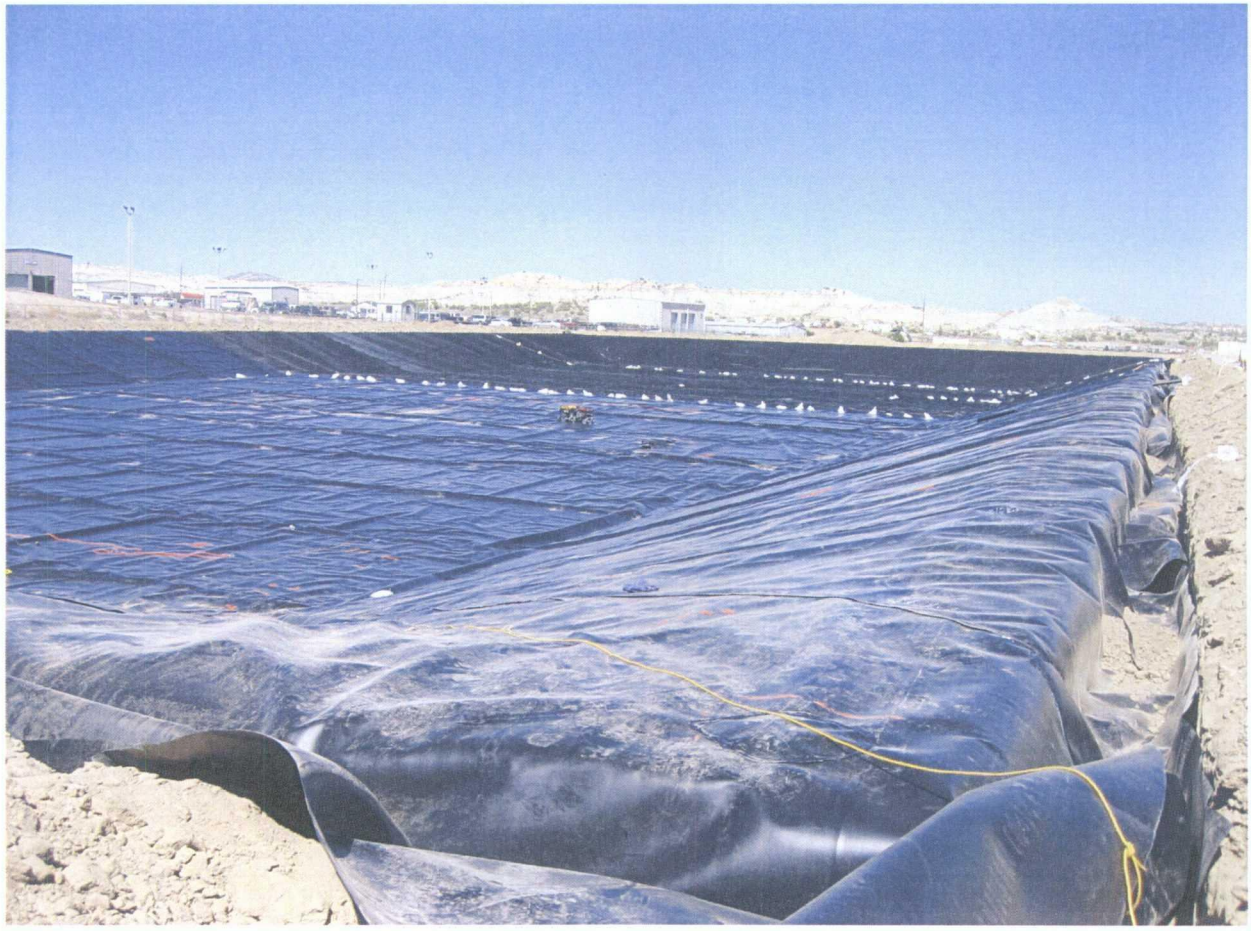
60. 6-22-09 Grinding a seam prior to extrusion welding

61. 6-22-09 Extrusion welding

62. 6-22-09 Destructive Test marked for removal



63. 6-22-09 All three panels of a destructive test



64. 6-22-09 End of day progress – Primary liner placement

65. 6-23-09 Installed vent

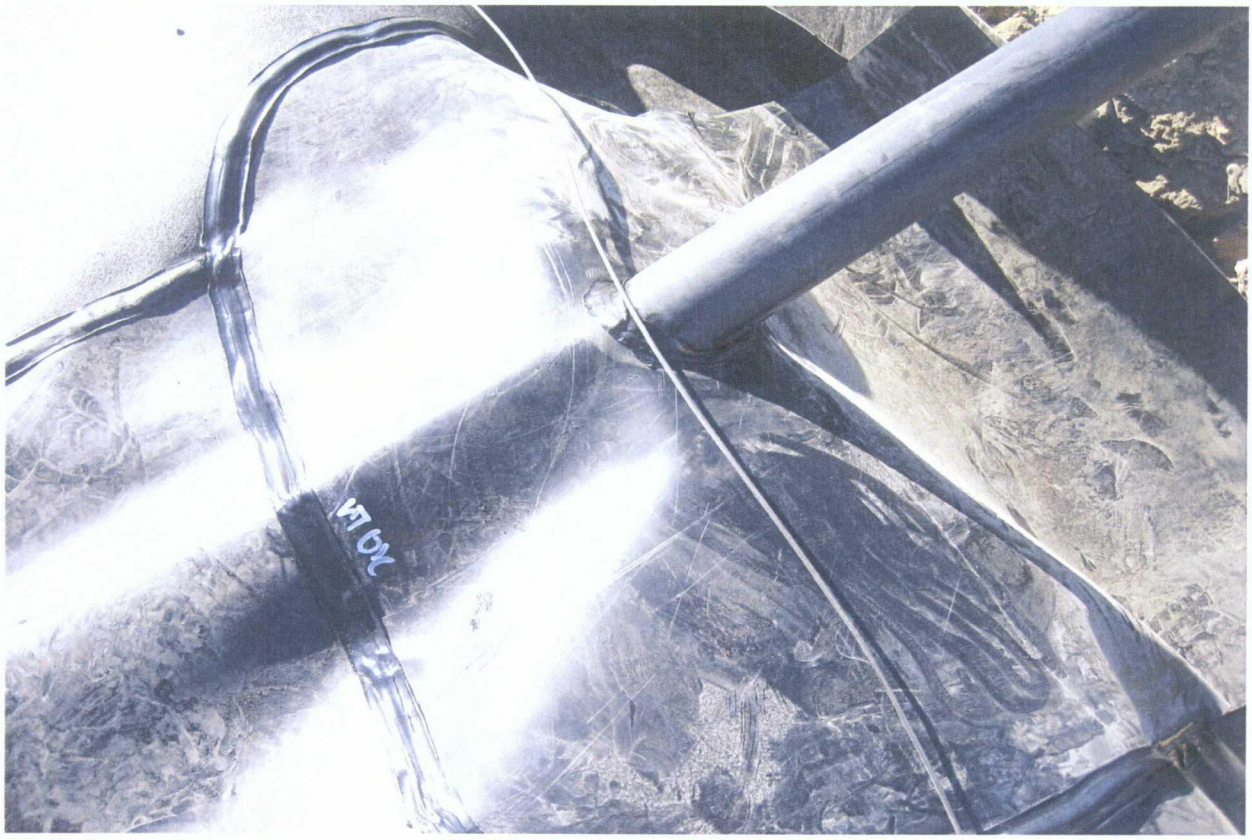
66. 6-23-09 Owners DT samples, both secondary (noted as DT) and primary (noted as PDT) HDPE liners

67. 6-23-09 Installation of textured liner on top of the primary liner on west slope for pond ingress and egress

68. 6-23-09 Extrusion welding of textured liner to primary liner

69. 6-24-09 Vacuum testing extrusion welds

70. 6-24-09 Leak detection riser pipe extending outward from primary liner



71. 6-24-09 Patch and pipe boot over leak detection riser pipe

72. 6-24-09 Lining activities completed

73. 6-29-09 Density testing of anchor trenches

74. 6-29-09 Completed pond

75. 6-29-09 Excavation for east stormwater detention pond

76. 7.28-09 Completed Stormwater Detention Pond

77. 7-28-09 Completed installation of Bollards protecting leak detection riser pipes.

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/13/09

Description of Materials: Subgrade

Location: Basin Disposal, Inc

Quantity/Work Accepted: Subgrade

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Don Gray	CQA Technician	7/13/09
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-09
Contractor Representative	Title	Date

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/12/05

Description of Materials: GCL

Location: Basin Disposal, Inc

Quantity/Work Accepted: GCL

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Jon Gray	CQA Technician	7/13/05
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-05
Contractor Representative	Title	Date

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/13/09

Description of Materials: Secondary Liner

Location: Basin Disposal, Inc

Quantity/Work Accepted: Secondary Liner

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Dan Gray	CQA Technician	7/13/09
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-09
Contractor Representative	Title	Date

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/13/09

Description of Materials: Geonet

Location: Basin Disposal, Inc

Quantity/Work Accepted: Geonet

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Don Gray	CQA Technician	7/13/09
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-09
Contractor Representative	Title	Date

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/13/09

Description of Materials: Primary Liner

Location: Basin Disposal, Inc

Quantity/Work Accepted: Primary Liner

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Don Gray	CQA Technician	7/13/09
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-09
Contractor Representative	Title	Date

APPROVAL FORM

BASIN DISPOSAL, INC.
EVAPORATION POND 3

Date: 7/13/05

Description of Materials: Textured Liner

Location: Basin Disposal, Inc

Quantity/Work Accepted: Textured Liner

I, the undersigned, the Construction Quality Assurance Site Technician, on behalf of Gordon Environmental, Inc. approve the materials and/or work, as described above. There is no apparent damage to said materials, nor is there undue interference with the surrounding work.

The documentation and workmanship have been completed in accordance with the specifications and terms and conditions of the Construction Quality Assurance Manual and the Permit. Acceptance of materials and work shall be subject to the exceptions detailed below.

I have evaluated and measured the work and/or material together with a contractor representative and agree that the measurements shown above are true and correct.

Exceptions:

Don Gray	CQA Technician	7/13/05
Gordon Environmental, Inc. Representative	Title	Date
[signature]	Project Administrator	7-13-05
Contractor Representative	Title	Date

APPENDIX A

Subgrade Material Testing

A.1. Grain Size Analyses

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

TOTAL MOISTURE CONTENT
ASTM D 566
PARTICLE SIZE DETERMINATION
ASTM C 117, C 136

VISUAL DESCRIPTION: Moist: **2-B**
Grey Green Sandy SILT

DATE 05 12 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION: Client Sampled Specimens:
CLASSIFICATION **USCS**
TOTAL MOISTURE: 8.4% **of Dry Wgt.**
% PASSING # 200: 61.9%

PERMIT
CONTRACT 520.01.01/04
JOB 2-B
FILE 9540009

SOURCE	DESIGN N	Cu/Cc	LL/PI 29/5	R VALUE N	CLASS USCS	Unit Wgt. ASTM D698	NOTE

TOTAL	12.41	Kg		FINE Grams		Moisture (W-D)/D
Coarse	0.00	Kg	WET WGT.	1005.8		209.70
Fine excess	13.60	Kg	DRY WGT.	928.1		193.51
C+Fe+F	0.93	Kg	DRY WGT.	354.4	AFTER WASH	8.4%

	SIEVE SIZE	3" 75 mm	1 1/2" 38 mm	3/4" 19 mm	1/2" 12.5 mm	3/8" 9.5 mm
Kg	Cum Wgt		0.00	0.00	0.00	0.00
	Retained	0.0%	0.0%	0.0%	0.2%	0.2%
	Passing	100%	100%	100%	100%	100%
	Specified					

	SIEVE SIZE	No. 4 4.75 mm	No. 10 2.00 mm	No. 40 0.425 mm	No. 200 .075 mm	Pan	
g	Cum Wgt	5.5	13.9	190.8	352.5	354.6	
	Retained	0.8%	1.7%	20.7%	38.1%	0.2	grams
	Passing	99%	98%	79%	61.9%		
	Specified						

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

TOTAL MOISTURE CONTENT
ASTM D 566
PARTICLE SIZE DETERMINATION
ASTM C 117, C 136

VISUAL DESCRIPTION: Moist: **A-1**
Grey Green Sandy SILT

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION: Client Sampled Specimens:
CLASSIFICATION ML **USCS**
TOTAL MOISTURE: 15.4% of Dry Wgt.
% PASSING # 200: 57.6%

PERMIT
CONTRACT 520.01.01/04
JOB A-1
FILE 9540001

SOURCE	DESIGN N	Cu/Cc	LL/PI 30/4	R VALUE N	CLASS USCS	Unit Wgt. ASTM D698	NOTE

					Moisture (W-D)/D
TOTAL	19.08	Kg	FINE Grams		
Coarse	0.00	Kg	WET WGT. 1011.7		130.54
Fine excess	17.94	Kg	DRY WGT. 876.9		113.15
C+Fe+F	0.88	Kg	DRY WGT. 374.4	AFTER WASH	15.4%

	SIEVE SIZE	3" 75 mm	1 1/2" 38 mm	3/4" 19 mm	1/2" 12.5 mm	3/8" 9.5 mm
Kg	Cum Wgt		0.00	0.00	0.00	0.00
	Retained	0.0%	0.0%	0.0%	0.0%	0.0%
	Passing	100%	100%	100%	100%	100%
	Specified					

	SIEVE SIZE	No. 4 4.75 mm	No. 10 2.00 mm	No. 40 0.425 mm	No. 200 .075 mm	Pan	
g	Cum Wgt	0.1	2.4	95.5	372.1	374.4	
	Retained	0.0%	0.3%	10.9%	42.4%	0.0	grams
	Passing	100%	100%	89%	57.6%		
	Specified						

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

TOTAL MOISTURE CONTENT
ASTM D 566
PARTICLE SIZE DETERMINATION
ASTM C 117, C 136

VISUAL DESCRIPTION: Moist: **A-3** Grey Green Silty SAND

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION: Client Sampled Specimens:
CLASSIFICATION USCS
TOTAL MOISTURE: 7.0% of Dry Wgt.
% PASSING # 200: 24.6%

PERMIT
CONTRACT 520.01.01/04
JOB A-3
FILE 9540004

SOURCE	DESIGN N	Cu/Cc	LL/PI	R VALUE N	CLASS USCS	Unit Wgt. ASTM D698	NOTE

TOTAL	17.43	Kg	FINE		Moisture (W-D)/D
			Grams		
Coarse	0.00	Kg	WET WGT. 1024.6		158.14
Fine excess	16.25	Kg	DRY WGT. 957.6		147.80
C+Fe+F	0.96	Kg	DRY WGT. 728.2	AFTER WASH	7.0%

	SIEVE SIZE	3" 75 mm	1 1/2" 38 mm	3/4" 19 mm	1/2" 12.5 mm	3/8" 9.5 mm
Kg	Cum Wgt		0.00	0.00	0.00	0.00
	Retained	0.0%	0.0%	0.0%	0.0%	0.0%
	Passing	100%	100%	100%	100%	100%
	Specified					

	SIEVE SIZE	No. 4 4.75 mm	No. 10 2.00 mm	No. 40 0.425 mm	No. 200 .075 mm	Pan	
g	Cum Wgt	0.2	5.3	346.1	721.8	728.2	
	Retained	0.0%	0.6%	36.1%	75.4%	0.0	grams
	Passing	100%	99%	64%	24.6%		
	Specified						

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

TOTAL MOISTURE CONTENT
ASTM D 566
PARTICLE SIZE DETERMINATION
ASTM C 117, C 136

VISUAL DESCRIPTION: Moist: 8
Grey Green Sandy SILT,
Trace Gravel

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION: Client Sampled Specimens:
CLASSIFICATION USCS
TOTAL MOISTURE: 5.9% of Dry Wgt.
% PASSING # 200: 61.4%

PERMIT
CONTRACT 520.01.01/04
JOB 8
FILE 9540007

SOURCE	DESIGN N	Cu/Cc	LL/PI	R VALUE N	CLASS USCS	Unit Wgt. ASTM D698	NOTE

TOTAL	16.27	Kg		FINE Grams		Moisture (W-D)/D
Coarse	0.00	Kg	WET WGT.	1017.6		197.58
Fine excess	15.06	Kg	DRY WGT.	960.8		186.55
C+Fe+F	0.96	Kg	DRY WGT.	575.3	AFTER WASH	5.9%

	SIEVE SIZE	3" 75 mm	1 1/2" 38 mm	3/4" 19 mm	1/2" 12.5 mm	3/8" 9.5 mm
Kg	Cum Wgt		0.00	0.00	0.00	0.00
	Retained	0.0%	0.0%	0.0%	0.0%	0.0%
	Passing	100%	100%	100%	100%	100%
	Specified					

	SIEVE SIZE	No. 4 4.75 mm	No. 10 2.00 mm	No. 40 0.425 mm	No. 200 .075 mm	Pan	
g	Cum Wgt	5.1	10.3	303.5	371.2	575.3	
	Retained	0.5%	1.1%	31.6%	38.6%	0.0	grams
	Passing	99%	99%	68%	61.4%		
	Specified						

Basin Disposal
Summary of Soils Testing
Maximum Dry Density, Grain Size, and Atterberg Limits

Sample ID	Percent Passing								Coeffcient of Uniformitiy (Cμ)	Standard Proctor		Atterberg Limits			USCS
	1/2"	3/8"	#4	#10	#40	#60	#100	#200		Max Dry Density	Optimum Moisture	Liquid Limit	Plastic Limit	Plasticity Index	
1-A	100.00	100.00	99.94	97.82	72.89	58.86	45.11	22.51	5.12	111.1	15.5%	30	36	4	SC-SM
1-B	100.00	100.00	100.00	99.63	62.57	45.85	34.82	20.86	8.91						SC-SM
2-A	100.00	99.63	98.13	89.51	38.75	21.10	11.61	4.30	6.30						SW
2-B	100.00	100.00	99.96	99.67	67.79	54.83	44.66	28.64	9.36	111.5	15.8%	29	24	5	SC-SM
3-A	100.00	100.00	99.90	99.26	52.16	24.26	10.75	8.62	4.66	116.1	14.3%				SW
3-B	100.00	100.00	100.00	99.01	66.29	44.44	29.21	12.31	5.37						SW
4	100.00	100.00	99.69	98.05	63.79	41.37	25.30	9.59	5.12						SW
5	100.00	100.00	100.00	99.63	63.42	40.26	24.45	9.38	5.10						SW
6	100.00	100.00	99.81	98.73	62.36	39.26	22.95	8.58	5.04						SW
7	100.00	100.00	99.91	98.73	66.60	45.15	28.78	11.71	5.16						SW
8	100.00	100.00	99.86	99.07	64.20	40.92	23.75	8.72	3.41	119.0	12.9%				SP
9	100.00	100.00	99.72	98.92	65.65	43.59	26.71	9.38	2.31						SP
Average	100.00	99.97	99.74	98.17	62.21	41.66	27.34	12.88	5.49						

Sample ID	1-A	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	1									100.00	22.51
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	45.11
		3 / 8 IN	9.5	488.7	488.6	-0.1	-0.02			100.02	58.86
		#4	4.75	459.1	459.5	0.4	0.07			99.94	72.89
		#10	2	433.3	444.8	11.5	2.13			97.82	97.82
		#40	0.425	338.1	473	134.9	24.93			72.89	99.94
		#60	0.25	325.9	401.8	75.9	14.03	D(60)=	0.26	58.86	100.02
		#100	0.15	348.5	422.9	74.4	13.75			45.11	100.00
		#200	0.075	340.6	462.9	122.3	22.60	D(10)=	0.05	22.51	100
		PAN		375.9	497.7	121.8	22.51				
						541.1	100.00	D(60)/D(10)=	5.12		

Sample ID	1-B	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	2									100.00	20.86
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	34.82
		3 / 8 IN	9.5	488.6	488.6	0	0.00			100.00	45.85
		#4	4.75	458.9	458.9	0	0.00			100.00	62.57
		#10	2	433.2	434.7	1.5	0.37			99.63	99.63
		#40	0.425	338.1	488.6	150.5	37.06			62.57	100.00
		#60	0.25	325.8	393.7	67.9	16.72	D(60)=	0.39	45.85	100.00
		#100	0.15	348.6	393.4	44.8	11.03			34.82	100.00
		#200	0.075	340.5	397.2	56.7	13.96	D(10)=	0.04	20.86	100
		PAN		375.9	460.6	84.7	20.86				
						406.1	100.00	D(60)/D(10)=	8.91		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

Sample ID	2-A	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	3									100.00	4.30
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	11.61
		3 / 8 IN	9.5	488.6	490.4	1.8	0.37			99.63	21.10
		#4	4.75	458.8	466	7.2	1.50			98.13	38.75
		#10	2	433.1	474.6	41.5	8.62			89.51	89.51
		#40	0.425	338.2	582.7	244.5	50.77			38.75	98.13
		#60	0.25	325.8	410.8	85	17.65	D(60)=	0.81	21.10	99.63
		#100	0.15	348.6	394.3	45.7	9.49			11.61	100.00
		#200	0.075	340.5	375.7	35.2	7.31	D(10)=	0.13	4.30	100
		PAN		375.9	396.6	20.7	4.30				
						481.6	100.00	D(60)/D(10)=	6.30		

Sample ID	2-B	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	4									100.00	28.64
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	44.66
		3 / 8 IN	9.5	488.6	488.6	0	0.00			100.00	54.83
		#4	4.75	458.8	458.9	0.1	0.04			99.96	67.79
		#10	2	433	433.8	0.8	0.29			99.67	99.67
		#40	0.425	338.2	425.6	87.4	31.89			67.79	99.96
		#60	0.25	325.9	361.4	35.5	12.95	D(60)=	0.31	54.83	100.00
		#100	0.15	348.6	376.5	27.9	10.18			44.66	100.00
		#200	0.075	340.5	384.4	43.9	16.02	D(10)=	0.03	28.64	100
		PAN		375.9	454.4	78.5	28.64				
						274.1	100.00	D(60)/D(10)=	9.36		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

Sample ID	3-A	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	5									100.00	8.62
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	10.75
		3 / 8 IN	9.5	488.6	488.6	0	0.00			100.00	24.26
		#4	4.75	458.8	459.2	0.4	0.10			99.90	52.16
		#10	2	433.1	435.6	2.5	0.64			99.26	99.26
		#40	0.425	338.1	521.6	183.5	47.10			52.16	99.90
		#60	0.25	325.8	434.5	108.7	27.90	D(60)=	0.55	24.26	100.00
		#100	0.15	348.6	401.2	52.6	13.50			10.75	100.00
		#200	0.075	340.6	348.9	8.3	2.13	D(10)=	0.12	8.62	100
		PAN		375.9	409.5	33.6	8.62				
						389.6	100.00	D(60)/D(10)=	4.66		

Sample ID	3-B	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009		% FINER	REVERSED
Sample #	6									100.00	12.31
		1 / 2 IN	12.5	548.4	548.4	0	0.00			100.00	29.21
		3 / 8 IN	9.5	488.6	488.6	0	0.00			100.00	44.44
		#4	4.75	458.9	458.9	0	0.00			100.00	66.29
		#10	2	432.9	437.3	4.4	0.99			99.01	99.01
		#40	0.425	338.2	483	144.8	32.72			66.29	100.00
		#60	0.25	325.9	422.6	96.7	21.85	D(60)=	0.37	44.44	100.00
		#100	0.15	348.6	416	67.4	15.23			29.21	100.00
		#200	0.075	340.5	415.3	74.8	16.90	D(10)=	0.07	12.31	100
		PAN		375.9	430.4	54.5	12.31				
						442.6	100.00	D(60)/D(10)=	5.37		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

Sample ID	4	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	7								100.00	9.59
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	25.30
		3 / 8 IN	9.5	488.6	488.6	0	0.00		100.00	41.37
		#4	4.75	458.9	460.5	1.6	0.31		99.69	63.79
		#10	2	432.9	441.4	8.5	1.64		98.05	98.05
		#40	0.425	338.1	515.2	177.1	34.26		63.79	99.69
		#60	0.25	325.9	441.8	115.9	22.42	D(60)= 0.39	41.37	100.00
		#100	0.15	348.7	431.8	83.1	16.07		25.30	100.00
		#200	0.075	340.6	421.8	81.2	15.71	D(10)= 0.08	9.59	100
		PAN		375.9	425.5	49.6	9.59			
						517	100.00	D(60)/D(10)= 5.12		

Sample ID	5	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	8								100.00	9.38
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	24.45
		3 / 8 IN	9.5	488.6	488.6	0	0.00		100.00	40.26
		#4	4.75	458.9	458.8	-0.1	-0.02		100.02	63.42
		#10	2	432.8	434.4	1.6	0.39		99.63	99.63
		#40	0.425	338.1	486.8	148.7	36.22		63.42	100.02
		#60	0.25	325.9	421	95.1	23.16	D(60)= 0.39	40.26	100.00
		#100	0.15	348.7	413.6	64.9	15.81		24.45	100.00
		#200	0.075	340.6	402.5	61.9	15.08	D(10)= 0.08	9.38	100
		PAN		375.9	414.4	38.5	9.38			
						410.6	100.00	D(60)/D(10)= 5.10		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

Sample ID	6	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	9								100.00	8.58
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	22.95
		3 / 8 IN	9.5	488.6	488.6	0	0.00		100.00	39.26
		#4	4.75	458.8	459.5	0.7	0.19		99.81	62.36
		#10	2	432.8	436.9	4.1	1.09		98.73	98.73
		#40	0.425	338	474.9	136.9	36.36		62.36	99.81
		#60	0.25	325.9	412.9	87	23.11	D(60)= 0.40	39.26	100.00
		#100	0.15	348.6	410	61.4	16.31		22.95	100.00
		#200	0.075	340.6	394.7	54.1	14.37	D(10)= 0.08	8.58	100
		PAN		375.9	408.2	32.3	8.58			
						376.5	100.00	D(60)/D(10)= 5.04		

Sample ID	7	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	10								100.00	11.71
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	28.78
		3 / 8 IN	9.5	488.6	488.6	0	0.00		100.00	45.15
		#4	4.75	458.8	459.2	0.4	0.09		99.91	66.60
		#10	2	432.8	438.3	5.5	1.19		98.73	98.73
		#40	0.425	337.9	486.9	149	32.13		66.60	99.91
		#60	0.25	325.9	425.4	99.5	21.45	D(60)= 0.36	45.15	100.00
		#100	0.15	348.6	424.5	75.9	16.36		28.78	100.00
		#200	0.075	340.6	419.8	79.2	17.08	D(10)= 0.07	11.71	100
		PAN		375.9	430.2	54.3	11.71			
						463.8	100.00	D(60)/D(10)= 5.16		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

Sample ID	8	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	11								100.00	8.72
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	23.75
		3 / 8 IN	9.5	488.6	488.6	0	0.00		100.00	40.92
		#4	4.75	458.9	459.5	0.6	0.14		99.86	64.20
		#10	2	432.8	436.2	3.4	0.79		99.07	99.07
		#40	0.425	338	487.9	149.9	34.87		64.20	99.86
		#60	0.25	325.9	426	100.1	23.28	D(60)= 0.32	40.92	100.00
		#100	0.15	348.6	422.4	73.8	17.17		23.75	100.00
		#200	0.075	340.5	405.1	64.6	15.03	D(10)= 0.10	8.72	100
		PAN		375.9	413.4	37.5	8.72			
						429.9	100.00	D(60)/D(10)= 3.41		

Sample ID	9	SIEVE #	SIZE mm	SIEVE WT (g)	SIEVE+SOIL MASS (g)	SOIL MASS (g)	percent retained	BASIN SOIL SAMPLES POND 3 5-4-2009	% FINER	REVERSED
Sample #	12								100.00	9.38
		1 / 2 IN	12.5	548.4	548.4	0	0.00		100.00	26.71
		3 / 8 IN	9.5	488.7	488.7	0	0.00		100.00	43.59
		#4	4.75	458.9	460.2	1.3	0.28		99.72	65.65
		#10	2	432.8	436.6	3.8	0.81		98.92	98.92
		#40	0.425	338	494.7	156.7	33.27		65.65	99.72
		#60	0.25	325.8	429.7	103.9	22.06	D(60)= 0.22	43.59	100.00
		#100	0.15	348.6	428.1	79.5	16.88		26.71	100.00
		#200	0.075	340.6	422.2	81.6	17.32	D(10)= 0.10	9.38	100
		PAN		375.9	420.1	44.2	9.38			
						471	100.00	D(60)/D(10)= 2.31		

Note: These sieve analysis were completed on dry samples that were not washed as reported in ACS Results

APPENDIX A

Subgrade Material Testing

A.2. Atterberg Limits

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

DETERMINATION
of
LIQUID LIMITS, PLASTIC LIMITS and PLASTICITY INDEX of SOILS
ASTM D 4318

VISUAL DESCRIPTION: Moist: **A-1**
Grey Green Sandy SILT

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION:
Client Sampled Specimens:

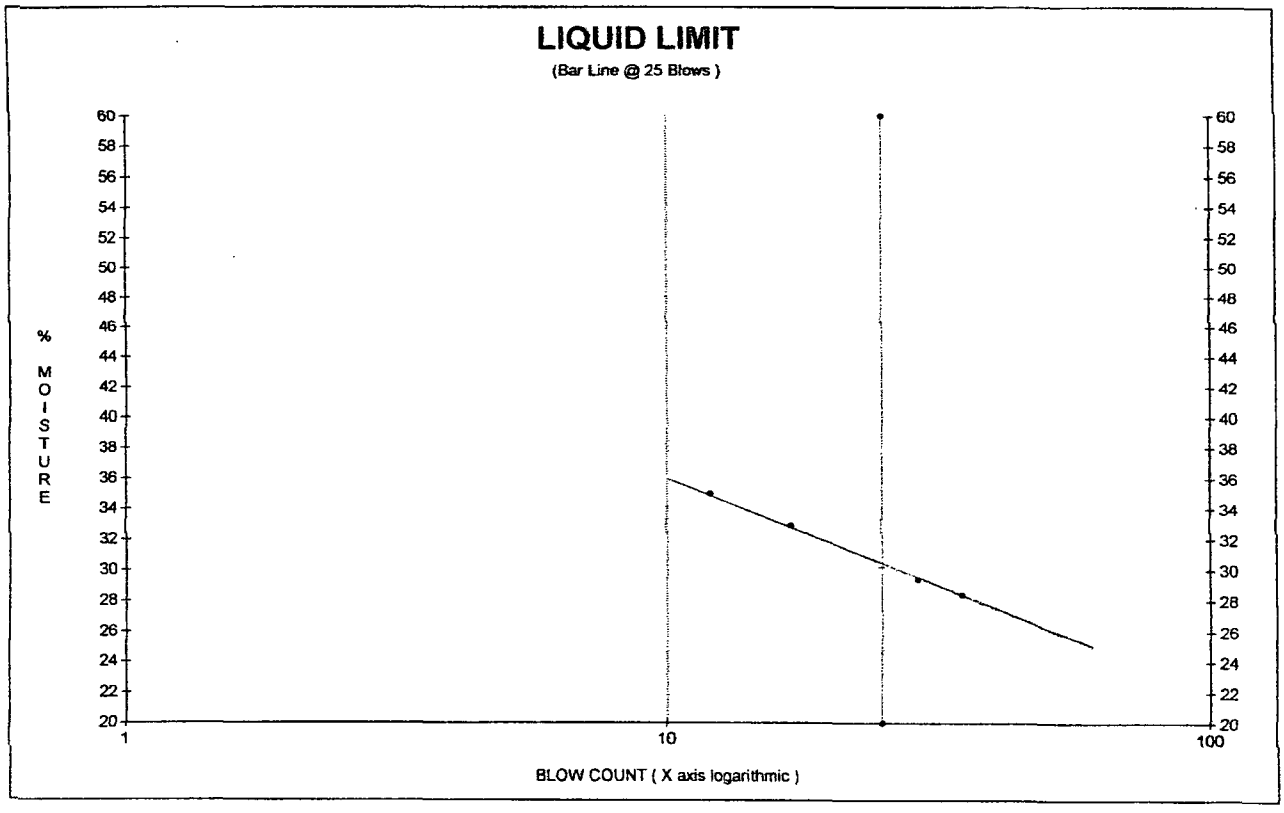
PERMIT
CONTRACT 520.01.01/04
JOB A-1
FILE 9540002

CLASSIFICATION: **USCS**

% PASSING # 200: 57.6%

LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX
30	26	4

FIXED VALUES		CHARTED VALUES			
20	60	28.4	29.4	32.9	35.0
25	25	35	29	17	12



ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

DETERMINATION
of
LIQUID LIMITS, PLASTIC LIMITS and PLASTICITY INDEX of SOILS
ASTM D 4318

VISUAL DESCRIPTION: Moist: **2-B**
Grey Green Sandy SILT

SAMPLE LOCATION:
Client Sampled Specimens:

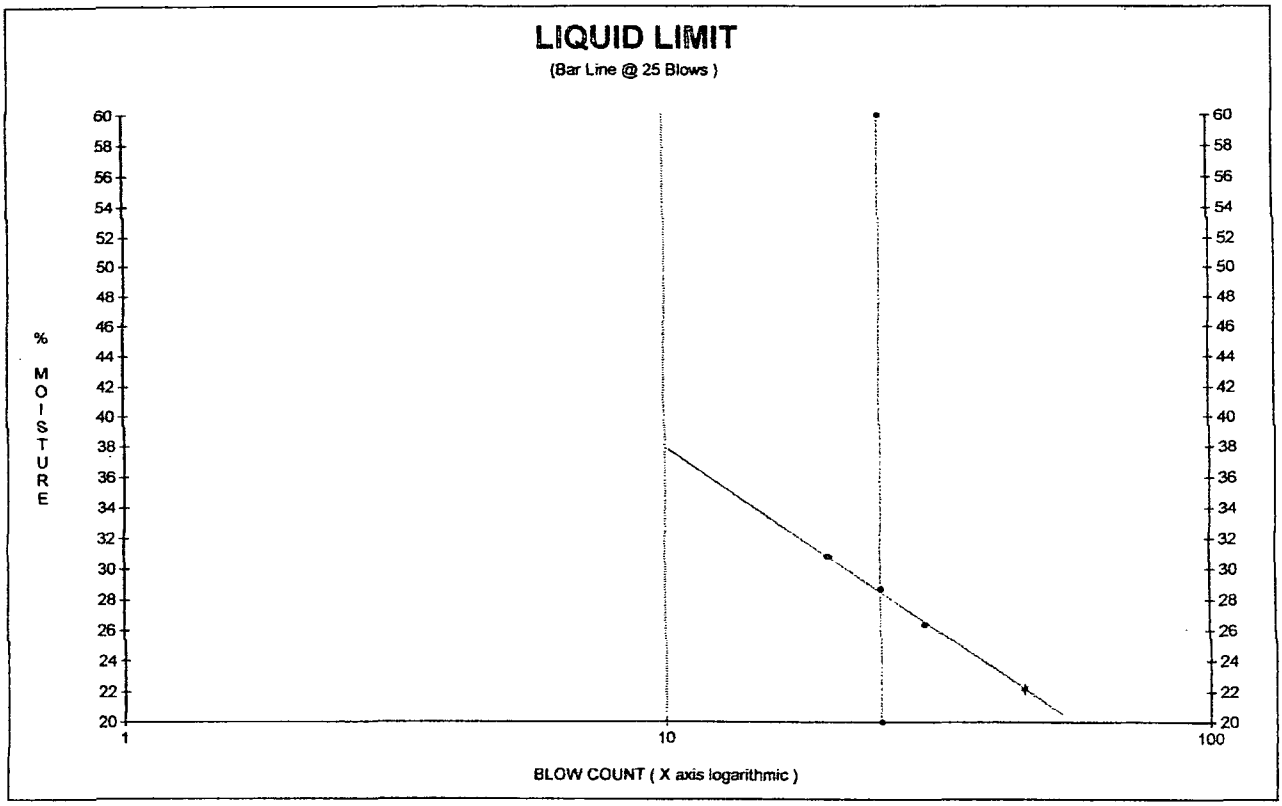
CLASSIFICATION: **USCS**

% PASSING # 200:

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL
PERMIT
CONTRACT 520.01.01/04
JOB 2-B
FILE 9540006

LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX
29	24	5

FIXED VALUES		CHARTED VALUES			
20	60	22.2	26.4	28.7	30.8
25	25	46	30	25	20



APPENDIX A

Subgrade Material Testing

A.3. Moisture / Density Relationships

ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

SUMMARY OF OPTIMUM MOISTURE / MAXIMUM DENSITY DETERMINATION

VISUAL DESCRIPTION: Moist: **2-B**
Grey Green Sandy SILT

DATE 05 12 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION:
Client Sampled Specimens:

CLASSIFICATION ML **USCS**

% PASSING # 200: 60.0%

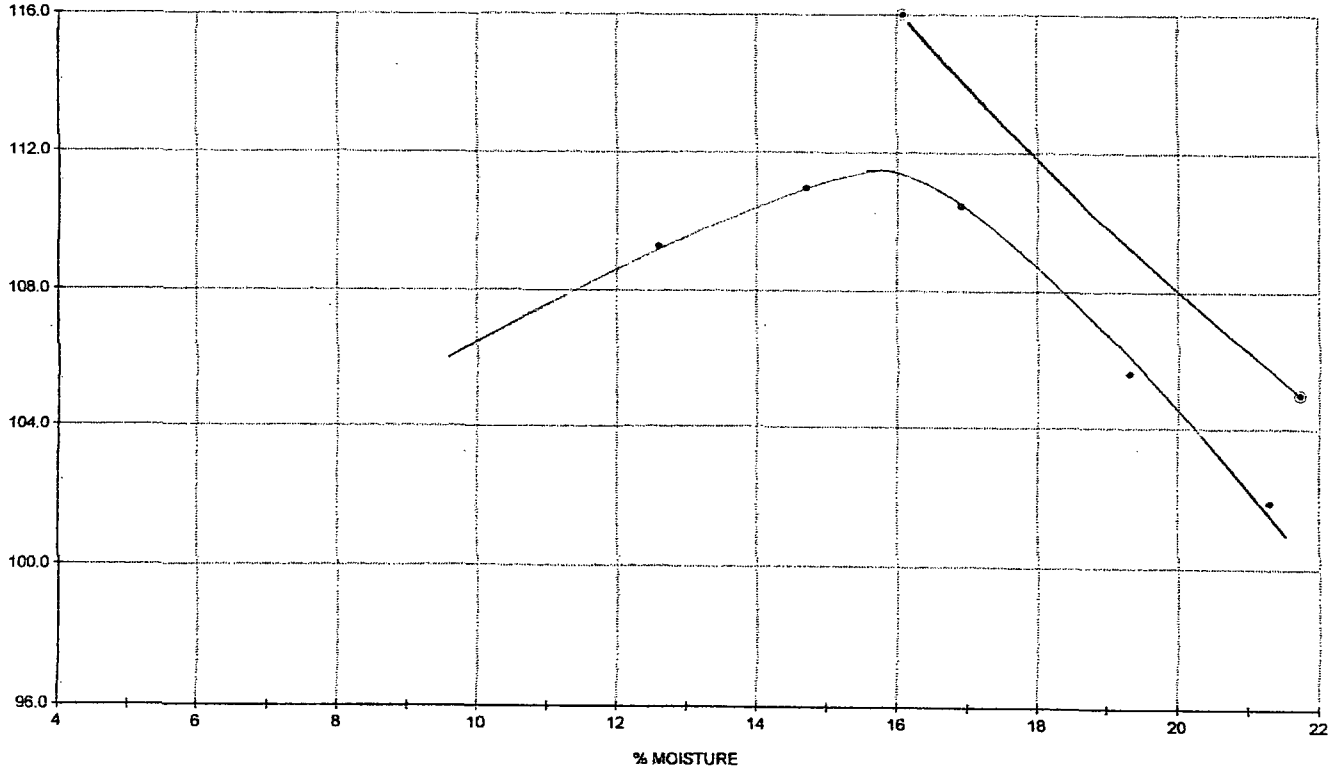
PERMIT
CONTRACT 520.01.01/04
JOB 2-B
FILE 9540010

MAXIMUM DENSITY	OPTIMUM MOISTURE	DESIGNATION	METHOD
111.5 Lbs/CuFt	15.8% of Dry Wgt.	ASTM D 698	A

	SPECIFIC VALUES G=2.65		CHARTED VALUES				
MOISTURE %DRY WGT	21.7	16.1	12.6	14.7	16.9	19.3	21.3
DRY DENSITY LBS/CU.FT.	105.0	116.0	109.3	111.0	110.5	105.6	101.9

COMPACTION CURVE PLOTTING

& Zero Air Voids Curve



A C S POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

SUMMARY OF OPTIMUM MOISTURE / MAXIMUM DENSITY DETERMINATION

VISUAL DESCRIPTION: Moist: **A-1**
Grey Green Sandy SILT

DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL

SAMPLE LOCATION: Client Sampled Specimens:

CLASSIFICATION ML **USCS**

PERMIT
CONTRACT 520.01.01/04
JOB A-1
FILE 9540003

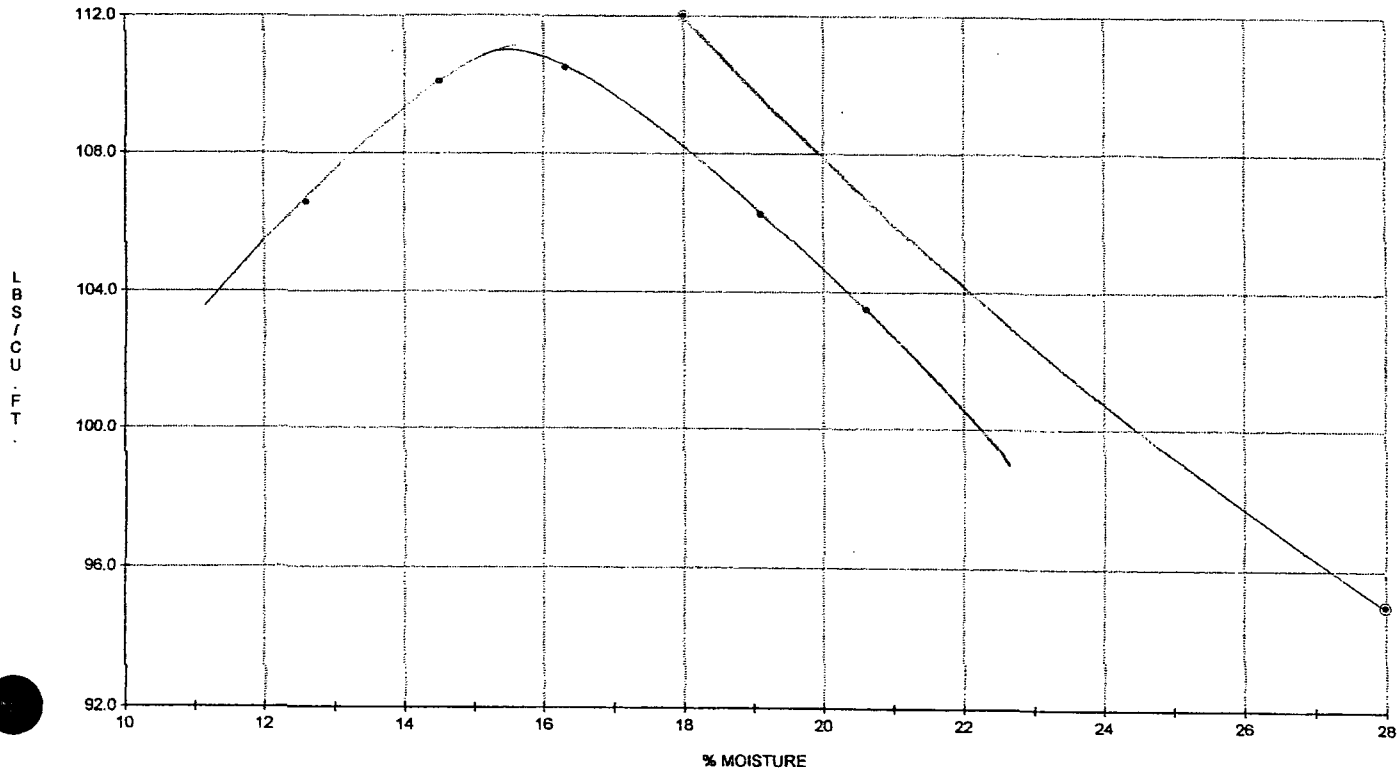
% PASSING # 200: 57.6%

MAXIMUM DENSITY	OPTIMUM MOISTURE	DESIGNATION	METHOD
111.1 Lbs/CuFt	15.5% of Dry Wgt.	ASTM D 698	A

	SPECIFIC VALUES G = 2.65		CHARTED VALUES				
MOISTURE %DRY WGT	18.0	28.0	12.6	14.5	16.3	19.1	20.6
DRY DENSITY LBS/CU.FT.	112.0	95.0	106.6	110.1	110.5	106.3	103.5

COMPACTION CURVE PLOTTING

& Zero Air Voids Curve



ACS POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

SUMMARY OF OPTIMUM MOISTURE / MAXIMUM DENSITY DETERMINATION

VISUAL DESCRIPTION: Moist: **A-3** Grey Green Silty SAND

SAMPLE LOCATION: Client Sampled Specimens:

CLASSIFICATION **USCS**

% PASSING # 200: 24.6%

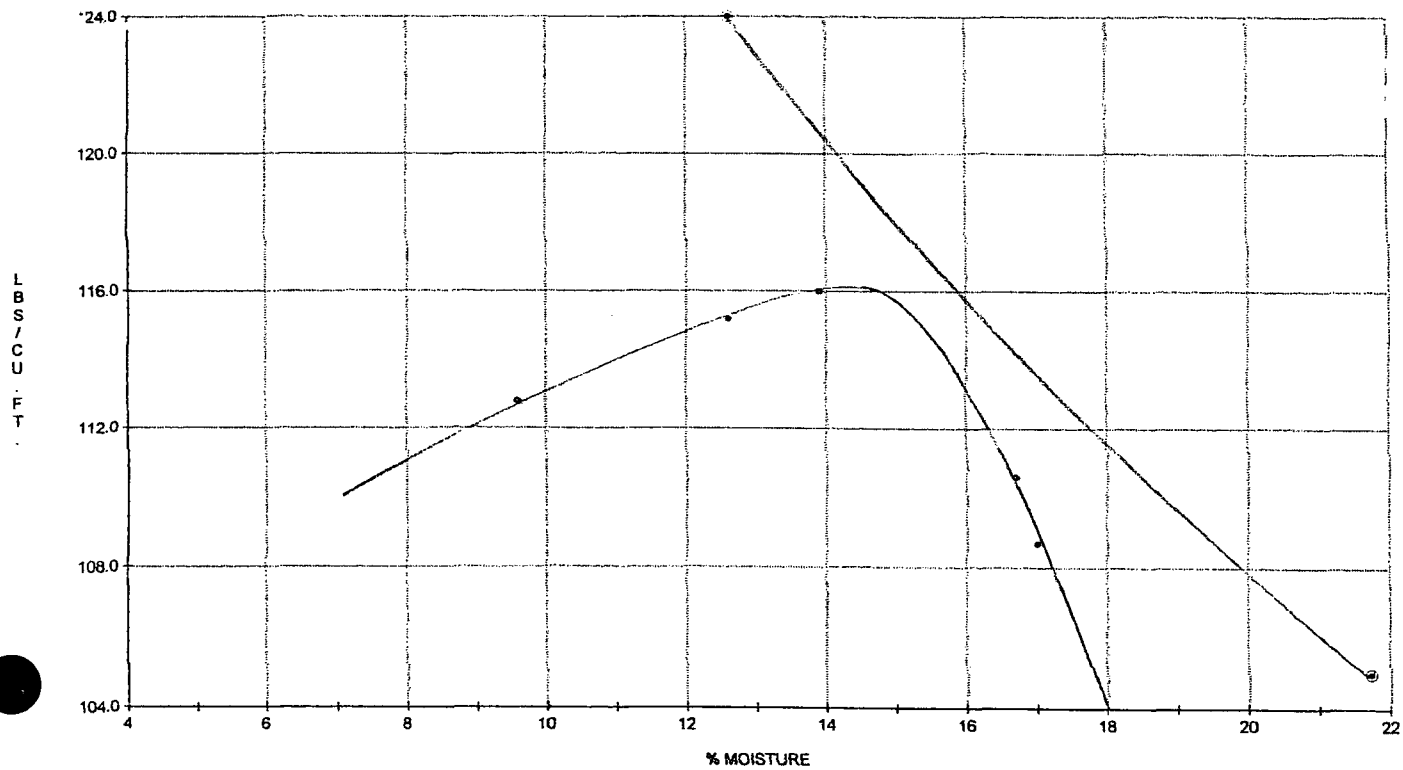
DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL
PERMIT
CONTRACT 520.01.01/04
JOB A-3
FILE 9540005

MAXIMUM DENSITY	OPTIMUM MOISTURE	DESIGNATION	METHOD
116.1 Lbs/CuFt	14.3% of Dry Wgt.	ASTM D 698	A

	SPECIFIC VALUES G = 2.65		CHARTED VALUES				
MOISTURE %DRY WGT	21.7	12.6	9.6	12.6	13.9	16.7	17.0
DRY DENSITY LBS/CU.FT.	105.0	124.0	112.8	115.2	116.0	110.6	108.7

COMPACTION CURVE PLOTTING

↓ Zero Air Voids Curve



A C S POB 1015
BERNALILLO NM 87004
505-867-6585
Laboratory & Field Testing Services
ACNM-NMSHTD & NICET Certified

SUMMARY OF OPTIMUM MOISTURE / MAXIMUM DENSITY DETERMINATION

VISUAL DESCRIPTION: Moist: 8 Grey Green Sandy SILT, Trace Gravel

SAMPLE LOCATION: Client Sampled Specimens:

CLASSIFICATION USCS

% PASSING # 200: 61.4%

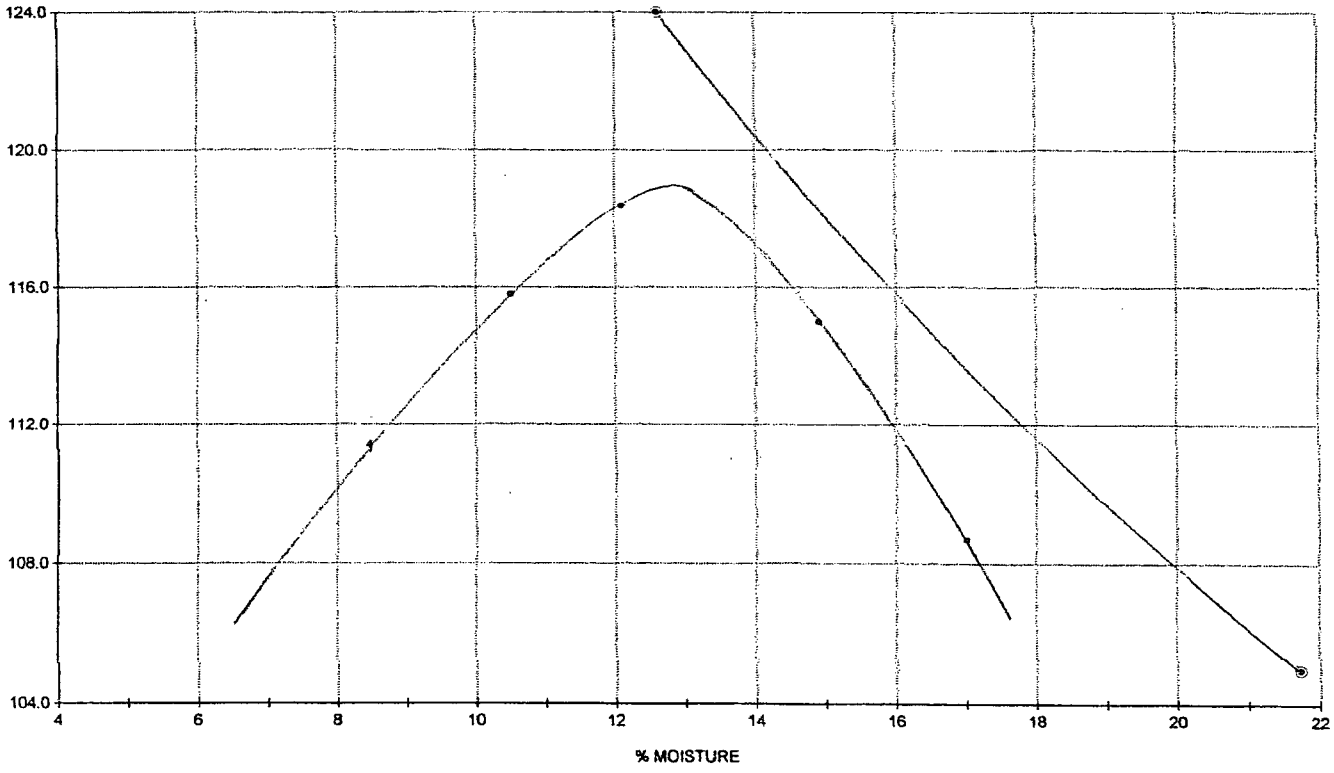
DATE 04 28 09
CLIENT GORDON ENVIRONMENTAL
PROJECT BASIN DISPOSAL
PERMIT
CONTRACT 520.01.01/04
JOB 8
FILE 9540008

MAXIMUM DENSITY	OPTIMUM MOISTURE	DESIGNATION	METHOD
119.0 Lbs/CuFt	12.9% of Dry Wgt.	ASTM D 698	A

	SPECIFIC VALUES G = 2.65		CHARTED VALUES				
MOISTURE %DRY WGT	21.7	12.6	8.5	10.5	12.1	14.9	17.0
DRY DENSITY LBS/CU.FT.	105.0	124.0	111.4	115.8	118.4	115.0	108.7

COMPACTION CURVE PLOTTING

& Zero Air Voids Curve



APPENDIX B

Subgrade Material Testing

B.1. Density Testing Results

DENSITY TESTING RESULTS

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3	PROJECT NO.:	520.01.01
CLIENT:	Basin Disposal Inc.	DATE:	See Below
PROJECT LOCATION:	Bloomfield, New Mexico	PAGE NO.:	1 of 3
TESTING INSTRUMENT:	Troxler® 3440	TECHNICIAN:	Don Gray
REFERENCE STANDARD PROCTOR (RSP):	See below	SPECIFICATION:	90% RSP

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE
1	5/21/2009	S2	119.0	113.8	95.6%	10.9%
2	5/21/2009	S3	119.0	108.0	90.8%	7.4%
3	5/21/2009	S4	119.0	108.5	91.2%	10.0%
4	5/21/2009	E3	119.0	116.2	97.6%	7.9%
5	5/21/2009	E1	119.0	119.6	100.5%	9.2%
6	5/21/2009	N4	119.0	113.2	95.1%	12.8%
7	5/21/2009	N3	119.0	116.6	98.0%	10.1%
8	5/27/2009	N1	119.0	108.7	91.3%	10.7%
9	5/27/2009	N2	119.0	108.8	91.4%	15.1%
10	5/27/2009	N3	119.0	111.1	93.4%	12.8%
11	5/27/2009	N4	119.0	111.5	93.7%	10.6%
12	5/27/2009	E1	119.0	112.9	94.9%	13.3%
13	5/27/2009	E2	119.0	108.8	91.4%	15.0%
14	5/27/2009	E3	119.0	111.6	93.8%	15.1%
15	5/27/2009	W1	111.5	102.9	92.3%	9.7%
16	5/27/2009	W2	119.0	108.9	91.5%	7.7%
17	5/27/2009	W3	119.0	117.7	98.9%	10.2%
18	5/27/2009	S1	119.0	107.1	90.0%	6.8%
19	5/27/2009	S2	119.0	119.9	100.8%	8.8%
20	5/27/2009	S3	119.0	107.6	90.4%	10.1%
21	5/27/2009	S4	119.0	107.1	90.0%	9.4%
22	5/27/2009	N1	119.0	110.4	92.8%	10.8%
23	5/27/2009	N2	119.0	107.6	90.4%	9.8%
24	5/27/2009	N3	119.0	111.5	93.7%	9.0%
25	5/27/2009	N4	119.0	112.0	94.1%	9.3%
26	5/27/2009	E1	119.0	111.6	93.8%	11.9%
27	5/27/2009	E2	119.0	112.6	94.6%	10.2%
28	5/27/2009	E3	119.0	110.8	93.1%	10.1%
29	5/27/2009	W1	119.0	114.2	96.0%	8.8%
30	5/27/2009	W2	119.0	115.8	97.3%	8.1%
31	5/27/2009	W3	119.0	118.3	99.4%	8.8%
32	5/27/2009	S1	119.0	112.7	94.7%	7.8%

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE
33	5/27/2009	S2	119.0	116.2	97.6%	9.7%
34	5/27/2009	S3	119.0	110.6	92.9%	7.2%
35	5/27/2009	S4	119.0	110.6	92.9%	6.7%
36	5/29/2009	N1	119.0	111.9	94.0%	15.1%
37	5/29/2009	N2	119.0	114.5	96.2%	12.0%
38	5/29/2009	N3	119.0	111.8	93.9%	12.9%
39	5/29/2009	N4	119.0	111.2	93.4%	12.2%
40	5/29/2009	E1	119.0	116.5	97.9%	11.0%
41	5/29/2009	E2	119.0	112.1	94.2%	10.3%
42	5/29/2009	E3	119.0	107.2	90.1%	11.2%
43	5/29/2009	W1	119.0	107.1	90.0%	12.2%
44	5/29/2009	W2	119.0	115.0	96.6%	10.6%
45	5/29/2009	W3	119.0	113.3	95.2%	11.8%
46	5/29/2009	S1	119.0	109.0	91.6%	10.7%
47	5/29/2009	S2	119.0	107.6	90.4%	9.1%
48	5/29/2009	S3	116.1	105.3	90.7%	9.0%
49	5/29/2009	S4	119.0	109.6	92.1%	11.4%
50	5/29/2009	N1	119.0	113.4	95.3%	8.7%
51	5/29/2009	N2	119.0	114.9	96.6%	7.4%
52	5/29/2009	N3	119.0	108.1	90.8%	8.3%
53	5/29/2009	N4	119.0	112.7	94.7%	8.8%
54	5/29/2009	E1	119.0	115.9	97.4%	8.6%
55	5/29/2009	E2	119.0	114.7	96.4%	10.1%
56	5/29/2009	E3	119.0	114.7	96.4%	9.2%
57	5/29/2009	W1	119.0	112.0	94.1%	10.3%
58	5/29/2009	W2	119.0	116.7	98.1%	10.7%
59	5/29/2009	W3	119.0	111.0	93.3%	8.1%
60	5/29/2009	S1	119.0	110.9	93.2%	7.6%
61	5/29/2009	S2	119.0	113.8	95.6%	8.6%
62	5/29/2009	S3	119.0	110.8	93.1%	7.8%
63	5/29/2009	S4	119.0	108.5	91.2%	6.7%
64	6/1/2009	N1	111.5	101.5	91.0%	5.8%

Note: See Figure 4 for test locations

Reviewed By:

DENSITY TESTING RESULTS

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3	PROJECT NO.:	520.01.01
CLIENT:	Basin Disposal Inc.	DATE:	See Below
PROJECT LOCATION:	Bloomfield, New Mexico	PAGE NO.:	2 of 3
TESTING INSTRUMENT:	Troxler® 3440	TECHNICIAN:	Don Gray
REFERENCE STANDARD PROCTOR (RSP):	See below	SPECIFICATION:	90% RSP

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE
65	6/1/2009	N2	119.0	110.9	93.2%	10.1%
66	6/1/2009	N3	119.0	110.2	92.6%	13.8%
67	6/1/2009	N4	119.0	110.6	92.9%	14.4%
68	6/1/2009	E1	119.0	113.7	95.5%	11.2%
69	6/1/2009	E2	119.0	113.5	95.4%	14.1%
70	6/1/2009	E3	119.0	109.1	91.7%	8.9%
71	6/1/2009	S1	119.0	107.1	90.0%	13.4%
72	6/1/2009	S2	119.0	109.2	91.8%	9.9%
73	6/1/2009	S3	119.0	109.1	91.7%	9.5%
74	6/1/2009	S4	119.0	108.7	91.3%	9.8%
75	6/1/2009	N1	119.0	115.6	97.1%	10.8%
76	6/1/2009	N2	119.0	107.2	90.1%	8.1%
77	6/1/2009	N3	119.0	109.6	92.1%	10.0%
78	6/1/2009	N4	119.0	111.5	93.7%	10.6%
79	6/1/2009	E1	119.0	109.1	91.7%	7.7%
80	6/1/2009	E2	119.0	109.7	92.2%	8.3%
81	6/1/2009	E3	119.0	109.3	91.8%	8.7%
82	6/2/2009	N1	119.0	120.0	100.8%	7.0%
83	6/2/2009	N2	119.0	114.5	96.2%	8.2%
84	6/2/2009	N3	119.0	116.7	98.1%	8.2%
85	6/2/2009	N4	119.0	114.0	95.8%	8.0%
86	6/2/2009	E1	119.0	108.0	90.8%	10.4%
87	6/2/2009	E2	119.0	110.5	92.9%	9.7%
88	6/2/2009	E3	119.0	110.5	92.9%	12.8%
89	6/2/2009	W1	119.0	118.3	99.4%	8.3%
90	6/2/2009	W2	119.0	112.9	94.9%	5.9%
91	6/2/2009	W3	119.0	109.6	92.1%	5.7%
92	6/2/2009	S1	119.0	115.8	97.3%	9.2%
93	6/2/2009	S2	119.0	114.8	96.5%	6.9%
94	6/2/2009	S3	119.0	116.8	98.2%	8.0%
95	6/2/2009	S4	119.0	112.1	94.2%	8.4%
96	6/2/2009	E1	119.0	111.4	93.6%	9.4%

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE
97	6/2/2009	E2	119.0	111.5	93.7%	5.8%
98	6/2/2009	E3	119.0	114.8	96.5%	8.8%
99	6/3/2009	N4	119.0	111.9	94.0%	7.7%
100	6/3/2009	E1	119.0	115.9	97.4%	11.1%
101	6/3/2009	E2	119.0	111.6	93.8%	9.6%
102	6/3/2009	E3	119.0	116.9	98.2%	9.4%
103	6/3/2009	S4	119.0	113.6	95.5%	12.1%
104	6/3/2009	N4	119.0	111.0	93.3%	7.6%
105	6/3/2009	E1	119.0	113.0	95.0%	7.3%
106	6/3/2009	E2	119.0	110.6	92.9%	7.7%
107	6/3/2009	E3	119.0	108.5	91.2%	8.2%
108	6/3/2009	S4	119.0	110.6	92.9%	8.0%
109	6/9/2009	F1	119.0	113.3	95.2%	6.8%
110	6/9/2009	F2	119.0	109.4	91.9%	4.5%
111	6/9/2009	F3	119.0	112.8	94.8%	6.3%
112	6/9/2009	F4	119.0	116.1	97.6%	8.5%
113	6/9/2009	F5	119.0	108.5	91.2%	5.8%
114	6/9/2009	F6	119.0	107.1	90.0%	5.8%
115	6/9/2009	F7	119.0	115.6	97.1%	9.2%
116	6/9/2009	F8	119.0	109.7	92.2%	8.8%
117	6/9/2009	F9	119.0	113.9	95.7%	9.8%
118	6/9/2009	F10	119.0	108.4	91.1%	8.5%
119	6/9/2009	F11	119.0	113.8	95.6%	7.5%
120	6/9/2009	F12	119.0	115.0	96.6%	8.7%
121	6/9/2009	F13	119.0	112.4	94.5%	6.5%
122	6/9/2009	F14	119.0	111.1	93.4%	6.0%
123	6/9/2009	F15	116.1	106.8	92.0%	9.9%
124	6/9/2009	SS1	119.0	110.1	92.5%	10.4%
125	6/9/2009	SS2	119.0	110.3	92.7%	14.0%
126	6/29/2009	SS3	119.0	116.8	98.2%	7.1%
127	6/9/2009	SS4	119.0	113.2	95.1%	6.1%
128	6/11/2009	SS5	119.0	114.4	96.1%	7.9%

Note: See **Figure 4** for test locations

Reviewed By:

DENSITY TESTING RESULTS

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3	PROJECT NO.:	520.01.01
CLIENT:	Basin Disposal Inc.	DATE:	See Below
PROJECT LOCATION:	Bloomfield, New Mexico	PAGE NO.:	3 of 3
TESTING INSTRUMENT:	Troxler® 3440	TECHNICIAN:	Don Gray
REFERENCE STANDARD PROCTOR (RSP):	See below	SPECIFICATION:	90% RSP

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE
129	6/29/2009	SS6	119.0	110.1	92.5%	7.1%
130	6/11/2009	SS7	119.0	109.8	92.3%	5.9%
131	6/29/2009	SS8	119.0	108.8	91.4%	7.8%
132	6/11/2009	SS9	119.0	107.4	90.3%	6.4%
133	6/29/2009	SS10	119.0	113.5	95.4%	9.9%
134	6/29/2009	SS11	119.0	107.2	90.1%	7.0%
135	6/11/2009	SS12	119.0	107.7	90.5%	7.2%
136	6/29/2009	SS13	119.0	110.7	93.0%	7.8%
137	6/11/2009	SS14	116.1	105.0	90.4%	6.9%
138	6/29/2009	SS15	119.0	108.3	91.0%	6.3%
139	6/29/2009	SS16	116.1	106.6	91.8%	6.0%
140	6/11/2009	SS17	119.0	107.7	90.5%	6.7%
141	6/29/2009	SS18	116.1	105.7	91.0%	6.6%
142	6/11/2009	SS19	111.5	103.6	92.9%	7.6%
143	6/11/2009	SS20	111.5	102.8	92.2%	8.0%
144	6/29/2009	SAT1	119.0	107.5	90.3%	14.4%
145	6/29/2009	SAT2	119.0	108.2	90.9%	6.6%
146	6/29/2009	SAT3	119.0	107.9	90.7%	4.4%
147	6/29/2009	SAT4	116.1	104.6	90.1%	5.4%
148	6/29/2009	EAT1	111.5	101.0	90.6%	7.9%
149	6/29/2009	EAT2	119.0	106.6	89.6%	8.2%
150	6/29/2009	EAT3	116.1	106.0	91.3%	5.6%
151	6/29/2009	NAT1	119.0	109.9	92.4%	5.7%
152	6/29/2009	NAT2	116.1	106.6	91.8%	5.7%
153	6/29/2009	NAT3	111.5	100.5	90.1%	4.9%
154	6/29/2009	NAT4	119.0	107.5	90.3%	5.4%
155	6/29/2009	WAT1	119.0	109.3	91.8%	6.3%
156	6/29/2009	WAT2	116.1	106.6	91.8%	7.1%
157	6/29/2009	WAT3	119.0	110.1	92.5%	6.9%

TEST NUMBER	DATE	TEST LOCATION	PROCTOR USED	DRY DENSITY (PCF)	% RSP	% MOISTURE

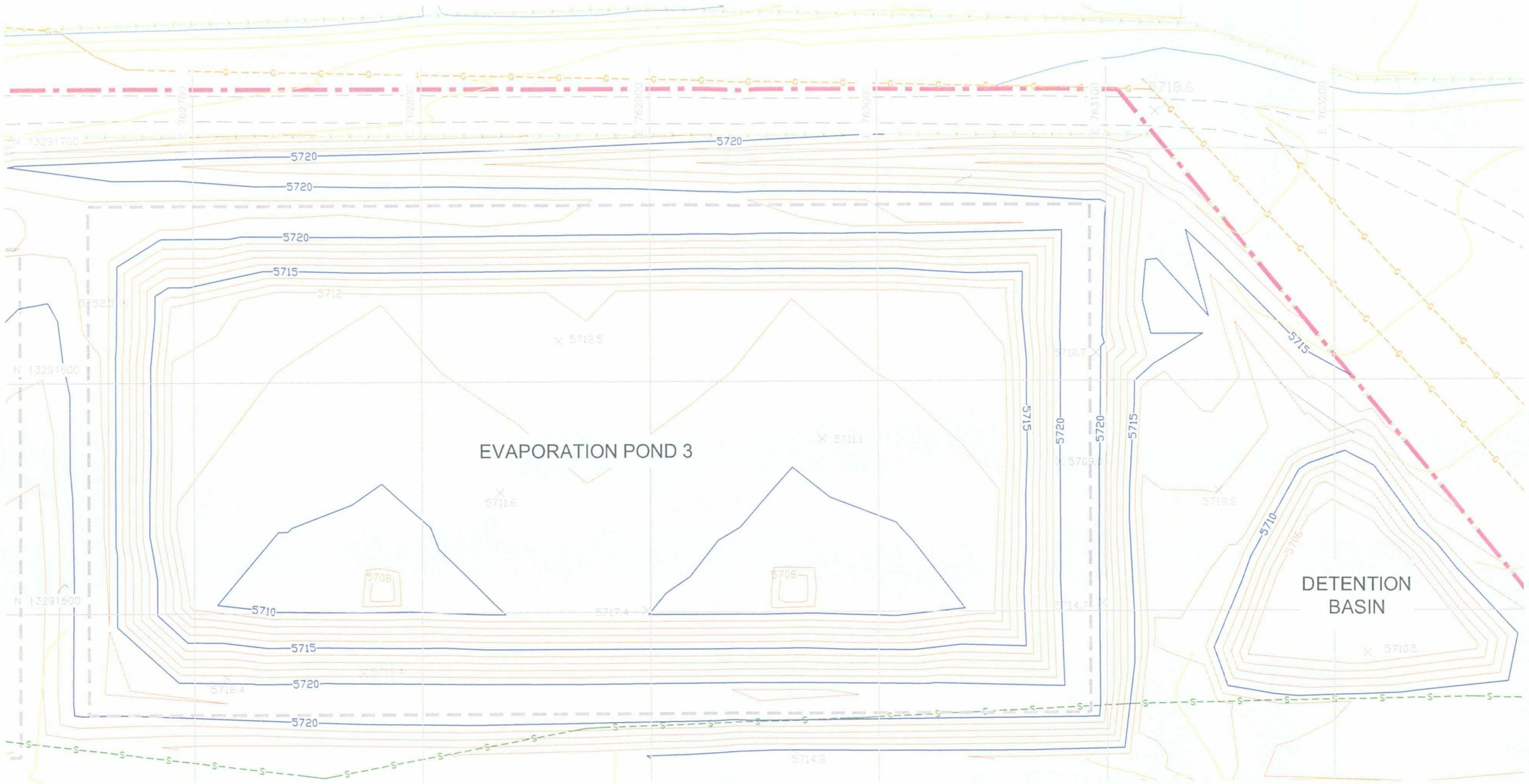
Note: See Figure 4 for test locations

Reviewed By:

APPENDIX B

Subgrade Material Testing

B.2. Subgrade As-Built Elevations



NOTE

1. AS-BUILT TOPOGRAPHIC SURVEY BY RUSSELL SURVEYING, INC., 1409 W. AZTEC BLVD. #3, AZTEC, NEW MEXICO 87410. DATE OF SURVEY: 07/06/09

LEGEND

- SITE BOUNDARY
- PROPOSED POND LOCATION
- 5720 — AS-BUILT 5' AND 10' CONTOUR
- AS-BUILT 1' CONTOUR
- 2' CONTOUR (EXISTING)
- 5710 — 10 CONTOUR (EXISTING)
- UNPAVED ROADWAY (EXISTING)
- FENCE (EXISTING)
- S — SEWER LINE (EXISTING)
- G — GAS LINE (EXISTING)
- UTILITY EASEMENT
- 5705.6 × SPOT ELEVATIONS

NORTH

0 25' 50'

POND 3
SUBGRADE AS-BUILT

BASIN DISPOSAL, INC.
BLOOMFIELD, NEW MEXICO

Gordon Environmental, Inc.
Consulting Engineers
213 S. Camino del Pueblo
Bernalillo, New Mexico, USA
Phone: 505-867-6990
Fax: 505-867-6991

DATE: 07/28/09	CAD: SUBGR AB.dwg	PROJECT #: 520.01.01
DRAWN BY: JFP	REVIEWED BY: MRH	APPENDIX B.2
APPROVED BY: IKG	gei@gordonenvironmental.com	

Drawing:P:\acad 2003\520.01.01\FIGURES\SUBGR AB.dwg
Date/Time:Aug. 24, 2009-15:35:23

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.1. CETCO GCL Certifications

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

Date: 7/26/2008
Purchase Order: 6596
ORDER NUMBER: 024159808

Tom Snow
The Snow Company

Albuquerque, NM 87199
snow_data@comcast.net

To Whom it May Concern:

Please find enclosed the MQA/MQC test data package for Geosynthetic Clay Liner shipments to The Snow Company. The shipments left our Lovell, Wyoming plant on 7/25/2008.

If you have any questions regarding this information, please contact Chris Athanassopoulos, Technical Support Engineer, at (847) 818-7945.

Sincerely,

Roger B. Wilkerson
Quality Assurance Coordinator
CETCO Lovell Plant

800.527.9948 www.cetco.com

GEOSYNTHETIC CLAY LINER
MANUFACTURING QUALITY ASSURANCE DATA PACKAGE

PROJECT NAME: Torrance Co LF
CUSTOMER P.O.: 6596
ORDER NUMBER: 024159808
PREPARED FOR: The Snow Company

CONTENTS:

- Daily production and needle detection certification
- GCL property specifications
- Order packing list
- GCL MQA tracking form
- GCL manufacturing quality control test data
- Bentonite clay certification
- Raw material test results

PREPARED BY: Roger B. Wilkerson
Quality Assurance Coordinator
CETCO
P.O. Box 428
92 Hwy. 37
Lovell, WY 82431

Telephone: 800-322-1149 ext. 413
Fax:
E-Mail: rwilke@cetco.com

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

PRODUCTION CERTIFICATION

PROJECT NAME: Torrance Co LF
CUSTOMER P.O.: 6596
PREPARED FOR: The Snow Company

CETCO affirms that these products meet the physical and chemical criteria listed on the attached GCL property specification sheet.

NEEDLE REMOVAL AND DETECTION PROCEDURE

CETCO hereby affirms that all Bentomat® geosynthetic clay liner material manufactured for this project is continually passed under a magnet for needle removal and then screened with a metal detection device. CETCO certifies Bentomat® to be essentially free of broken needles and fragments of needles that would negatively effect the performance of the final product.

Roger B. Wilkerson
Quality Assurance Coordinator
Colloid Environmental Technologies Co. (CETCO)

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

Ship Date: 7/25/2008
Order Number: 024159808
Prepared For: The Snow Company

The GCL raw materials and GCL finished product manufactured for the above-referenced order number(s) are hereby certified to achieve the properties listed in the tables below.

GCL PROPERTY SPECIFICATIONS FOR BENTOMAT ST

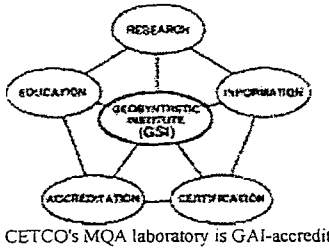
Test Method	Test Method Property	Test Frequency	Certified Value
ASTM D 5891	Bentonite Fluid Loss	1 per 50 Tons	18 ml Max
ASTM D 5993	Bentonite Mass/Area	40,000 sq ft (4000 sq m)	0.75 lb /sq ft (3.6 kg/sq m) Min
ASTM D 5890	Bentonite Swell Index	1 per 50 Tons	24 ml/2g Min
ASTM D 4632	GCL Grab Strength	200,000 sq ft (20,000 sq m)	90 lbs (400 N) MARV
ASTM D 6768	GCL Grab Strength	200,000 sq ft (20,000 sq m)	30 lbs/in MARV
ASTM D 6243	GCL Hydrated Internal Shear Strength	Periodic	500 psf (48 kPa) typ @ 200 psf
ASTM D 5887	GCL Hydraulic Conductivity	Weekly	5 x 10^-9 cm/ sec Max
ASTM D 5887	GCL Index Flux	Weekly	1 x 10^-8 m^3/m^2/sec Max
ASTM D 6496	GCL Peel Strength	40,000 sq ft (4000 sq m)	3.5 lbs/in Min
ASTM D 4632	GCL Peel Strength	40,000 sq ft (4000 sq m)	15 lbs (65 N) Min

Bentonite property tests are performed at a bentonite processing facility before shipment to CETCO's production facility.
All tensile testing is in the machine direction.

FABRIC SUPPLIER REQUIREMENTS FOR BENTOMAT ST

Raw Material	test method	mass per area	units
Nonwoven Cover Fabric	ASTM D 5261	6.0	oz/yd2
Bentomat ST Woven Base Fabric	ASTM D 5261	3.2	oz/yd2

Fabric certifications from our raw material suppliers are on file at our production facility.



CETCO's MQA laboratory is GAI-accredited (www.geosynthetic-institute.org/gai/lab.html).

Roger B. Wilkerson
Quality Assurance Coordinator
CETCO Lovell Plant

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

GCL ORDER PACKING LIST

GCL shipped for certification package number 000241598

Order #	Product	Lot Number	Roll Number	Length (ft)	Width (ft)	Square Ft	Weight (lbs)
024159808	LO-BENTOMAT ST	200829LO	00002869	150	15	2250	2590
024159808	LO-BENTOMAT ST	200829LO	00002871	150	15	2250	2560
024159808	LO-BENTOMAT ST	200829LO	00002872	150	15	2250	2555
024159808	LO-BENTOMAT ST	200829LO	00002873	150	15	2250	2565
024159808	LO-BENTOMAT ST	200829LO	00002874	150	15	2250	2550
024159808	LO-BENTOMAT ST	200829LO	00002875	150	15	2250	2545
024159808	LO-BENTOMAT ST	200829LO	00002884	150	15	2250	2575
024159808	LO-BENTOMAT ST	200829LO	00002893	150	15	2250	2550
024159808	LO-BENTOMAT ST	200829LO	00002896	150	15	2250	2570
024159808	LO-BENTOMAT ST	200829LO	00002898	150	15	2250	2580
024159808	LO-BENTOMAT ST	200829LO	00002900	150	15	2250	2590
024159808	LO-BENTOMAT ST	200829LO	00002901	150	15	2250	2550
024159808	LO-BENTOMAT ST	200829LO	00002904	150	15	2250	2555
024159808	LO-BENTOMAT ST	200829LO	00002910	150	15	2250	2570
024159808	LO-BENTOMAT ST	200829LO	00002935	150	15	2250	2570
024159808	LO-BENTOMAT ST	200829LO	00002938	150	15	2250	2570
024159808	LO-BENTOMAT ST	200829LO	00002958	150	15	2250	2595
			Totals:	**2550**	**255**	**38250**	**43640**

Total Number of Rolls Certified: **17**

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

GCL MQA TRACKING FORM

Listing of finished and raw materials used to produce certification package number 000241598

GCL			Geotextiles				Clay
LO-BENTOMAT ST			LO-N/W-WHITE-ST			LO-WOVEN-ST	LO-CG 50-ST
GCL Lot #	**GCL Roll #**	**Roll # Tested**	**Cap Lot #**	**Cap Roll #**	**Roll # Tested**	**Base Roll #**	**Clay Lot #**
200829LO	00002869	00002859	2010551894			2009928091	062808A
200829LO	00002871	00002859	2010607028			2009928091	062808A
200829LO	00002872	00002859	2010607028			2009928091	062808A
200829LO	00002873	00002859	2010607028			2009928091	062808A
200829LO	00002874	00002859	2010607028			2009928091	062808A
200829LO	00002875	00002859	2010607028			2009928091	062808A
200829LO	00002884	00002876	2010551900			2009960723	062808A
200829LO	00002893	00002893	2010566970			2009960723	062808B
200829LO	00002896	00002893	2010566970			2009960723	062808B
200829LO	00002898	00002893	2010607202			2009960723	062808B
200829LO	00002900	00002893	2010607202			2009960723	062808B
200829LO	00002901	00002893	2010607202			2009960723	062808B
200829LO	00002904	00002893	2010607202			2009960723	062808B
200829LO	00002910	00002910	2010607205			2009941944	062808B
200829LO	00002935	00002927	2010607198			2010315956	062808C
200829LO	00002938	00002927	2010607198			2010315956	062808C
200829LO	00002958	00002944	2010607201			2010002277	062808C

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

GCL MANUFACTURING QUALITY CONTROL TEST DATA

The following rolls in GCL certification package number 000241598 have been tested in our production facility lab.

Product	Lot # Tested	Roll # Tested	Mass Area	Grab Strength	Peel Strength
		Standard Test Method:	ASTM D 5993	ASTM D 6768	ASTM D 6496
		Standard Specification:	0.75 lb/sq ft MARV	30lbs/in MARV	3.5lbs/in Min
LO-BENTOMAT ST	200829LO	00002859	0.85	44.5	8.1
LO-BENTOMAT ST	200829LO	00002876	0.83	44.5	7.1
LO-BENTOMAT ST	200829LO	00002893	0.85	44.5	6
LO-BENTOMAT ST	200829LO	00002910	0.89	44.5	5
LO-BENTOMAT ST	200829LO	00002927	0.88	44.5	4.4
LO-BENTOMAT ST	200829LO	00002944	1.00	84.7	4

STM test methods and property specifications per CETCO standard unless non-standard specifications were requested.
.ny non-standard property specifications requested for this order are noted on the attached GCL property specifications sheet.

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

BENTONITE CLAY CERTIFICATION

The Bentonite Clay used to produce package 000241598 has been tested by American Colloid Company and yeilded the following test results.

Reference	Swell	Fluid Loss
Test Method:	ASTM D 5890	ASTM D 5891
Specification:	24 ml/2g Min	18 ml Max
062808A	26.0	17.0
062808B	24.0	16.2
062808C	27.0	16.2

CETCO
LINING TECHNOLOGIES
800.527.9948 www.cetco.com

GEOTEXTILE TEST RESULTS FROM MATERIAL SUPPLIERS

The GCL in certification package number 000241598 was manufactured with geotextiles which were tested with the following results.

BASE

Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
PPX 83TEX	2009928091	3.5	148.0
PPX 82TEX	2009941944	3.5	157.0
PPX 82TEX	2009960723	3.4	182.0
PPX 82TEX	2010002277	3.4	187.0
PPX 82TEX	2010315956	3.4	173.0

CAP

Material	Roll Number	Mass Area oz/yd2	Grab Strength lbs
PPX 650	2010551894	7.2	70.2
PPX 650	2010551900	6.9	72.1
PPX 650	2010566970	6.7	83.5
PPX 650	2010607028	7.7	76.1
PPX 650	2010607198	7.7	71.3
PPX 650	2010607201	8.0	83.6
PPX 650	2010607202	8.0	83.6
PPX 650	2010607205	7.5	64.5

Certifications from our suppliers are on file at our production facility. An '*' or 'PT' indicates supplier certifications were unavailable prior to shipping so testing was performed at a CETCO lab.

PACKING LIST

CETCO
1500 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 024159808
ORDER DATE: 7/15/2008
SHIP DATE:. 7/25/2008

SOLD TO: 678
THE SNOW COMPANY, INC.
PO BOX 90670

ALBUQUERQUE NM 87199

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 05
THE SNOW COMPANY, INC.
TORRANCE COUNTY LANDFILL
MUST CALL 48 HRS PRIOR TO DEL
SEE DIRECTIONS
MORIARTY NM 87199

PO: 6596

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
)-BENTOMAT ST		SFT	SF 200829LO	00002869	150.0	15.0	2250.0	2590.0
)-BENTOMAT ST		SFT	SF 200829LO	00002871	150.0	15.0	2250.0	2560.0
)-BENTOMAT ST		SFT	SF 200829LO	00002872	150.0	15.0	2250.0	2555.0
)-BENTOMAT ST		SFT	SF 200829LO	00002873	150.0	15.0	2250.0	2565.0
BENTOMAT ST		SFT	SF 200829LO	00002874	150.0	15.0	2250.0	2550.0
)-BENTOMAT ST		SFT	SF 200829LO	00002875	150.0	15.0	2250.0	2545.0
)-BENTOMAT ST		SFT	SF 200829LO	00002884	150.0	15.0	2250.0	2575.0
)-BENTOMAT ST		SFT	SF 200829LO	00002893	150.0	15.0	2250.0	2550.0
)-BENTOMAT ST		SFT	SF 200829LO	00002896	150.0	15.0	2250.0	2570.0
)-BENTOMAT ST		SFT	SF 200829LO	00002898	150.0	15.0	2250.0	2580.0
)-BENTOMAT ST		SFT	SF 200829LO	00002900	150.0	15.0	2250.0	2590.0
)-BENTOMAT ST		SFT	SF 200829LO	00002901	150.0	15.0	2250.0	2550.0
)-BENTOMAT ST		SFT	SF 200829LO	00002904	150.0	15.0	2250.0	2555.0
)-BENTOMAT ST		SFT	SF 200829LO	00002910	150.0	15.0	2250.0	2570.0
)-BENTOMAT ST		SFT	SF 200829LO	00002935	150.0	15.0	2250.0	2570.0
)-BENTOMAT ST		SFT	SF 200829LO	00002938	150.0	15.0	2250.0	2570.0
)-BENTOMAT ST		SFT	SF 200829LO	00002958	150.0	15.0	2250.0	2595.0
ORDER TOTALS.....							38250.0	43640.0

TOTAL ITEMS..... 17

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.2. GCL Conformance Testing Results

May 28, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

email: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2325-33-07
Material(s) Tested:	1 Bentofix GCL(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5993) Bentonite - Swell Index (ASTM D 5890)

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

Sincerely,

John M. Allen, P.E.
Director
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GCL TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Bentofix GCL
Sample Identification: No Label
TRI Log #: E2325-33-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D 5993, result @ 0% M.C.)												
Bentonite mass/unit area (lbs/ft^2)	0.96	0.97	1.03	0.94	1.01						**0.98**	0.04
Moisture Content (%)	9.1	8.9	9.1	9.2	9.1						**9.1**	0.1
Bentonite - Swell Index (ASTM D 5890)												
Water temperature at test intiation (22 degrees C)												
Swell index (mL/2g)	28										**28**	

Note: Bentonite sample tested is taken from finished GCL product.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

June 8, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

email: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2325-39-10
Material(s) Tested:	1 GCL(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5993) Bentonite - Swell Index (ASTM D 5890)

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

Sincerely,

Richard S. Lacey, P.E.
Senior Engineer
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GCL TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: GCL
Sample Identification: 2901 Retest
TRI Log #: E2325-39-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Bentonite - Mass/Unit Area (ASTM D 5993, result @ 0% M.C.)												
Bentonite mass/unit area (lbs/ft^2)	0.80	0.99	0.92	0.85	0.82						**0.88**	0.08
Moisture Content (%)	92.3	67.8	74.1	73.7	89.3						**79.4**	10.7
Bentonite - Swell Index (ASTM D 5890)												
Water temperature at test intiation (24 degrees C)												
Swell index (mL/2g)	26										**26**	

Note: Bentonite sample tested is taken from finished GCL product.

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.3. HDPE FML Certifications

INEOS
Olefins & Polymers USA
A Division of INEOS USA LLC

CERTIFICATE OF ANALYSIS

Selling Company:
INEOS Olefins & Polymers USA
A Division of INEOS USA LLC
2600 South Shore Blvd. Suite 500
LEAGUE CITY, Texas 77573
United States
Ship To:
POLY-AMERICA LP
2000 W MARSHALL DRIVE
GRAND PRAIRIE TX 75051
Contact: DEE AVERITTE
Fax:
Sold To:
POLY-AMERICA LP

Delivery Doc Number/Item:	89015639/000010
Print Date / Time:	12/29/2008/14:00:11
Sales Order Number/Date:	5119197/ 12/15/2008
Customer PO Number/Date:	306901/
Shipment Date:	12/29/2008
Place of Despatch:	2566 AJV Polyethylene Deer Park
Mode of Transport:	0007 Rail w/o rinbol
Transport/Vehicle Number:	AMCX004562
Net Weight:	185,249.999 LB

Product Description: G36-10-150 PE PELLETS - BULK
Batch Number: C081226L04

Characteristic	Method	Result	Unit	Specifications Min	Max
MI 2.16 (1X)	ASTM D 1238	0.1250	g/10mn		
MI 21.6 (HLMI)	ASTM D 1238	12.80	g/10mn	10.50	14.50
DENSITY (NATURAL)	ASTM D4883-03	0.9375	G/CM3	0.9360	0.9390

Ann Decuir

APPROVED BY: Quality Assurance Manager.
This certifies that the INEOS Polyethylene meets our specifications for the grade.

INEOS
Olefins & Polymers USA
A Division of INEOS USA LLC

CERTIFICATE OF ANALYSIS

Selling Company:
INEOS Olefins & Polymers USA
A Division of INEOS USA LLC
2600 South Shore Blvd. Suite 500
LEAGUE CITY, Texas 77573
United States
Ship To:
POLY-AMERICA LP
2000 W MARSHALL DRIVE
GRAND PRAIRIE TX 75051
Contact: DEE AVERITTE
Fax:
Sold To:
POLY-AMERICA LP

Delivery Doc Number/Item:	89016326/000010
Print Date / Time:	01/02/2009/11:45:06
Sales Order Number/Date:	5119192/ 12/15/2008
Customer PO Number/Date:	306901/
Shipment Date:	12/31/2008
Place of Despatch:	2566 AJV Polyethylene Deer Park
Mode of Transport:	0007 Rail w/o rnbol
Transport/Vehicle Number:	ELTX002366
Net Weight:	186,550.001 LB

Page 1 of 1

Product Description: G35-10-150 PE PELLETS - BULK
Batch Number: C081231L03

Characteristic	Method	Result	Unit	Specifications Min	Max
MI 2.16 (1X)	ASTM D 1238	0.1180	g/10mn		
MI 21.6 (HLMI)	ASTM D 1238	11.20	g/10mn	10.50	16.50
DENSITY (NATURAL)	ASTM D4883-03	0.9369	G/CM3	0.9360	0.9390

Ann Decuir

APPROVED BY: Quality Assurance Manager.
This certifies that the INEOS Polyethylene meets our specifications for the grade.

CERTIFICATION SHEET

DATE: May 11, 2009

PROJECT NO: 290302

ORDER NO: Pre-Certification

TRIP NO: Pre-Certification

CERTIFIED BY:

POLY-FLEX, INC.
2000 W. Marshall Drive
Grand Prairie, Texas 75051

TEST DESCRIPTION			THICKNESS	CARBON BLACK	TEAR	PUNCTURE	TENSILE @ YIELD	ELONG @ YIELD	TENSILE @ BREAK	ELONG @ BREAK	CAR. BLK. DISPERSION	DENSITY	NCTL	OXIDATIVE INDUCTION TIME	OVEN AGING	UV RESISTANCE
ASTM METHOD			D5199	D1603	D1004	D4833	D6693	D6693	D6693	D6693	D5596	D1505	D5397	D3895	D5885	D5885
(modifications)			min/avg										App.			
UNITS			mils	%	lb	lb	ppi	%	ppi	%		g/cc	hrs	min.	%	%
SPECIFICATION			54/60	2.0-3.0	42	108	126	12	228	700	Cat 1or2	0.940	300	100	80	50
ROLL NUMBER		BLEND														
HS2-6-09	707-5	C081231L03	55 / 62	2.5	51	140	163	20	331	984	1	0.947	Pass	142	85	77
HS2-6-09	708-5	C081231L03	55 / 62	2.4	52	141	153	21	308	916	1	0.947	Pass	138	85	77
HS2-6-09	709-5	C081231L03	55 / 62	2.4	52	141	153	21	308	916	1	0.947	Pass	138	85	77
HS2-6-09	710-5	C081231L03	55 / 62	2.4	52	141	153	21	308	916	1	0.947	Pass	138	85	77
HS2-6-09	711-5	C081231L03	55 / 62	2.6	49	139	154	18	314	963	1	0.947	Pass	138	85	77
HS2-6-09	712-5	C081231L03	54 / 62	2.6	49	139	154	18	314	963	1	0.947	Pass	138	85	77
HS2-6-09	713-5	C081231L03	55 / 62	2.6	49	139	154	18	314	963	1	0.947	Pass	138	85	77
HS2-6-09	714-5	C081231L03	55 / 62	2.5	52	144	149	19	299	864	1	0.947	Pass	138	85	77
HS2-6-09	715-5	C081231L03	55 / 62	2.5	52	144	149	19	299	864	1	0.947	Pass	138	85	77
HS2-6-09	716-5	C081231L03	55 / 62	2.5	52	144	149	19	299	864	1	0.947	Pass	138	85	77
HS2-6-09	717-5	C081231L03	55 / 62	2.4	50	144	156	19	309	976	1	0.947	Pass	132	85	77
HS2-6-09	718-5	C081231L03	55 / 62	2.4	50	144	156	19	309	976	1	0.947	Pass	132	85	77
HS2-6-09	719-5	C081231L03	54 / 62	2.4	50	144	156	19	309	976	1	0.947	Pass	132	85	77
HS2-6-09	720-5	C081231L03	55 / 62	2.6	54	142	153	21	312	912	1	0.947	Pass	132	85	77
HS2-6-09	721-5	C081226L04	55 / 62	2.6	54	142	153	21	312	912	1	0.947	Pass	132	85	77
HS2-6-09	722-5	C081226L04	54 / 62	2.5	49	140	157	19	315	959	1	0.947	Pass	132	85	77
HS2-6-09	723-5	C081226L04	55 / 62	2.5	49	140	157	19	315	959	1	0.947	Pass	132	85	77

CERTIFICATION SHEET

DATE: May 11, 2009

PROJECT NO: 290302

ORDER NO: Pre-Certification

TRIP NO: Pre-Certification

CERTIFIED BY:

POLY-FLEX, INC.
2000 W. Marshall Drive
Grand Prairie, Texas 75051

TEST DESCRIPTION		THICKNESS	CARBON BLACK	TEAR	PUNCTURE	TENSILE @ YIELD	ELONG @ YIELD	TENSILE @ BREAK	ELONG @ BREAK	CAR. BLK. DISPERSION	DENSITY	NCTL	OXIDATIVE INDUCTION TIME	OVEN AGING	UV RESISTANCE
ASTM METHOD		D5199	D1603	D1004	D4833	D6693	D6693	D6693	D6693	D5596	D1505	D5397	D3895	D5885	D5885
(modifications)		min/avg										App.			
UNITS		mils	%	lb	lb	ppi	%	ppi	%		g/cc	hrs	min.	%	%
SPECIFICATION		54/60	2.0-3.0	42	108	126	12	228	700	Cat 1or2	0.940	300	100	80	50
ROLL NUMBER	BLEND														
HS2-6-09 727-5	C081226L04	54 / 62	2.6	50	139	149	20	314	918	1	0.947	Pass	140	85	77
HS2-6-09 729-5	C081226L04	55 / 62	2.7	48	140	155	19	303	928	1	0.947	Pass	140	85	77

120304

POLYFLEX, INC.

Material Pre-Certification List

Date:	5/11/2009	Material Type:	60HD
Project Number:	290302	Material Quantity:	19
Customer/Project:	SWLS / Bloomfield Basin Disp.	Completed by:	CM

#	Blend	Roll Number	Weight	Roll Description
1	C081226L04	HS2 - 6 - 09 - 0707 - 5	3,502	23' X 500' X .060HD
2	C081226L04	HS2 - 6 - 09 - 0708 - 5	3,503	23' X 500' X .060HD
3	C081226L04	HS2 - 6 - 09 - 0709 - 5	3,500	23' X 500' X .060HD
4	C081226L04	HS2 - 6 - 09 - 0710 - 5	3,498	23' X 500' X .060HD
5	C081226L04	HS2 - 6 - 09 - 0711 - 5	3,504	23' X 500' X .060HD
6	C081226L04	HS2 - 6 - 09 - 0712 - 5	3,509	23' X 500' X .060HD
7	C081226L04	HS2 - 6 - 09 - 0713 - 5	3,499	23' X 500' X .060HD
8	C081226L04	HS2 - 6 - 09 - 0714 - 5	3,505	23' X 500' X .060HD
9	C081226L04	HS2 - 6 - 09 - 0715 - 5	3,503	23' X 500' X .060HD
10	C081226L04	HS2 - 6 - 09 - 0716 - 5	3,506	23' X 500' X .060HD
11	C081226L04	HS2 - 6 - 09 - 0717 - 5	3,507	23' X 500' X .060HD
12	C081226L04	HS2 - 6 - 09 - 0718 - 5	3,503	23' X 500' X .060HD
13	C081226L04	HS2 - 6 - 09 - 0719 - 5	3,505	23' X 500' X .060HD
14	C081226L04	HS2 - 6 - 09 - 0720 - 5	3,503	23' X 500' X .060HD
15	C081226L04	HS2 - 6 - 09 - 0721 - 5	3,505	23' X 500' X .060HD
16	C081226L04	HS2 - 6 - 09 - 0722 - 5	3,500	23' X 500' X .060HD
17	C081226L04	HS2 - 6 - 09 - 0723 - 5	3,497	23' X 500' X .060HD
18	C081226L04	HS2 - 6 - 09 - 0727 - 5	3,505	23' X 500' X .060HD
19	C081226L04	HS2 - 6 - 09 - 0729 - 5	3,500	23' X 500' X .060HD

Chevron Phillips Chemical Company LP

CoA Date: 01/26/2009

Textured Liner

Certificate of Analysis

Shipped To: CHEVRON PHILLIPS CHEM. CO LP: GSE
19103 GUNDLE ROAD
WESTFIELD TX 77090
USA

Recipient: UP TRACK 14732 Phouangsavanh
Fax:

CPC Delivery #: 87803933
PO #: 46822
Weight: 190300 LB
Ship Date: 01/26/2009
Package: BULK
Mode: Hopper Car
Car #: PSPX001199
Seal No: 270855

Product:
MARLEX POLYETHYLENE K306 BULK

Lot Number: 8281601

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.1	g/10mi
HLMI Flow Rate	ASTM D1238	11.5	g/10mi
Density	ASTM D1505	0.936	g/cm3
Production Date		12/03/2008	

WAIVED BY TRACY BRADFORD

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

Troy Griffin
Quality Systems Coordinator

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

GSE Roll Allocation

Textured Liner

Order 56408
Customer Southwest Liner Systems
Site Flood Recovery Project (Skyline)

Roll#	*Resin Lot*	*Product Code*	*Description*	*Mfg. Date*	*Length*
103148916	8281601	HST060A000	HST060A000	2/23/2009	420
103148917	8281601	HST060A000	HST060A000	2/23/2009	420
103148918	8281601	HST060A000	HST060A000	2/23/2009	420
103148919	8281601	HST060A000	HST060A000	2/23/2009	420
103148920	8281601	HST060A000	HST060A000	2/23/2009	420
103148921	8281601	HST060A000	HST060A000	2/23/2009	420
103148922	8281601	HST060A000	HST060A000	2/23/2009	420
103148923	8281601	HST060A000	HST060A000	2/23/2009	420
103148924	8281601	HST060A000	HST060A000	2/23/2009	420
103148925	8281601	HST060A000	HST060A000	2/24/2009	420
103148926	8281601	HST060A000	HST060A000	2/24/2009	420
103148927	8281601	HST060A000	HST060A000	2/24/2009	420
103148928	8281601	HST060A000	HST060A000	2/24/2009	420
103148929	8281601	HST060A000	HST060A000	2/24/2009	420
103148930	8281601	HST060A000	HST060A000	2/24/2009	420
103148931	8281601	HST060A000	HST060A000	2/24/2009	420
103148932	8281601	HST060A000	HST060A000	2/24/2009	420
103148933	8281601	HST060A000	HST060A000	2/24/2009	420
103148934	8281601	HST060A000	HST060A000	2/24/2009	420
103148935	8281601	HST060A000	HST060A000	2/24/2009	420
103148936	8281601	HST060A000	HST060A000	2/24/2009	420
103148937	8281601	HST060A000	HST060A000	2/24/2009	420
103148938	8281601	HST060A000	HST060A000	2/24/2009	420
103148939	8281601	HST060A000	HST060A000	2/24/2009	420
103148940	8281601	HST060A000	HST060A000	2/24/2009	420
103148941	8281601	HST060A000	HST060A000	2/24/2009	420
103148942	8281601	HST060A000	HST060A000	2/24/2009	420
103148943	8281601	HST060A000	HST060A000	2/24/2009	420
103148944	8281601	HST060A000	HST060A000	2/24/2009	420
103148945	8281601	HST060A000	HST060A000	2/24/2009	420
103148946	8281601	HST060A000	HST060A000	2/25/2009	420
103148947	8281601	HST060A000	HST060A000	2/25/2009	420
103148948	8281601	HST060A000	HST060A000	2/25/2009	420
103148949	8281601	HST060A000	HST060A000	2/25/2009	420

GSE Lining Technology, Inc

Roll Test Data Report

Sales Order No.	Project Number	Customer Name	Project Location	Product Name	Report Date
56408	526103	Southwest Liner Systems	Acoma, NM	HST060A000	2/26/2009

GSE QC APPROVED

	ASTM D 5994		ASTM D638,Type IV / D6693								ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218/1603	ASTM D 5596	GRI GM 12	
	Average Thickness	Minimum Thickness	TD Strength @ Yield	MD Strength @ Yield	TD Strength @ Break	MD Strength @ Break	TD Elongation @ Yield	MD Elongation @ Yield	TD Elongation @ Break	MD Elongation @ Break	TD Tear Resistance	MD Tear Resistance	Puncture Resistance	Density	Carbon Black Content	Carbon Black Dispersion	Asperity Height Side A	Asperity Height Side B
	(mils)	(mils)	(ppi)	(ppi)	(ppi)	(ppi)	(%)	(%)	(%)	(%)	(lbs)	(lbs)	(lbs)	(g/cc)	(%)	Views in Cat1 - Cat2	(mils)	(mils)
Roll No.	every roll		every 4th								every 4th		every 4th	every 4th	every 4th	every 4th	every 2nd	
103148916	62	55	159	149	227	238	17	19	626	624	51	54	153	0.945	2.47	10	18	
48917	62	58	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
48918	61	57	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148919	61	58	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148920	62	59	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148921	62	58	152	149	222	242	17	18	639	666	50	51	151	0.946	2.64	10	18	
103148922	61	58	152	149	222	242	17	18	639	666	50	51	151	0.946	2.64	10	18	
103148923	61	58	152	149	222	242	17	18	639	666	50	51	151	0.946	2.64	10	18	
103148924	61	58	152	149	222	242	17	18	639	666	50	51	151	0.946	2.64	10	18	
103148925	61	59	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	18	
103148926	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148927	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148928	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148929	61	58	156	149	227	236	17	19	628	626	51	53	148	0.946	2.49	10	19	
103148930	61	58	156	149	227	236	17	19	628	626	51	53	148	0.946	2.49	10	19	
103148931	61	58	156	149	227	236	17	19	628	626	51	53	148	0.946	2.49	10	19	
103148932	61	60	156	149	227	236	17	19	628	626	51	53	148	0.946	2.49	10	19	
3148933	61	58	161	152	238	258	17	19	648	640	52	54	157	0.946	2.34	10	19	
148934	62	60	161	152	238	258	17	19	648	640	52	54	157	0.946	2.34	10	18	
103148935	61	58	161	152	238	258	17	19	648	640	52	54	157	0.946	2.34	10	18	
103148936	61	58	161	152	238	258	17	19	648	640	52	54	157	0.946	2.34	10	16	
103148937	61	58	156	146	220	243	17	19	572	636	51	54	145	0.948	2.75	10	16	
103148938	61	59	156	146	220	243	17	19	572	636	51	54	145	0.948	2.75	10	17	
103148939	61	58	156	146	220	243	17	19	572	636	51	54	145	0.948	2.75	10	17	
103148940	61	57	156	146	220	243	17	19	572	636	51	54	145	0.948	2.75	10	17	
103148941	61	57	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	17	
103148942	62	59	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	21	
103148943	62	58	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	21	
103148944	63	58	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	20	
103148945	62	57	144	137	200	230	18	20	609	654	49	51	138	0.946	2.56	10	20	
103148946	62	57	144	137	200	230	18	20	609	654	49	51	138	0.946	2.56	10	20	
103148947	61	58	144	137	200	230	18	20	609	654	49	51	138	0.946	2.56	10	20	

Textured Liner

Shipping Order - Packing List - Original - Not Negotiable

GSE Lining Technology, Inc. at HOUSTON, TEXAS

Shippers No. 82188

Textured Liner

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

Ship To: Southwest Liner/Flood Recovery Project
i-40 West take exit 102 go south
on SP30 5 miles past SP 32 1/3 mile
turn rite on dirt rd.
Mike Bonner @ 505-379-9468
Acoma NM 87034

Roll Certifications Included

Date: 03/02/09

Branch Plant: 1500

Shipping Instructions:

Call 24 hours before delivery — Mike Bonner @ 505-379-9468

Sales Order: 56408 SO

No. Line	Roll #	QTY Shipped	UM	Kind of Package, Description of Articles, Special Marks and Exceptions	Weight
1		1	EA	FREIGHTSHT001 DOM. SHIPPING CHARGE DOMESTIC SHEET NON TAXABLE	
2	103148916	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,028.00
3	103148917	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	2,996.00
4	103148918	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,010.00
5	103148919	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,016.00
6	103148921	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,046.00
7	103148926	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,022.00
8	103148927	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,028.00
9	103148928	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,022.00
10	103148930	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,036.00
11	103148940	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,016.00
12	103148941	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,020.00
13	103148942	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,030.00
14	103148943	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,030.00
15	103148948	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,020.00
16	103148949	9450	SF	HST060A000 60 mil Avg GSE HD Textured Blk, HD, 1 Side Tex, 22.5'	3,010.00

DELIVER ON 3/4/09 NO SOONER!

Total Quantity 141,751

Total Weight: 45,330.00

Project# 526103

Freight charges are prepaid unless marked collect.

Check box if collect ☐

Customer P.O. Number: SLS904

If this shipment is to be delivered to consignor, consignor shall sign the following statement.

Carrier may decline to deliver this shipment without payment of freight and all other lawful charges.

_____
Signature of Consignor

Local Verification Signed:

X _____

Pick Up # 2210082R2

Seal #

Truckers P.O. # P0177510

Driver Requirements:

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

Carrier Name: Bennett

Carrier Signature: _____

Date: _____

GSE Lining Technology, Inc

Roll Test Data Report

Bill of Lading: 32188

Sales Order No.	Project Number	Customer Name	Project Location	Product Name	Report Date
56408	526103	Southwest Liner Systems	Acoma, NM	HST060A000	3/2/2009

GSE QC APPROVED

*Modified

	ASTM D 5994		ASTM D638, Type IV / D4885								ASTM D 1004		ASTM D 4833	ASTM D 1505	ASTM D 4218/4603	ASTM D 5596	GRI GM 13	
	Average Thickness	Minimum Thickness	TD Strength @ Yield	MD Strength @ Yield	TD Strength @ Break	MD Strength @ Break	TD Elongation @ Yield	MD Elongation @ Yield	TL Elongation @ Break	MD Elongation @ Break	TD Tear Resistance	MD Tear Resistance	Puncture Resistance	Density	Carbon Black Content	Carbon Black Dispersion	Asperity Height Side A	Asperity Height Side B
	(mils)	(mils)	(ppi)	(ppi)	(ppi)	(ppi)	(%)	(%)	(%)	(%)	(lbs)	(lbs)	(lbs)	(g/cc)	(%)	Views in Cat 1 - Cat 2	(mils)	(mils)
Roll No.	every roll		every 4th								every 4th		every 4th	every 4th	every 4th	every 4th	every 2nd	
103148916	62	55	159	149	227	238	17	19	626	624	51	54	153	0.945	2.47	10	18	
103148917	62	58	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148918	61	57	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148919	61	58	154	144	238	245	18	19	648	634	50	53	154	0.946	2.58	10	18	
103148921	62	58	152	149	222	242	17	18	639	666	50	51	151	0.946	2.64	10	18	
103148926	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148927	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148928	61	58	161	157	213	252	16	19	612	637	50	53	151	0.947	2.52	10	19	
103148930	61	58	156	149	227	236	17	19	628	626	51	53	148	0.946	2.49	10	19	
103148940	61	57	156	146	220	243	17	19	572	636	51	54	145	0.948	2.75	10	17	
103148941	61	57	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	17	
103148942	62	59	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	21	
103148943	62	58	149	145	212	239	17	18	596	668	48	52	145	0.947	2.49	9	21	
103148948	63	58	144	137	200	230	18	20	609	654	49	51	138	0.946	2.56	10	20	
103148949	62	57	154	150	222	231	18	19	652	645	50	54	141	0.945	2.58	9	20	

Approved By: Jane Allen

9103 Gurdle Road · Houston, Texas 77073

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.4. FML Conformance Testing Results

TRI / Environmental, Inc.
A Texas Research International Company

May 29, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

email: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2326-83-10
Material(s) Tested:	2 Poly-Flex 60 mil Smooth HDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5199) Density (ASTM D 1505) Carbon Content (ASTM D 1603 mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693) Tear Resistance (ASTM D 1004)

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

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Poly-Flex 60 mil Smooth HDPE Geomembrane
Sample Identification: HS2-6-09-0713-5
TRI Log #: E2326-83-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	61	59	57	62	65	64	62	61	64	67	62	3
											57	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.942	0.942	0.942								0.942	0.000
Carbon Black Content (ASTM D 1603 mod.)												
% Carbon Black	2.59	2.59									2.59	0.00
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	169	148	173	170	158						164	10
TD Yield Strength (ppi)	176	161	166	173	167						169	6
MD Break Strength (ppi)	298	258	311	253	291						282	25
TD Break Strength (ppi)	308	271	297	326	315						303	21
MD Yield Elongation (%)	21	20	20	23	25						22	2
TD Yield Elongation (%)	19	18	20	22	23						20	2
MD Break Elongation (%)	806	790	841	699	844						796	59
TD Break Elongation (%)	881	830	870	964	955						900	58
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	53	54	54	53	53	49	52	52	51	54	53	2
TD Tear Strength (lbs)	51	48	50	49	51	51	48	50	49	50	50	1

MD Machine Direction TD Transverse Direction

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

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

GEOMEMBRANE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Poly-Flex 60 mil Smooth HDPE Geomembrane
Sample Identification: HS2-6-09-0722-5
TRI Log #: E2326-83-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5199)												
Thickness (mils)	61	61	66	60	63	65	65	60	63	62	63	2
											60	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.948	0.948	0.948								0.948	0.000
Carbon Black Content (ASTM D 1603 mod.)												
% Carbon Black	2.58	2.58									2.58	0.00
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	2	1	1	1	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	159	157	159	167	173						163	7
TD Yield Strength (ppi)	163	166	169	169	173						168	4
MD Break Strength (ppi)	302	305	310	277	301						299	13
TD Break Strength (ppi)	311	334	274	284	326						306	26
MD Yield Elongation (%)	22	22	23	23	25						23	1
TD Yield Elongation (%)	20	20	22	20	22						21	1
MD Break Elongation (%)	829	850	861	760	801						820	41
TD Break Elongation (%)	896	940	798	815	921						874	64
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	55	53	49	57	52	53	56	49	53	53	53	3
TD Tear Strength (lbs)	51	50	48	55	51	50	51	49	49	55	51	2

MD Machine Direction TD Transverse Direction

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

TRI / Environmental, Inc.
A Texas Research International Company

July 21, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

email: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2330-68-02
Material(s) Tested:	1 Single Sided Textured 60 mil HDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 792) Carbon Content (ASTM D 1603 mod.) Carbon Dispersion (ASTM D 5596) Tensile (ASTM D 6693/GRI GM13) Tear Resistance (ASTM D 1004)

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

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOMEMBRANE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Single Sided Textured 60 mil HDPE Geomembrane
Sample Identification: 8930
TRI Log #: E2330-68-02

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	63	59	61	64	63	65	61	63	65	63	63 59	2 << min
Density/Specific Gravity (ASTM D 792, Method A)												
Density (g/cm3)	0.943	0.944	0.944								0.944	0.001
Carbon Black Content (ASTM D 1603 mod.)												
% Carbon Black	2.59	2.63									2.61	0.03
Carbon Black Dispersion (ASTM D 5596)												
Rating - 1st field view	1	2	2	2	1							
Rating - 2nd field view	1	1	1	1	1							
Tensile Properties (ASTM D 6693, 2 ipm strain rate)												
MD Yield Strength (ppi)	171	158	167	160	163						164	5
TD Yield Strength (ppi)	166	171	168	172	177						171	4
MD Break Strength (ppi)	227	217	237	148	235						213	37
TD Break Strength (ppi)	214	222	178	177	227						204	24
MD Yield Elongation (%)	19	19	19	19	19						19	0
TD Yield Elongation (%)	19	19	19	19	19						19	0
MD Break Elongation (%)	565	575	594	346	605						537	108
TD Break Elongation (%)	596	604	470	473	596						548	70
Tear Resistance (ASTM D 1004)												
MD Tear Strength (lbs)	56	53	56	56	58	57	58	54	55	51	55	2
TD Tear Strength (lbs)	51	58	47	55	51	59	56	52	58	53	54	4

MD Machine Direction TD Transverse Direction

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.5. Poly-Flex Geonet Certifications

CoA Date: 10/24/2007

Certificate of Analysis

Shipped To: POLY AMERICA: GP (GEO)
2000 W MARSHALL
GRAND PRAIRIE TX 75051
USA

Recipient: Averitte
Fax:

CPC Delivery #: 87516218
PO #: 273656
Weight: 206000 LB
Ship Date: 10/24/2007
Package: BULK
Mode: Hopper Car
Car #: HCBX001617
Seal No: 471177

Product:
Marlex Polyethylene HHM 5502BN BULK

Lot Number: CWK610841

Property	Test Method	Value	Unit
Melt Index	ST-103	0.36	g/10mi
Density	ST-292	0.9544	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP. **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.**

Kay F. Donaldson
Quality Control Supervisor

For CoA questions contact Tom Scheirman at 832-813-4637

Certificate of Analysis

Shipped To: POLY AMERICA: GP (GEO)
2000 W MARSHALL
GRAND PRAIRIE TX 75051
USA

Recipient: Averitte
Fax:

CPC Delivery #: 87516220
PO #: 273656
Weight: 204400 LB
Ship Date: 10/24/2007
Package: BULK
Mode: Hopper Car
Car #: HCBX001668
Seal No: 471179

Product:
Marlex Polyethylene HHM 5502BN BULK

Lot Number: CWK610851

Property	Test Method	Value	Unit
Melt Index	ST-103	0.34	g/10ml
Density	ST-292	0.9548	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP. **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.**

Kay F. Donaldson
Quality Control Supervisor

For CoA questions contact Tom Scheirman at 832-813-4637

CERTIFICATION SHEET

DATE: May 11, 2009

PROJECT NO: 290302

ORDER NO: Pre-Certification

TRIP NO: Pre-Certification

CERTIFIED BY:

POLY-FLEX, INC.
2000 W. Marshall Drive
Grand Prairie, Texas 75051

TEST DESCRIPTION		THICKNESS	CARBON BLACK	PEAK TENSILE STRENGTH (MD)	*TRANSMISSIVITY(MD)	DENSITY
ASTM METHOD		D5199	D1603	D7179	D4716	D1505
(modifications)		avg				
UNITS		mils	%	lb/in	$x10^{-3}$ m^2/s	g/cc
SPECIFICATION		200	2 - 3	45	1	0.940
ROLL NUMBER						
GN-200-08	302-325	200	2.4	65	2.14	0.951
GN-200-08	510-325	200	2.6	69	2.40	0.957
GN-200-08	515-325	200	2.6	69		0.957
GN-200-08	517-325	200	2.6	69		0.957
GN-200-08	518-325	200	2.6	69		0.957
GN-200-08	522-325	200	2.8	64		0.957
GN-200-08	524-325	200	2.8	64		0.957
GN-200-08	525-325	200	2.6	67		0.958
GN-200-08	528-325	200	2.6	67		0.958
GN-200-08	529-325	200	2.6	67		0.958
GN-200-08	530-325	200	2.8	61	2.46	0.958
GN-200-08	531-325	200	2.8	61		0.958
GN-200-08	532-325	200	2.8	61		0.958
GN-200-08	533-325	200	2.8	61		0.958
GN-200-08	534-325	200	2.8	61		0.958
GN-200-08	535-325	200	2.8	61		0.958
GN-200-08	536-325	200	2.8	61		0.958

*Transmissivity test is performed at gradient of 1.0, normal pressure of 10,000 psf, between metal plates for a seat time of 15 minutes.

CERTIFICATION SHEET

DATE: May 11, 2009

PROJECT NO: 290302

ORDER NO: Pre-Certification

TRIP NO: Pre-Certification

CERTIFIED BY:

POLY-FLEX, INC.
2000 W. Marshall Drive
Grand Prairie, Texas 75051

TEST DESCRIPTION		THICKNESS	CARBON BLACK	PEAK TENSILE STRENGTH (MD)	*TRANSMISSIVITY(MD)	DENSITY
ASTM METHOD		D5199	D1603	D7179	D4716	D1505
(modifications)		avg				
UNITS		mils	%	lb/in	$x10^{-3}$ m^2/s	g/cc
SPECIFICATION		200	2 - 3	45	1	0.940
ROLL NUMBER						
GN-200-08	537-325	200	2.8	61		0.958
GN-200-08	538-325	200	2.8	61		0.958
GN-200-08	539-325	200	2.8	61		0.958
GN-200-08	542-325	200	2.6	67	2.44	0.958
GN-200-08	543-325	200	2.6	67		0.958
GN-200-08	544-325	200	2.6	67		0.958
GN-200-08	545-325	200	2.6	67		0.958
GN-200-08	549-325	200	2.6	67		0.958

*Transmissivity test is performed at gradient of 1.0, normal pressure of 10,000 psf, between metal plates for a seat time of 15 minutes.

1283040

POLYFLEX, INC.

Material Pre-Certification List

Date:	5/11/2009	Material Type:	GN200
Project Number:	290302	Material Quantity:	25
Customer/Project:	SWLS / Bloomfield Basin Disp.	Completed by:	CM

#	Net	Roll Number		Weight	Roll Description
1	200 MIL	GN - 200 - 08 - 0302 - 325	✓	845	14' X 325' X Net
2	200 MIL	GN - 200 - 08 - 0510 - 325	✓	825	14' X 325' X Net
3	200 MIL	GN - 200 - 08 - 0515 - 325	✓	820	14' X 325' X Net
4	200 MIL	GN - 200 - 08 - 0517 - 325		820	14' X 325' X Net
5	200 MIL	GN - 200 - 08 - 0518 - 325	✓	825	14' X 325' X Net
6	200 MIL	GN - 200 - 08 - 0522 - 325	✓	825	14' X 325' X Net
7	200 MIL	GN - 200 - 08 - 0524 - 325	✓	825	14' X 325' X Net
8	200 MIL	GN - 200 - 08 - 0525 - 325	✓	825	14' X 325' X Net
9	200 MIL	GN - 200 - 08 - 0528 - 325	✓	835	14' X 325' X Net
10	200 MIL	GN - 200 - 08 - 0529 - 325	✓	835	14' X 325' X Net
11	200 MIL	GN - 200 - 08 - 0530 - 325	✓	810	14' X 325' X Net
12	200 MIL	GN - 200 - 08 - 0531 - 325	✓	840	14' X 325' X Net
13	200 MIL	GN - 200 - 08 - 0532 - 325		823	14' X 325' X Net
14	200 MIL	GN - 200 - 08 - 0533 - 325	✓	818	14' X 325' X Net
15	200 MIL	GN - 200 - 08 - 0534 - 325	✓	820	14' X 325' X Net
16	200 MIL	GN - 200 - 08 - 0535 - 325	✓	823	14' X 325' X Net
17	200 MIL	GN - 200 - 08 - 0536 - 325	✓	825	14' X 325' X Net
18	200 MIL	GN - 200 - 08 - 0537 - 325	✓	820	14' X 325' X Net
19	200 MIL	GN - 200 - 08 - 0538 - 325	✓	820	14' X 325' X Net
20	200 MIL	GN - 200 - 08 - 0539 - 325	✓	823	14' X 325' X Net
21	200 MIL	GN - 200 - 08 - 0542 - 325	✓	825	14' X 325' X Net
22	200 MIL	GN - 200 - 08 - 0543 - 325	✓	830	14' X 325' X Net
23	200 MIL	GN - 200 - 08 - 0544 - 325	✓	825	14' X 325' X Net
24	200 MIL	GN - 200 - 08 - 0545 - 325	✓	830	14' X 325' X Net
25	200 MIL	GN - 200 - 08 - 0549 - 325	✓	825	14' X 325' X Net

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.6. Geonet Conformance Testing Results

May 29, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

email: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2326-83-10
Material(s) Tested:	1 Poly-Flex GN200 Geonet(s)
Test(s) Requested:	Thickness (ASTM D 1777) - GN Mass/Unit Area (ASTM D 3776) - GN Density (ASTM D 1505) - GN Carbon Content (ASTM D 1603, mod.) - GN Melt Index (ASTM D 1238) - GN Wide Width Tensile (ASTM D4595,mod.) - GN

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

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOCOMPOSITE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Poly-Flex GN200 Geonet
Sample Identification: GN-200-08-0530-325
TRI Log #: E2326-83-10

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 1777)												
Thickness (mils)	198	202	209	195	212	204	181	203	219	200	202	10
											181	<< min
Mass/Unit Area (ASTM D 5261)												
5 in diameter Circle - Mass (grams)	10.47	9.80	10.56	10.31	10.18	9.84	10.64	9.97	9.49	11.15		
Mass/unit area (lbs./sq.ft)	0.17	0.16	0.17	0.17	0.16	0.16	0.17	0.16	0.15	0.18	0.17	0.01
Density (ASTM D 1505)												
Density (g/cm3)	0.957	0.957	0.958								0.957	0.001
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.68	2.70									2.69	0.01
Melt Flow Index (ASTM D 1238, 190/2.16)												
Melt Flow Index (g/10 min)	0.36										0.36	
Wide Width Tensile Properties (ASTM D 4595,mod for GN)					**Geonet Component**							
MD Max. Strength (ppi)	65.2	73.9	77.9	55.2	54.9						65.4	10.5
MD Max. Strength (lbs/ft)	783	887	934	663	659						785	126
TD Max. Strength (ppi)	23.6	23.6	31.5	24.3	26.5						25.9	3.3
TD Max. Strength (lbs/ft)	284	283	378	292	318						311	40
MD Elong. @ Max. Strength (%)	17	16	14	17	15						16	1
TD Elong. @ Max. Strength (%)	82	63	90	73	73						76	10

MD Machine Direction TD Transverse Direction

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.7. Geotextile Certifications

PROPEX®

5/08/2009

Colloid Lining Technologies

BOL: 80460549 PO: 0-LT8-66201

This certificate indicates that 1291 is a nonwoven polypropylene geotextile, supplied by Propex and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the ASTM test methods listed below, unless otherwise stated. This product utilizes carbon black as a UV inhibitor.

PROPERTY	TEST METHOD	UNITS	ENGLISH	METRIC
Mass per Unit Area	ASTM D5261	oz/yd² (g/m²)	12.0	407
Thickness	ASTM D5199	mils (mm)	115	2.9
Tensile Strength	ASTM D4632	lbs (N)	320	1424
Elongation	ASTM D4632	%	50	50
Puncture	ASTM D4833	lbs (N)	210	934
Mullen Burst	ASTM D3786	psi (kPa)	620	4274
Trapezoidal Tear	ASTM D4533	lbs (N)	125	556
UV Resistance (min)	ASTM D4355	%	70	70
AOS (max)	ASTM D4751	US Std. Sieve (mm)	100	0.150
Permittivity	ASTM D4491	1/sec	0.80	0.80
Permeability	ASTM D4491	cm/sec	0.290	0.290
Water Flow Rate	ASTM D4491	gpm/ft² (l/min/m²)	60.0	2445
CBR	ASTM D6241	lbs (N)	925.0	4116

Chad Judkins

Quality Manager

Ringgold Quality Lab

Propex Inc., 6025 Lee Hwy, Suite 425, PO Box 22788, Chattanooga, TN 37422, USA – (800)- 621-1273
Fax (423) 899-5005 - www.propexinc.com

PROPEX®

Certificate of Analysis

Chad J[illegible]s
Quality Manager

BOL: 80460549 MV 1004480 1291 15ftx300ft blk GEOTEX style Cust PO: 0-LT8-66201

HU#/Rolls Shipped	units ASTM Test	Thickness MIL	Water Flow Rate GMF	XMD Elong @ Break %	XMD Tensile @ Break LB	XMD Trap Tear LB
2011119492	2191716	126	88.375000	72	516.97	229.57
2011217475	2194108	185	82.000000	78	629.03	244.55

1. Data listed above was determined in accordance with standard test methods, frequencies and procedures defined internally by plant and product type
2. Rolls tested on this shipment are identified with an asterisk(*)
3. HU# is handling unit and is terminology for roll number and "production order" equates to lot number.
Our enterprise resource planning system generates sequential handling unit and production order designations independent of the manufacturing facility producing the product.
Therefore, handling unit numbers may not be in sequential order within a production order.

Propex Operating Company, LLC, 6025 Lee Hwy, Suite 425, PO Box 22788 Chattanooga TN 37422

PROPEX®

Certificate of Analysis

Chad Judkins
Quality Manager

BOL: 80460549 MV 1004480 1291 15ftx300ft blk GEOTEX style Cust PO: 0-LT8-66201

HU#/Rolls Shipped	units ASTM Test	AOS (mm) MM	CBR LB	Mass/Unit Area OSY	MD Elong @ Break %	MD Tensile @ Break LB	MD Trap Tear LB	Mullen Burst PSI	Permeability 2M	Permittivity 1/S	Puncture LB
2011119492	2191716	0.15	1041.0	13.37	84	369.34	137.60	758.57	0.429250	1.196750	217.29
2011217475	2194108	0.13	1559.8	17.16	79	524.96	184.09	812.86	0.606750	1.115750	299.15

1. Data listed above was determined in accordance with standard test methods, frequencies and procedures defined internally by plant and product type
2. Rolls tested on this shipment are identified with an asterisk(*)
3. HU# is handling unit and is terminology for roll number and "production order" equates to lot number.
Our enterprise resource planning system generates sequential handling unit and production order designations independent of the manufacturing facility producing the product.
Therefore, handling unit numbers may not be in sequential order within a production order.

Propex Operating Company, LLC, 6025 Lee Hwy, Suite 425, PO Box 22788 Chattanooga TN 37422

APPENDIX C

Material Manufacturer Certification and Conformance Testing Results

C.8. Geotextile Conformance Testing Results

TRI / Environmental, Inc.
A Texas Research International Company

May 28, 2009

Mail To:	**Bill To:**
Mr. Mark DeCarlo **Southwest Liner Systems, Inc.** PO Box 1972 Bernalillo, NM 87004 email: swls.md@gmail.com	**<= Same**

Dear Mr. DeCarlo:

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

Project:	**Basin Disposal**
TRI Job Reference Number:	E2326-83-07
Material(s) Tested:	1 Nonwoven Geotextile(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Puncture Strength (ASTM D 4833) Mullen Burst (ASTM D 3786) Apparent Opening Size (ASTM D 4751) Permittivity (ASTM D 4491)

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

Sincerely,

MPatel

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOTEXTILE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Nonwoven Geotextile
Sample Identification: 7475
TRI Log #: E2326-83-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Mass/Unit Area (ASTM D 5261)												
5" diameter circle (grams)	6.12	5.50	6.55	5.83	5.41	7.29	6.39	5.79	5.78	6.13	**6.08**	0.56
Mass/Unit Area (oz/sq.yd)	14.24	12.79	15.24	13.56	12.58	16.96	14.86	13.47	13.44	14.26	**14.14**	1.30
Grab Tensile Properties (ASTM D 4632)												
MD - Tensile Strength (lbs)	484	431	562	459	458	551	477	495	444	453	**481**	44
TD - Tensile Strength (lbs)	550	599	474	507	533	607	499	475	562	513	**532**	47
MD - Elong. @ Max. Load (%)	99	97	81	104	111	107	112	100	98	114	**102**	10
TD - Elong. @ Max. Load (%)	111	113	163	101	110	113	127	88	105	114	**115**	20
Puncture Resistance (ASTM D 4833)												
Puncture Strength (lbs)	250	237	239	210	259	221	249	211	251	271	**241**	20
	258	275	235	221	226							
Mullen Burst Strength (ASTM D 3786, modified)												
Tare (psi): 35												
Burst Strength (psi)	805	675	765	765	670	800	810	735	770	780	**758**	50
											Tare Not Subtracted	
Apparent Opening Size (ASTM D 4751)												
Opening Size Diameter (mm)	0.075	0.075	0.075	0.075	0.075						**0.075**	0.000
Sieve No.	200	200	200	200	200						**200**	

MD Machine Direction TD Transverse Direction

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

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOTEXTILE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: Nonwoven Geotextile
Sample Identification: 7475
TRI Log #: E2326-83-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Falling Head Permittivity (ASTM D 4491, 9-in Upper Standpipe; 2 in opening)												
Water Temp. (C):	22											
Correction Factor:	0.953											
Test Speciemn No. >:	1					2						
Thickness (mils)	137	137	137	137	137	147	147	147	147	147		
Time (s)	22.2	22.5	22.1	22.4	22.1	25.9	25.9	26.2	26.3	26.2		
Specimen Permittivity (s-1)	1.28	1.26	1.28	1.27	1.28	1.10	1.10	1.08	1.08	1.08		
Specimen Permittivity @20°C (sec-1)	1.22	1.20	1.22	1.21	1.22	1.04	1.04	1.03	1.03	1.03		
Specimen Flow rate (GPM/ft2)	91.1	89.9	91.5	90.3	91.5	78.1	78.1	77.2	76.9	77.2		
Specimen Permeability (cm/s)	0.42	0.42	0.43	0.42	0.43	0.39	0.39	0.39	0.38	0.39		
Test Speciemn No. >:	3					4						
Thickness (mils)	147	147	147	147	147	150	150	150	150	150		
Time (s)	28.7	28.4	28.5	28.4	28.8	25.0	25.0	25.0	25.0	25.0		
Permittivity (s-1)	0.99	1.00	1.00	1.00	0.99	1.13	1.13	1.13	1.13	1.13		
Specimen Permittivity @20°C (sec-1)	0.94	0.95	0.95	0.95	0.94	1.08	1.08	1.08	1.08	1.08		
Specimen Flow rate (GPM/ft2)	70.5	71.2	71.0	71.2	70.2	80.9	80.9	80.9	80.9	80.9		
Specimen Permeability (cm/s)	0.35	0.36	0.35	0.36	0.35	0.41	0.41	0.41	0.41	0.41		

TEMPERATURE CORRECTED VALUES		
	Permittivity (s-1)	1.07
	Flow rate (GPM/ft2)	80.0
	Permeability (cm/s)	0.39

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.1. GCL Deployment Log

GCL DEPLOYMENT LOG

PROJECT NAME: Basin Evaporation Pond 3 **PROJECT NUMBER:** 520.01.01
CLIENT: Basin Disposal Inc. **CONTRACTOR:** Sothwest Liner Sys.
PROJECT LOCATION: Bloomfield, New Mexcio **SHEET NUMBER:** 1 of 1

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
W1	2901	26.0	15.0	390.0	6-16-09
W2	2901	26.0	15.0	390.0	6-16-09
E1	2901	26.0	15.0	390.0	6-16-09
E2	2901	26.0	15.0	390.0	6-16-09
		TOTAL LINER PLACED (FT^2):		1,560.0	

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GORDON ENVIRONMENTAL, INC.

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.2. Secondary FML Deployment Log

SECONDARY FML DEPLOYMENT LOG

PROJECT NAME: Basin Evaporation Pond 3 **PROJECT NUMBER:** 520.01.01
CLIENT: Basin Disposal Inc. **CONTRACTOR:** Sothwest Liner Sys.
PROJECT LOCATION: Bloomfield, New Mexcio **SHEET NUMBER:** 1 of 2

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
W1	HS2-6-09-0708-5	59.0	22.5	1,327.5	6-16-09
W2	HS2-6-09-0708-5	0-CORNER W1	0.0	0.0	6-16-09
W3	HS2-6-09-0708-5	0-CORNER W4	0.0	0.0	6-16-09
W4	HS2-6-09-0708-5	52.0	22.5	1,170.0	6-16-09
W5	HS2-6-09-0708-5	53.0	22.5	1,192.5	6-16-09
W6	HS2-6-09-0708-5	53.0	22.5	1,192.5	6-16-09
W7	HS2-6-09-0708-5	49.0	22.5	1,102.5	6-16-09
W8	HS2-6-09-0708-5	49.0	22.5	1,102.5	6-16-09
W9	HS2-6-09-0708-5	48.0	22.5	1,080.0	6-16-09
W10	HS2-6-09-0708-5	48.0	22.5	1,080.0	6-16-09
W11	HS2-6-09-0708-5	58.0	22.5	1,305.0	6-16-09
W12	HS2-6-09-0708-5	13.0	22.5	292.5	6-16-09
W13	HS2-6-09-0708-5	0-CORNER W11	0.0	0.0	6-16-09
B1	HS2-6-09-0719-5	217.0	22.5	4,882.5	6-16-09
B2	HS2-6-09-0719-5	217.0	22.5	4,882.5	6-16-09
B3	HS2-6-09-0719-5	72.0	22.5	1,620.0	6-16-09
B3A	HS2-6-09-0709-5	151.0	22.5	3,397.5	6-16-09
B4	HS2-6-09-0709-5	218.0	22.5	4,905.0	6-16-09
B5	HS2-6-09-0709-5	134.0	22.5	3,015.0	6-16-09
B5A	HS2-6-09-0718-5	84.0	22.5	1,890.0	6-16-09
B6	HS2-6-09-0718-5	218.0	22.5	4,905.0	6-16-09
B7	HS2-6-09-0718-5	170.0	22.5	3,825.0	6-16-09
B7A	HS2-6-09-0710-5	48.0	22.5	1,080.0	6-16-09
B8	HS2-6-09-0710-5	217.0	22.5	4,882.5	6-16-09
B9	HS2-6-09-0710-5	217.0	22.5	4,882.5	6-16-09
B10	HS2-6-09-0727-5	95.0	22.5	2,137.5	6-16-09
B10A	HS2-6-09-0718-5	27.0	22.5	607.5	6-16-09
B10B	HS2-6-09-0710-5	15.0	22.5	337.5	6-16-09
B10C	HS2-6-09-0727-5	80.0	22.5	1,800.0	6-16-09
B11	HS2-6-09-0727-5	218.0	22.5	4,905.0	6-16-09
TOTAL LINER PLACED (FT^2):				64,800.0	

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SECONDARY FML DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	2 of 2

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
B12	HS2-6-09-0707-5	110.0	22.5	2,475.0	6-16-09
B12A	HS2-6-09-0727-5	106.0	22.5	2,385.0	6-16-09
B13	HS2-6-09-0707-5	218.0	22.5	4,905.0	6-16-09
B14	HS2-6-09-0707-5	172.0	22.5	3,870.0	6-16-09
B14A	HS2-6-09-0714-5	48.0	22.5	1,080.0	6-16-09
B15	HS2-6-09-0714-5	221.0	22.5	4,972.5	6-16-09
E1	HS2-6-09-0729-5	48.0	22.5	1,080.0	6-17-09
E2	HS2-6-09-0729-5	0-CORNER E1	0.0	0.0	6-17-09
E3	HS2-6-09-0729-5	0-CORNER E4	0.0	0.0	6-17-09
E4	HS2-6-09-0729-5	37.0	22.5	832.5	6-17-09
E5	HS2-6-09-0729-5	52.0	22.5	1,170.0	6-17-09
E6	HS2-6-09-0729-5	52.0	22.5	1,170.0	6-17-09
E7	HS2-6-09-0729-5	53.0	22.5	1,192.5	6-17-09
E8	HS2-6-09-0729-5	53.0	22.5	1,192.5	6-17-09
E9	HS2-6-09-0714-5	43.0	22.5	967.5	6-17-09
E9A	HS2-6-09-0729-5	13.0	22.5	292.5	6-17-09
E10	HS2-6-09-0714-5	56.0	22.5	1,260.0	6-17-09
E11	HS2-6-09-0714-5	55.0	22.5	1,237.5	6-17-09
E12	HS2-6-09-0714-5	0-CORNER E11	0.0	0.0	6-17-09
E13	HS2-6-09-0714-5	0-CORNER E14	0.0	0.0	6-17-09
E14	HS2-6-09-0714-5	72.0	22.5	1,620.0	6-17-09
TOTAL LINER PLACED (FT^2):				31,702.5	

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.3. Geotextile Deployment Log

GEOTEXTILE DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	1 of 1

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
ES1A	7475	27.0	15.0	405.0	6-16-09
ES2A	7475	27.0	15.0	405.0	6-16-09
ES3A	7475	27.0	15.0	405.0	6-16-09
WS1A	7475	27.0	15.0	405.0	6-16-09
WS2A	7475	27.0	15.0	405.0	6-16-09
WS3A	7475	27.0	15.0	405.0	6-16-09
TOTAL LINER PLACED (FT^2):				2,430.0	

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.4. Geonet Deployment Log

GEONET DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	1 of 3

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
B1	GN-200-08-0522-325	216.0	14.0	3,024.0	6-16-09
W1	GN-200-08-0522-325	47.0	14.0	658.0	6-16-09
W2	GN-200-08-0522-325	47.0	14.0	658.0	6-16-09
W3	GN-200-08-0522-325	15.0	14.0	210.0	6-16-09
W3A	GN-200-08-0535-325	38.0	14.0	532.0	6-16-09
W4	GN-200-08-0535-325	48.0	14.0	672.0	6-16-09
W5	GN-200-08-0535-325	48.0	14.0	672.0	6-16-09
W6	GN-200-08-0535-325	47.0	14.0	658.0	6-16-09
W7	GN-200-08-0535-325	47.0	14.0	658.0	6-16-09
W8	GN-200-08-0535-325	47.0	14.0	658.0	6-16-09
W9	GN-200-08-0535-325	47.0	14.0	658.0	6-16-09
W10	GN-200-08-0533-325	46.0	14.0	644.0	6-16-09
W11	GN-200-08-0533-325	45.0	14.0	630.0	6-16-09
W12	GN-200-08-0533-325	44.0	14.0	616.0	6-16-09
W13	GN-200-08-0533-325	44.0	14.0	616.0	6-16-09
W14	GN-200-08-0533-325	44.0	14.0	616.0	6-16-09
W15	GN-200-08-0533-325	23.0	14.0	322.0	6-16-09
W16	GN-200-08-0533-325	23.0	14.0	322.0	6-16-09
W17	GN-200-08-0533-325	24.0	14.0	336.0	6-16-09
B2	GN-200-08-0533-325	41.0	14.0	574.0	6-16-09
B2A	GN-200-08-0542-325	178.0	14.0	2,492.0	6-16-09
B3	GN-200-08-0542-325	150.0	14.0	2,100.0	6-16-09
B3A	GN-200-08-0529-325	68.0	14.0	952.0	6-16-09
B4	GN-200-08-0529-325	212.0	14.0	2,968.0	6-16-09
B5	GN-200-08-0529-325	46.0	14.0	644.0	6-16-09
B5A	GN-200-08-0539-325	170.0	14.0	2,380.0	6-16-09
B6	GN-200-08-0539-325	156.0	14.0	2,184.0	6-16-09
B6A	GN-200-08-0510-325	62.0	14.0	868.0	6-22-09
B7	GN-200-08-0536-325	148.0	14.0	2,072.0	6-16-09
B7A	GN-200-08-0510-325	67.0	14.0	938.0	6-22-09
			TOTAL LINER PLACED (FT^2):	31,332.0	

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GEONET DEPLOYMENT LOG

PROJECT NAME: Basin Evaporation Pond 3 **PROJECT NUMBER:** 520.01.01
CLIENT: Basin Disposal Inc. **CONTRACTOR:** Sothwest Liner Sys.
PROJECT LOCATION: Bloomfield, New Mexcio **SHEET NUMBER:** 2 of 3

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
B8A	GN-200-08-0536-325	180.0	14.0	2,520.0	6-17-09
B8	GN-200-08-0524-325	38.0	14.0	532.0	6-17-09
B9	GN-200-08-0524-325	216.0	14.0	3,024.0	6-17-09
B10	GN-200-08-0524-325	73.0	14.0	1,022.0	6-17-09
B10A	GN-200-08-0545-325	144.0	14.0	2,016.0	6-17-09
B11	GN-200-08-0545-325	184.0	14.0	2,576.0	6-17-09
B11A	GN-200-08-0525-325	33.0	14.0	462.0	6-17-09
B12	GN-200-08-0525-325	218.0	14.0	3,052.0	6-17-09
B13	GN-200-08-0525-325	76.0	14.0	1,064.0	6-17-09
B13A	GN-200-08-0549-325	140.0	14.0	1,960.0	6-17-09
B14A	GN-200-08-0549-325	190.0	14.0	2,660.0	6-17-09
B14	GN-200-08-0544-325	27.0	14.0	378.0	6-17-09
B15	GN-200-08-0544-325	216.0	14.0	3,024.0	6-17-09
B16A	GN-200-08-0544-325	82.0	14.0	1,148.0	6-18-09
B16	GN-200-08-0530-325	136.0	14.0	1,904.0	6-18-09
B17A	GN-200-08-0530-325	161.0	14.0	2,254.0	6-18-09
B17	GN-200-08-0538-325	55.0	14.0	770.0	6-18-09
B18	GN-200-08-0538-325	217.0	14.0	3,038.0	6-18-09
B19A	GN-200-08-0538-325	56.0	14.0	784.0	6-18-09
B19	GN-200-08-0543-325	97.0	14.0	1,358.0	6-18-09
B19B	GN-200-08-0510-325	21.0	14.0	294.0	6-22-09
B19C	GN-200-08-0515-325	51.0	14.0	714.0	6-22-09
B20	GN-200-08-0543-325	149.0	14.0	2,086.0	6-18-09
B20A	GN-200-08-0515-325	68.0	14.0	952.0	6-22-09
B21A	GN-200-08-0543-325	79.0	14.0	1,106.0	6-18-09
B21	GN-200-08-0537-325	141.0	14.0	1,974.0	6-18-09
B22A	GN-200-08-0537-325	185.0	14.0	2,590.0	6-18-09
B22	GN-200-08-0532-325	35.0	14.0	490.0	6-18-09
B23	GN-200-08-0532-325	216.0	14.0	3,024.0	6-18-09
B24	GN-200-08-0532-325	78.0	14.0	1,092.0	6-18-19
			TOTAL LINER PLACED (FT^2):	49,868.0	

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GEONET DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	3 of 3

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
B24A	GN-200-08-0531-325	141.0	14.0	1,974.0	6-18-09
B25A	GN-200-08-0531-325	188.0	14.0	2,632.0	6-18-09
B25	GN-200-08-0528-325	34.0	14.0	476.0	6-18-09
E1	GN-200-08-0528-325	52.0	14.0	728.0	6-18-09
E2	GN-200-08-0528-325	52.0	14.0	728.0	6-18-09
E3	GN-200-08-0528-325	52.0	14.0	728.0	6-18-09
E4	GN-200-08-0528-325	52.0	14.0	728.0	6-18-09
E5	GN-200-08-0528-325	52.0	14.0	728.0	6-18-09
E6A	GN-200-08-0528-325	32.0	14.0	448.0	6-18-09
E6	GN-200-08-0534-325	24.0	14.0	336.0	6-18-09
E7	GN-200-08-0534-325	52.0	14.0	728.0	6-18-09
E8	GN-200-08-0534-325	53.0	14.0	742.0	6-18-09
E9	GN-200-08-0534-325	52.0	14.0	728.0	6-18-09
E10	GN-200-08-0534-325	52.0	14.0	728.0	6-18-09
E11	GN-200-08-0534-325	50.0	14.0	700.0	6-18-09
E12	GN-200-08-0534-325	49.0	14.0	686.0	6-18-09
E13	GN-200-08-0510-325	49.0	14.0	686.0	6-18-09
E14	GN-200-08-0510-325	49.0	14.0	686.0	6-18-09
E15	GN-200-08-0510-325	22.0	14.0	308.0	6-18-09
E16	GN-200-08-0510-325	23.0	14.0	322.0	6-18-09
E17	GN-200-08-0510-325	22.0	14.0	308.0	6-18-09
E18	GN-200-08-0510-325	8.0	14.0	112.0	6-18-09
E19	GN-200-08-0510-325	8.0	14.0	112.0	6-18-09
		TOTAL LINER PLACED (FT^2):		16,352.0	

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.5. Primary FML Deployment Log

PRIMARY FML DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	1 of 2

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
W1	HS2-6-09-0723-5	52.0	22.5	1,170.0	6-22-09
W2	HS2-6-09-0723-5	0-CORNER W1	0.0	0.0	6-22-09
W3	HS2-6-09-0723-5	37.0	22.5	832.5	6-22-09
W4	HS2-6-09-0723-5	49.0	22.5	1,102.5	6-22-09
W5	HS2-6-09-0723-5	49.0	22.5	1,102.5	6-22-09
W6	HS2-6-09-0723-5	49.0	22.5	1,102.5	6-22-09
W7	HS2-6-09-0723-5	52.0	22.5	1,170.0	6-22-09
W8	HS2-6-09-0723-5	52.0	22.5	1,170.0	6-22-09
W9	HS2-6-09-0729-5	51.0	22.5	1,147.5	6-22-09
W10	HS2-6-09-0729-5	51.0	22.5	1,147.5	6-22-09
W11	HS2-6-09-0729-5	0-CORNER W10	0.0	0.0	6-22-09
W12	HS2-6-09-0729-5	0-CORNER W13	0.0	0.0	6-22-09
W13	HS2-6-09-0729-5	54.0	22.5	1,215.0	6-22-09
B1	HS2-6-09-0716-5	57.0	22.5	1,282.5	6-22-09
B1A	HS2-6-09-0723-5	63.0	22.5	1,417.5	6-22-09
B2	HS2-6-09-0716-5	221.0	22.5	4,972.5	6-22-09
B3	HS2-6-09-0716-5	218.0	22.5	4,905.0	6-22-09
B4	HS2-6-09-0722-5	218.0	22.5	4,905.0	6-22-09
B5	HS2-6-09-0722-5	218.0	22.5	4,905.0	6-22-09
B6	HS2-6-09-0720-5	128.0	22.5	2,880.0	6-22-09
B6A	HS2-6-09-0716-5	11.0	22.5	247.5	6-22-09
B6B	HS2-6-09-0729-5	10.0	22.5	225.0	6-22-09
B6C	HS2-6-09-0722-5	69.0	22.5	1,552.5	6-22-09
B7	HS2-6-09-0720-5	218.0	22.5	4,905.0	6-22-09
B8	HS2-6-09-0711-5	64.0	22.5	1,440.0	6-22-09
B8A	HS2-6-09-0720-5	155.0	22.5	3,487.5	6-22-09
B9	HS2-6-09-0711-5	218.0	22.5	4,905.0	6-23-09
B10	HS2-6-09-0711-5	218.0	22.5	4,905.0	6-23-09
B11	HS2-6-09-0713-5	218.0	22.5	4,905.0	6-23-09
B12	HS2-6-09-0713-5	218.0	22.5	4,905.0	6-23-09
TOTAL LINER PLACED (FT^2):				67,905.0	

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PRIMARY FML DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	2 of 2

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
B13	HS2-6-09-0712-5	160.0	22.5	3,600.0	6-23-09
B13A	HS2-6-09-0713-5	58.0	22.5	1,305.0	6-23-09
B14	HS2-6-09-0712-5	218.0	22.5	4,905.0	6-23-09
B15	HS2-6-09-0712-5	100.0	22.5	2,250.0	6-23-09
B15A	HS2-6-09-0721-5	123.0	22.5	2,767.5	6-23-09
E1	HS2-6-09-0721-5	64.0	22.5	1,440.0	6-23-09
E2	HS2-6-09-0721-5	0-CORNER E1	0.0	0.0	6-23-09
E3	HS2-6-09-0721-5	0-CORNER E4	0.0	0.0	6-23-09
E4	HS2-6-09-0721-5	51.0	22.5	1,147.5	6-23-09
E5	HS2-6-09-0721-5	55.0	22.5	1,237.5	6-23-09
E6	HS2-6-09-0721-5	55.0	22.5	1,237.5	6-23-09
E7	HS2-6-09-0721-5	53.0	22.5	1,192.5	6-23-09
E8	HS2-6-09-0721-5	53.0	22.5	1,192.5	6-23-09
E9	HS2-6-09-0721-5	52.0	22.5	1,170.0	6-23-09
E10	HS2-6-09-0715-5	52.0	22.5	1,170.0	6-23-09
E11	HS2-6-09-0715-5	40.0	22.5	900.0	6-23-09
E12	HS2-6-09-0715-5	0-CORNER E11	0.0	0.0	6-23-09
E13	HS2-6-09-0715-5	0-CORNER E14	0.0	0.0	6-23-09
E14	HS2-6-09-0715-5	51.0	22.5	1,147.5	6-23-09
TOTAL LINER PLACED (FT^2):				26,662.5	

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.6. Secondary Geomembrane Pre-weld Qualification Test Logs

GEOMEMBRANE PRE-WELD QUALIFICATION TEST LOG

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3 - Secondary Liner	PROJECT NUMBER:	520.01.01
CLIENT:	Basin Disposal Inc.	CONTRACTOR:	Southwest Liner Systems
PROJECT LOCATION:	Bloomfield, New Mexico	SHEET NUMBER:	1 of 1

PROJECT SPECIFICATIONS					
FUSION	TEXTURED:	PEEL	90	SHEAR	120
	SMOOTH:	PEEL	90	SHEAR	120
EXTRUSION	TEXTURED:	PEEL	78	SHEAR	120
	SMOOTH:	PEEL	78	SHEAR	120

DATE	TIME	QC INITIALS	WELDER'S INITIALS	MACHINE NUMBER	WEDGE WELDS		EXTRUSION WELDS		PULL	FIELD TEST RESULTS				
					Temperature	Speed	Barrel Temp	Pre-Heat Temp		Test #1	Test #2	Test #3	Test #4	Test #5
6-16-09	07:30	DG	MB	1	750	7.0	-	-	P	130	130	154	-	-
									P	129	160	160	-	-
									S	199	160	221	-	-
6-16-09	07:37	DG	JM	2	750	7.0	-	-	P	121	127	128	-	-
									P	130	105	163	-	-
									S	173	168	160	-	-
6-16-09	08:15	DG	KS	2	-	-	490	300	P	128	126	129	-	-
									P	-	-	-	-	-
									S	160	162	161	-	-
6-16-09	11:45	DG	MB	1	750	7.7	-	-	P	131	127	130	-	-
									P	127	124	130	-	-
									S	159	154	151	-	-
6-16-09	13:25	DG	KS	2	-	-	490	300	P	110	110	114	-	-
									P	-	-	-	-	-
									S	150	151	153	-	-
6-16-09	12:55	DG	JM	2	750	7.0	-	-	P	109	130	157	-	-
									P	146	101	141	-	-
									S	142	180	177	-	-
6-17-09	07:40	DG	JM	2	750	6.5	-	-	P	142	127	134	-	-
									P	145	134	135	-	-
									S	216	155	188	-	-
6-17-09	07:58	DG	KS	2	-	-	490	300	P	105	106	112	-	-
									P	-	-	-	-	-
									S	154	152	153	-	-
6-17-09	08:15	DG	MB	1	750	7.5	-	-	P	137	157	132	-	-
									P	144	148	130	-	-
									S	191	194	187	-	-
									P					
									P					
									S					
									P					
									P					
									S					

REVIEWED BY: MRH

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.7. Secondary Geomembrane Seaming Log

GEOMEMBRANE SEAMING LOG

PROJECT NAME: Basin Pond 3 - Secondary Liner
CLIENT: Basin Disposal Inc.
PROJECT LOCATION: Bloomfield, New Mexico

PROJECT NUMBER: 520.01.01
CONTRACTOR: Southwest Lining Systems Inc.
SHEET NUMBER: 1 of 2

	DATE	PANEL #/PANEL #	APPROX. LENGTH WELDED	START TIME	SEAMER INITIALS	MACHINE #	TEMP SETTING	SPEED SETTING	DESTRUCTIVE TEST	MONITORED BY
1	6-16-09	B1-W1/5 to 10/13	218'	09:11	MB	1	750	7.0	SDT-1	DG
2	6-16-09	W1-W2	59'	07:45	MB	1	750	7.0	-	DG
3	6-16-09	W1/2-W3/4	70'	08:19	MB	1	750	7.0	-	DG
4	6-16-09	W3-W4	52'	07:53	MB	1	750	7.0	-	DG
5	6-16-09	W4-W5	53'	07:58	MB	1	750	7.0	-	DG
6	6-16-09	W5-W6	53'	08:30	MB	1	750	7.0	-	DG
7	6-16-09	W6-W7	53'	08:41	MB	1	750	7.0	-	DG
8	6-16-09	W7-W8	53'	07:48	JM	2	750	7.0	-	DG
9	6-16-09	W8-W9	53'	08:10	JM	2	750	7.0	-	DG
10	6-16-09	W9-W10	53'	08:18	JM	2	750	7.0	-	DG
11	6-16-09	W10-W11	53'	08:27	JM	2	750	7.0	-	DG
12	6-16-09	W11-W12	12'	08:47	JM	2	750	7.0	-	DG
13	6-16-09	W12-W13	14'	09:15	JM	2	750	7.0	-	DG
14	6-16-09	W11/10-W13	70'	09:06	JM	2	750	7.0	-	DG
15	6-16-09	B1-B2	218'	09:48	MB	1	750	7.0	-	DG
16	6-16-09	B2-B3/A	218'	09:38	JM	2	750	7.0	SDT-2	DG
17	6-16-09	B3-B3A	22'	09:30	JM	2	750	7.0	-	DG
18	6-16-09	B3/A-B4	218'	10:24	MB	1	750	7.0	-	DG
19	6-16-09	B4-B5/A	218'	10:30	JM	2	750	7.0	SDT-3	DG
20	6-16-09	B5-B5A	22'	10:26	JM	2	750	7.0	-	DG
21	6-16-09	B5/A-B6	218'	11:05	MB	1	750	7.0	-	DG
22	6-16-09	B6-B7/A	218'	13:43	JM	2	750	7.0	SDT-4	DG
23	6-16-09	B7-B7A	22'	11:20	JM	2	750	7.0	-	DG
24	6-16-09	B7/A-B8	218'	12:55	MB	1	750	7.0	-	DG
25	6-16-09	B8-B9	218'	13:28	MB	1	750	7.0	-	DG
26	6-16-09	B10-B10A	22'	13:18	JM	2	750	7.0	-	DG
27	6-16-09	B10A-B10B	22'	13:23	JM	2	750	7.0	-	DG
28	6-16-09	B10B-B10C	22'	13:32	JM	2	750	7.0	-	DG
29	6-16-09	B9-B10/A/B/C	218'	13:43	JM	2	750	7.0	SDT-5	DG
30	6-16-09	B10/A/B/C-B11	218'	14:07	MB	1	750	7.7	-	DG

REVIEWED BY: KMR

GEOMEMBRANE SEAMING LOG

PROJECT NAME: Basin Pond 3 - Secondary Liner
CLIENT: Basin Disposal Inc.
PROJECT LOCATION: Bloomfield, New Mexico
PROJECT NUMBER: 520.01.01
CONTRACTOR: Southwest Lining Systems Inc.
SHEET NUMBER: 2 of 2

	DATE	PANEL #/PANEL #	APPROX. LENGTH WELDED	START TIME	SEAMER INITIALS	MACHINE #	TEMP SETTING	SPEED SETTING	DESTRUCTIVE TEST	MONITORED BY
1	6-16-09	B11-B12/A	218'	14:47	MB	1	750	7.7	SDT-6	DG
2	6-16-09	B12-B12A	22'	14:15	JM	2	750	7.5	-	DG
3	6-16-09	B12/A-B13	218'	14:33	JM	2	750	7.5	-	DG
4	6-16-09	B13-B14/A	218'	15:17	MB	1	750	7.7	SDT-7	DG
5	6-16-09	B14-B14A	22'	15:15	JM	2	750	7.5	-	DG
6	6-16-09	B14/A-B15	218'	15:20	JM	2	750	7.5	-	DG
7	6-17-09	E1/5 to 10/E14/E15-B15	218'	10:00	MB	1	750	7.5	SDT-8	DG
8	6-17-09	E1-E2	53'	09:26	MB	1	750	7.5	-	DG
9	6-17-09	E1/2-E3/4/5	70'	09:42	MB	1	750	7.5	-	DG
10	6-17-09	E3-E4	53'	08:17	MB	1	750	7.5	-	DG
11	6-17-09	E4-E5	53'	09:08	MB	1	750	7.5	-	DG
12	6-17-09	E5-E6	53'	08:57	MB	1	750	7.5	SDT-9	DG
13	6-17-09	E6-E7	53'	08:46	MB	1	750	7.5	-	DG
14	6-17-09	E7-E8	53'	08:37	MB	1	750	7.5	-	DG
15	6-17-09	E8-E9/A	53'	09:10	JM	2	750	6.5	-	DG
16	6-17-09	E9-E9A	22'	08:32	MB	1	750	7.5	-	DG
17	6-17-09	E9/A-E10	53'	08:55	JM	2	750	6.5	-	DG
18	6-17-09	E10-E11/14	53'	08:42	JM	2	750	6.5	-	DG
19	6-17-09	E11/12-E13/14	53'	08:23	JM	2	750	6.5	-	DG
20	6-17-09	E11-E12	10'	08:04	JM	2	750	6.5	-	DG
21	6-17-09	E13-E14	14'	07:56	JM	2	750	6.5	-	DG
22										
23										
24										
25										
26										
27										
28										
29										
30										

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.8. Secondary Geomembrane Seam Pressure Test Log

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT INFORMATION				PROJECT SPECIFICATIONS
PROJECT NAME: Basin Pond 3 - Secondary	**PROJECT NUMBER:** 520.01.01	**MIN START PSI:** 30psi
CLIENT: Basin Disposal Inc.	**CONTRACTOR:** Southwest Lining Sys.	**TEST DURATION:** 5 mins
PROJECT LOCATION: Bloomfield, NM	**SHEET NUMBER:** 1 of 1	**MAX PSI DROP:** 3psi

	DATE	PANEL #/PANEL #	TESTER	TIME		PRESSURE		MONITORED BY	PASS/FAIL
				START	FINISH	INITIAL	FINAL		
1	6-16-09	W2/3-W4	GB	09:13	09:18	40	38	DG	PASS
2	6-16-09	W3-W4	GB	09:18	09:23	40	40	DG	PASS
3	6-16-09	W4-W5	GB	09:20	09:25	40	40	DG	PASS
4	6-16-09	W5-W6	GB	09:22	09:27	40	40	DG	PASS
5	6-16-09	W6-W7	GB	09:36	09:41	40	40	DG	PASS
6	6-16-09	W7-W8	GB	09:39	09:44	40	38	DG	PASS
7	6-16-09	W8-W9	GB	09:42	09:47	40	40	DG	PASS
8	6-16-09	W9-W10	GB	09:44	09:49	40	40	DG	PASS
9	6-16-09	W10-W11	GB	09:46	09:51	40	39	DG	PASS
10	6-16-09	W11-W12	GB	09:50	09:55	40	40	DG	PASS
11	6-16-09	W12-W13	GB	09:55	10:00	40	37	DG	PASS
12	6-16-09	W13-W10/11	GB	09:56	10:10	40	40	DG	PASS
13	6-16-09	B1-W13/10 to 4/1	GB	10:05	10:10	40	37	DG	PASS
14	6-16-09	B1-B2	GB	10:35	10:40	40	37	DG	PASS
15	6-16-09	B2-B3/A	GB	10:37	10:42	40	38	DG	PASS
16	6-16-09	B3-B3A	GB	10:23	10:28	40	40	DG	PASS
17	6-16-09	B3/A-B4	GB	11:11	11:16	40	38	DG	PASS
18	6-16-09	B4-B5/A	GB	11:16	11:21	40	40	DG	PASS
19	6-16-09	B4-B5A	GB	11:33	11:38	40	37	DG	PASS
20	6-16-09	B5-B5A	GB	11:33	11:38	40	37	DG	PASS
21	6-16-09	B5/A-B6	GB	11:46	11:51	40	39	DG	PASS
22	6-16-09	B6-B7/A	GB	12:51	12:56	40	40	DG	PASS
23	6-16-09	B7-B7A	GB	11:38	11:43	40	40	DG	PASS
24	6-16-09	B7/A-B8	GB	13:51	13:56	40	38	DG	PASS
25	6-16-09	B8-B9	GB	14:12	14:17	40	40	DG	PASS
26	6-16-09	B9-B10/A/B/C	GB	14:21	14:26	40	37	DG	PASS
27	6-16-09	B10-B10A	GB	13:57	14:02	40	40	DG	PASS
28	6-16-09	B10A-B10B	GB	14:00	14:05	40	40	DG	PASS
29	6-16-09	B10B-B10C	GB	14:02	14:07	40	40	DG	PASS
30	6-16-09	B10/A/B/C-B11	GB	14:48	14:53	40	37	DG	PASS
31	6-16-09	B11-B12/A	GB	15:17	15:22	40	39	DG	PASS
32	6-16-09	B12-B12A	GB	14:38	14:43	40	37	DG	PASS
33	6-16-09	B11-B12A	GB	15:34	15:39	40	37	DG	PASS
34	6-16-09	B12/A-B13	GB	15:31	15:36	40	39	DG	PASS
35	6-16-09	B12/A-B13	GB	15:35	15:40	40	40	DG	PASS
36	6-16-09	B12/A-B13	GB	15:51	15:56	40	40	DG	PASS
37	6-16-09	B13-B14/A	GB	16:00	16:05	40	40	DG	PASS
38	6-16-09	B14-B14A	GB	15:53	15:58	40	37	DG	PASS
39	6-16-09	B14-B15	GB	16:08	16:13	40	40	DG	PASS
40	6-16-09	B14/A-B15	GB	16:11	16:16	40	40	DG	PASS
41	6-17-09	E15-E10/E14	GB	10:25	10:30	40	40	DG	PASS
42	6-17-09	E14-E15	GB	09:00	09:05	40	39	DG	PASS
43	6-17-09	E11/12-E13/14	GB	09:04	09:09	40	37	DG	PASS
44	6-17-09	E11-E12	GB	09:06	09:11	40	40	DG	PASS
45	6-17-09	E10/11-E11/14	GB	09:08	09:13	40	40	DG	PASS
46	6-17-09	E9/A-E10	GB	09:35	09:40	40	37	DG	PASS
47	6-17-09	E8-E9/A	GB	09:36	09:41	40	40	DG	PASS
48	6-17-09	E9-E9A	GB	08:48	08:53	40	38	DG	PASS
49	6-17-09	E7-E8	GB	09:37	09:42	40	39	DG	PASS
50	6-17-09	E6-E7	GB	09:40	09:45	40	38	DG	PASS
51	6-17-09	E5-E6	GB	09:42	09:47	40	40	DG	PASS
52	6-17-09	E4-E5	GB	09:59	10:04	40	38	DG	PASS
53	6-17-09	E3-E4	GB	10:02	10:07	40	40	DG	PASS
54	6-17-09	E2/1-E4/5	GB	10:06	10:11	40	37	DG	PASS
55	6-17-09	E1-E2	GB	10:11	10:16	40	39	DG	PASS

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.9. Secondary Geomembrane Seam Vacuum Test and Defect-repair Log

GEOMEMBRANE SEAM VACUUM TEST AND DEFECT REPAIR LOG

PROJECT NAME:	Basin Pond 3 - Secondary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 2

	REPAIR DATE	PANEL	TYPE OF REPAIR	REPAIR TECH	NUMBER OF LEAKS	TESTING TECH ID	DATE ACCEPTED	COMMENTS
1	6-16-09	B3A-B4	Seam	KS	0	SS	6-16-09	
2	6-16-09	B4-B5A	Seam	KS	0	SS	6-16-09	
3	6-16-09	B1-W1-W4-W5	T	KS	0	SS	6-16-09	
4	6-16-09	W1-W2-W4	T	KS	0	SS	6-16-09	
5	6-16-09	W2-W3-W4	T	KS	0	SS	6-16-09	
6	6-16-09	W2-W3	Patch	KS	0	SS	6-16-09	
7	6-16-09	B1-W5-W6	T	KS	0	SS	6-16-09	
8	6-16-09	B1-W6-W7	T	KS	0	SS	6-16-09	
9	6-16-09	B1-W7-W8	T	KS	0	SS	6-16-09	
10	6-16-09	B1-W8-W9	T	KS	0	SS	6-16-09	
11	6-16-09	B1-W9-W10	T	KS	0	SS	6-16-09	
12	6-16-09	W10-W11	Patch	KS	0	SS	6-16-09	
13	6-16-09	W10-W13-B1	T	KS	0	SS	6-16-09	
14	6-16-09	W10-W11-W13	T	KS	0	SS	6-16-09	
15	6-16-09	W11-W12-W13	Patch	KS	0	SS	6-16-09	
16	6-16-09	W13-B1	Patch	KS	0	SS	6-16-09	SDT-1
17	6-16-09	B2-B3A	Patch	KS	0	SS	6-16-09	SDT-2
18	6-16-09	B2-B3-B3A	T	KS	0	SS	6-16-09	
19	6-16-09	B3-B3A-B4	T	KS	0	SS	6-16-09	
20	6-16-09	B4-B5A	Patch	KS	0	SS	6-16-09	SDT-3
21	6-16-09	B4-B5-B5A	T	KS	0	SS	6-16-09	
22	6-16-09	B5-B5A-B6	T	KS	0	SS	6-16-09	
23	6-16-09	B6-B7A	Patch	KS	0	SS	6-16-09	SDT-4
24	6-16-09	B6-B7-B7A	T	KS	0	SS	6-16-09	
25	6-16-09	B7-B7A-B8	T	KS	0	SS	6-16-09	
26	6-16-09	B9-B10	Patch	KS	0	SS	6-16-09	
27	6-16-09	B9-B10-B10A	T	KS	0	SS	6-16-09	
28	6-16-09	B9-B10A-B10B	T	KS	0	SS	6-16-09	
29	6-16-09	B9-B10B-B10C	T	KS	0	SS	6-16-09	
30	6-16-09	B9-B10C	Patch	KS	0	SS	6-16-09	SDT-5
31	6-16-09	B10C-B11	Patch	KS	0	SS	6-16-09	
32	6-16-09	B10B-B10C-B11	T	KS	0	SS	6-16-09	
33	6-16-09	B10A-B10B-B11	T	KS	0	SS	6-16-09	
34	6-16-09	B10-B10A-B11	T	KS	0	SS	6-16-09	
35	6-16-09	B11-B12-B12A	T	KS	0	SS	6-16-09	
36	6-16-09	B11-B12A	Patch	KS	0	SS	6-16-09	SDT-6
37	6-16-09	B11-B12A	Patch	KS	0	SS	6-16-09	
38	6-16-09	B12A-B13	Patch	KS	0	SS	6-16-09	
39	6-16-09	B12-B12A-B13	T	KS	0	SS	6-16-09	
40	6-17-09	B13-B14	Patch	KS	0	SS	6-17-09	SDT-7
41	6-17-09	B13-B14-B14A	T	KS	0	SS	6-17-09	
42	6-17-09	B14A-B15	Patch	KS	0	SS	6-17-09	
43	6-17-09	B14-B14A-B15	T	KS	0	SS	6-17-09	
44	6-17-09	B14-B15	Patch	KS	0	SS	6-17-09	
45	6-17-09	E1-E2-E4	T	KS	0	SS	6-17-09	

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GEOMEMBRANE SEAM VACUUM TEST AND DEFECT REPAIR LOG

PROJECT NAME:	Basin Pond 3 - Secondary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	2 of 2

	REPAIR DATE	PANEL	TYPE OF REPAIR	REPAIR TECH	NUMBER OF LEAKS	TESTING TECH ID	DATE ACCEPTED	LOCATION
1	6-17-09	E2-E3-E4	T	KS	0	SS	6-17-09	
2	6-17-09	E1-E5-B15	T	KS	0	SS	6-17-09	
3	6-17-09	E1-E4-E5	T	KS	0	SS	6-17-09	
4	6-17-09	E5-E6	Patch	KS	0	SS	6-17-09	SDT-9
5	6-17-09	B15-E5-E6	T	KS	0	SS	6-17-09	
6	6-17-09	B15-E6-E7	T	KS	0	SS	6-17-09	
7	6-17-09	B15-E7-E8	T	KS	0	SS	6-17-09	
8	6-17-09	E8-E9-E9A	T	KS	0	SS	6-17-09	
9	6-17-09	B15-E8-E9A	T	KS	0	SS	6-17-09	
10	6-17-09	E9-E9A-E10	T	KS	0	SS	6-17-09	
11	6-17-09	B15-E9A-E10	T	KS	0	SS	6-17-09	
12	6-17-09	E10-E11-E14	T	KS	0	SS	6-17-09	
13	6-17-09	B15-E10-E14	T	KS	0	SS	6-17-09	
14	6-17-09	E14-B15	Patch	KS	0	SS	6-17-09	SDT-8
15	6-17-09	E11-E13-E14	T	KS	0	SS	6-17-09	
16	6-17-09	E11-E12-E13	Patch	KS	0	SS	6-17-09	
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.10. Secondary Geomembrane Seam Field Destructive Test Records

FIELD DESTRUCTIVE TEST RECORD

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3 Secondary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Systems Inc.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1

PROJECT SPECIFICATIONS					
FUSION	TEXTURED:	PEEL	90	SHEAR	120
	SMOOTH:	PEEL	90	SHEAR	120
EXTRUSION	TEXTURED:	PEEL	78	SHEAR	120
	SMOOTH:	PEEL	78	SHEAR	120

DATE	DT #	QC INITIALS	WELDER'S INITIALS	MACHINE NUMBER	WEDGE WELDS		EXTRUSION		PULL	FIELD TEST RESULTS					COMMENTS
					Temperature	Speed	Barrel Temp	Pre-Heat Temp		Test #1	Test #2	Test #3	Test #4	Test #5	
6-16-09	S-1	DG	MB	1	750	7.0	-	-	P	121	135	136	136	143	W13-B1
									P	125	130	141	139	136	28' South of North
									S	199	199	196	195	194	Anchor Trench
6-16-09	S-2	DG	JM	2	750	7.0	-	-	P	131	135	132	135	131	B2-B3A
									P	136	135	139	136	137	110' South of North
									S	189	182	187	182	181	Anchor Trench
6-16-09	S-3	DG	JM	2	750	7.0	-	-	P	145	136	132	130	134	B4-B5A
									P	141	135	134	136	138	60' North of South
									S	165	186	185	180	184	Anchor Trench
6-16-09	S-4	DG	JM	2	750	7.0	-	-	P	143	131	135	129	115	B6-B7A
									P	137	137	134	126	127	25' North of South
									S	180	180	181	180	165	Anchor Trench
6-16-09	S-5	DG	JM	2	750	7.8	-	-	P	119	138	131	129	121	B9-B10C
									P	143	141	135	149	117	65' North of South
									S	165	171	173	174	172	Anchor Trench
6-16-09	S-6	DG	MB	1	750	7.7	-	-	P	127	139	124	125	124	B11-B12A
									P	130	129	140	152	132	75' North of South
									S	171	168	168	168	168	Anchor Trench
6-16-09	S-7	DG	MB	1	750	7.7	-	-	P	123	133	144	136	119	B13-B14
									P	131	127	114	117	104	140' North of South
									S	168	175	175	166	167	Anchor Trench
6-17-09	S-8	DG	MB	1	750	7.5	-	-	P	122	115	115	117	111	B15-E14
									P	115	124	130	114	115	40' South of North
									S	179	177	177	180	127	Anchor Trench
6-17-09	S-9	DG	MB	1	750	7.5	-	-	P	135	137	118	135	136	E5-E6
									P	124	120	140	117	117	30' West of East
									S	176	172	168	176	168	Anchor Trench
									P						
									P						
									S						
									P						
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.11. Primary Geomembrane Pre-weld Qualification Test Logs

GEOMEMBRANE PRE-WELD QUALIFICATION TEST LOG

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3 - Primary Liner	**PROJECT NUMBER:**	250.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Systems
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 2

PROJECT SPECIFICATIONS					
FUSION	TEXTURED:	PEEL	90	SHEAR	120
	SMOOTH:	PEEL	90	SHEAR	120
EXTRUSION	TEXTURED:	PEEL	78	SHEAR	120
	SMOOTH:	PEEL	78	SHEAR	120

DATE	TIME	QC INITIALS	WELDER'S INITIALS	MACHINE NUMBER	WEDGE WELDS		EXTRUSION WELDS		PULL	FIELD TEST RESULTS				
					Temperature	Speed	Barrel Temp	Pre-Heat Temp		Test #1	Test #2	Test #3	Test #4	Test #5
6-22-09	09:00	DG	JM	2	750	7.5	-	-	P	120	134	130	-	-
									P	130	126	125	-	-
									S	149	148	151	-	-
6-22-09	09:10	DG	MB	1	750	7.5	-	-	P	121	117	110	-	-
									P	114	117	121	-	-
									S	147	142	147	-	-
6-22-09	11:47	DG	DY	2	-	-	495	310	P	130	123	130	-	-
									P	-	-	-	-	-
									S	141	145	137	-	-
6-22-09	12:45	DG	MB	1	750	7.9	-	-	P	112	115	112	-	-
									P	117	117	110	-	-
									S	136	137	136	-	-
6-22-09	12:55	DG	JM	2	750	7.9	-	-	P	116	127	115	-	-
									P	126	121	110	-	-
									S	132	132	127	-	-
6-23-09	07:20	DG	MB	1	750	7.5	-	-	P	111	111	107	-	-
									P	114	125	149	-	-
									S	156	152	151	-	-
6-23-09	07:30	DG	JM	2	750	7.0	-	-	P	117	118	109	-	-
									P	137	121	135	-	-
									S	151	160	157	-	-
6-23-09	07:38	DG	DY	2	-	-	495	305	P	111	130	111	-	-
									P	-	-	-	-	-
									S	148	155	144	-	-
6-23-09	11:10	DG	KS	4	-	-	495	300	P	101	99	100	-	-
									P	-	-	-	-	-
									S	149	140	139		
6-23-09	12:40	DG	DY	2	-	-	495	300	P	120	110	107	-	-
									P	-	-	-	-	-
									S	139	141	139	-	-
6-23-09	12:50	DG	MB	3	-	-	495	300	P	112	123	116	-	-
									P	-	-	-	-	-
									S	134	139	124	-	-

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GEOMEMBRANE PRE-WELD QUALIFICATION TEST LOG

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3 - Primary Liner	PROJECT NUMBER:	250.01.01
CLIENT:	Basin Disposal Inc.	CONTRACTOR:	Southwest Liner Systems
PROJECT LOCATION:	Bloomfield, New Mexico	SHEET NUMBER:	2 of 2

PROJECT SPECIFICATIONS					
FUSION	TEXTURED:	PEEL	90	SHEAR	120
	SMOOTH:	PEEL	90	SHEAR	120
EXTRUSION	TEXTURED:	PEEL	78	SHEAR	120
	SMOOTH:	PEEL	78	SHEAR	120

DATE	TIME	QC INITIALS	WELDER'S INITIALS	MACHINE NUMBER	WEDGE WELDS		EXTRUSION WELDS		PULL	FIELD TEST RESULTS				
					Temperature	Speed	Barrel Temp	Pre-Heat Temp		Test #1	Test #2	Test #3	Test #4	Test #5
6-24-09	07:28	JZ	MB	3	-	-	495	300	P	116	117	120	-	-
									P	-	-	-	-	-
									S	157	159	161	-	-
6-24-09	07:36	JZ	DY	2	-	-	495	300	P	106	97	111	-	-
									P	-	-	-	-	-
									S	151	150	147	-	-
6-24-09	07:42	JZ	KS	4	-	-	495	310	P	106	107	109	-	-
									P	-	-	-	-	-
									S	147	151	150	-	-
									P					
									P					
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.12. Primary Geomembrane Seaming Log

GEOMEMBRANE SEAMING LOG

PROJECT NAME: Basin Pond 3 - Primary Liner
CLIENT: Basin Disposal Inc.
PROJECT LOCATION: Bloomfield, New Mexico
PROJECT NUMBER: 520.01.01
CONTRACTOR: Southwest Lining Systems Inc.
SHEET NUMBER: 1 of 2

	DATE	PANEL #/PANEL #	APPROX. LENGTH WELDED	START TIME	SEAMER INITIALS	MACHINE #	TEMP SETTING	SPEED SETTING	DESTRUCTIVE TEST	MONITORED BY
1	6-22-09	W1-W2	12'	10:45	MB	1	750	7.5	PDT-1	DG
2	6-22-09	W1/2-W3/4	70'	11:15	JM	2	750	7.5	-	DG
3	6-22-09	W3-W4	15'	10:57	JM	2	750	7.5	-	DG
4	6-22-09	W4-W5	49'	10:33	MB	1	750	7.5	-	DG
5	6-22-09	W5-W6	49'	10:46	JM	2	750	7.5	-	DG
6	6-22-09	W6-W7	49'	10:35	JM	2	750	7.5	-	DG
7	6-22-09	W7-W8	52'	10:21	JM	2	750	7.5	-	DG
8	6-22-09	W8-W9	52'	10:10	JM	2	750	7.5	-	DG
9	6-22-09	W9-W10/13	52'	10:23	MB	1	750	7.5	-	DG
10	6-22-09	W10-W11	12'	09:55	MB	1	750	7.5	-	DG
11	6-22-09	W10/11-W12/13	70'	10:11	MB	1	750	7.5	-	DG
12	6-22-09	W12-W13	14'	10:00	JM	2	750	7.5	-	DG
13	6-22-09	W13/10 to 3/1-B1/A	218'	11:28	MB	1	750	7.5	-	DG
14	6-22-09	B1-B1A	22'	11:15	MB	1	750	7.5	-	DG
15	6-22-09	B1/A-B2	218'	10:30	JM	2	750	7.5	-	DG
16	6-22-09	B2-B3	218'	13:08	MB	1	750	7.9	PDT-2	DG
17	6-22-09	B3-B4	218'	13:21	JM	2	750	7.9	-	DG
18	6-22-09	B4-B5	218'	13:42	MB	1	750	7.9	PDT-3	DG
19	6-22-09	B5-B6/A/B/C	218'	14:24	JM	2	750	7.8	-	DG
20	6-22-09	B6-B6A	22'	14:15	JM	2	750	7.9	-	DG
21	6-22-09	B6A-B6B	22'	14:05	JM	2	750	7.9	-	DG
22	6-22-09	B6B-B6C	22'	14:00	JM	2	750	7.9	-	DG
23	6-22-09	B6/A/B/C-B7	218'	14:22	MB	1	750	7.9	-	DG
24	6-22-09	B7-B8/A	218'	15:05	JM	2	750	7.9	PDT-4	DG
25	6-22-09	B8-B8A	22'	15:00	JM	2	750	7.9	-	DG
26	6-23-09	B8/A-B9	218'	07:31	MB	1	750	7.5	-	DG
27	6-23-09	B9-B10	218'	07:45	JM	2	750	7.0	PDT-5	DG
28	6-23-09	B10-B11	218'	08:20	JM	2	750	7.0	-	DG
29	6-23-09	B11-B12	218'	08:07	MB	1	750	7.5	PDT-6	DG
30	6-23-09	B12-B13/A	218'	08:46	MB	1	750	7.5	-	DG

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GEOMEMBRANE SEAMING LOG

PROJECT NAME: Basin Pond 3 - Primary Liner
CLIENT: Basin Disposal Inc.
PROJECT LOCATION: Bloomfield, New Mexico
PROJECT NUMBER: 520.01.01
CONTRACTOR: Southwest Lining Systems Inc.
SHEET NUMBER: 2 of 2

	DATE	PANEL #/PANEL #	APPROX. LENGTH WELDED	START TIME	SEAMER INITIALS	MACHINE #	TEMP SETTING	SPEED SETTING	DESTRUCTIVE TEST	MONITORED BY
1	6-23-09	B13-B13A	22'	08:38	MB	1	750	7.5	-	DG
2		B13/A-B14	218'	08:57	JM	2	750	7.0	-	DG
3		B14-B15/A	218'	09:30	MB	1	750	7.0	PDT-7	DG
4		B15-B15A	22'	09:19	MB	1	750	7.5	-	DG
5		B15/A-E14/10 to 4/1	218'	11:17	MB	1	750	7.5	-	DG
6		E14-E13	15'	10:52	MB	1	750	7.5	-	DG
7		E10/11/12-E13/14	70'	11:06	MB	1	750	7.5	-	DG
8		E11-E12	10'	11:43	MB	1	750	7.5	-	DG
9		E10-E11	40'	10:35	MB	1	750	7.5	-	DG
10		E9-E10	52'	10:23	MB	1	750	7.5	-	DG
11		E8-E9	52'	10:12	MB	1	750	7.5	-	DG
12		E7-E8	52'	10:02	MB	1	750	7.5	PDT-8	DG
13		E6-E7	52'	10:52	JM	2	750	7.0	-	DG
14		E5-E6	52'	10:40	JM	2	750	7.0	-	DG
15		E4/1-E5	52'	10:27	JM	2	750	7.0	-	DG
16		E1-E2	20'	09:35	JM	2	750	7.0	PDT-9	DG
17		E1/2-E3/4	70'	10:10	JM	2	750	7.0	-	DG
18		E3-E4	10'	09:46	JM	2	750	7.0	-	DG
19										
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.13. Primary Geomembrane Seam Pressure Test Log

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT INFORMATION				PROJECT SPECIFICATIONS
PROJECT NAME: Basin Pond 3 - Primary	**PROJECT NUMBER:** 520.01.01	**MIN START PSI:** 30psi
CLIENT: Basin Disposal Inc.	**CONTRACTOR:** Southwest Lining Sys.	**TEST DURATION:** 5 mins
PROJECT LOCATION: Bloomfield, NM	**SHEET NUMBER:** 1 of 1	**MAX PSI DROP:** 3psi

	DATE	PANEL #/PANEL #	TESTER	TIME		PRESSURE		MONITORED BY	PASS/FAIL
				START	FINISH	INITIAL	FINAL		
1	6-22-09	W1-W2	GB	13:05	13:10	40	40	DG	PASS
2	6-22-09	W1/2-W3/4	GB	13:02	13:07	40	40	DG	PASS
3	6-22-09	W3-W4	GB	12:58	13:03	40	38	DG	PASS
4	6-22-09	W4-W5	GB	12:54	12:59	40	39	DG	PASS
5	6-22-09	W5-W6	GB	12:51	12:56	40	38	DG	PASS
6	6-22-09	W6-W7	GB	11:58	12:03	40	39	DG	PASS
7	6-22-09	W7-W8	GB	11:54	11:59	40	40	DG	PASS
8	6-22-09	W8-W9	GB	11:51	11:56	40	39	DG	PASS
9	6-22-09	W9-W10/13	GB	11:49	11:54	40	40	DG	PASS
10	6-22-09	W10-W11	GB	11:47	11:52	40	40	DG	PASS
11	6-22-09	W10/11-W12/13	GB	11:43	11:48	40	40	DG	PASS
12	6-22-09	W12-W13	GB	11:42	11:47	40	39	DG	PASS
13	6-22-09	B1-B1A	GB	13:31	13:36	40	39	DG	PASS
14	6-22-09	B1/A-W13/9 to 5/2/1	GB	13:21	13:26	40	40	DG	PASS
15	6-22-09	B1/A-B2	GB	13:24	13:29	40	38	DG	PASS
16	6-22-09	B2-B3	GB	13:48	13:53	40	37	DG	PASS
17	6-22-09	B3-B4	GB	13:54	13:59	40	39	DG	PASS
18	6-22-09	B4-B5	GB	14:31	14:36	40	37	DG	PASS
19	6-22-09	B5-B6/A/B/C	GB	15:02	15:07	40	37	DG	PASS
20	6-22-09	B6-B6A	GB	14:23	14:28	40	40	DG	PASS
21	6-22-09	B6A-B6B	GB	14:13	14:18	40	40	DG	PASS
22	6-22-09	B6B-B6C	GB	14:07	14:12	40	40	DG	PASS
23	6-22-09	B6C-B7	GB	15:28	15:33	40	40	DG	PASS
24	6-22-09	B6B-B7	GB	15:28	15:33	40	40	DG	PASS
25	6-22-09	B6A-B7	GB	15:29	15:34	40	40	DG	PASS
26	6-22-09	B7-B6	GB	15:45	15:50	40	37	DG	PASS
27	6-23-09	B7-B8/A	GB	07:09	07:14	40	37	DG	PASS
28	6-23-09	B8-B8A	GB	07:21	07:26	40	40	DG	PASS
29	6-23-09	B8/A-B9	GB	08:15	08:20	40	37	DG	PASS
30	6-23-09	B9-B10	GB	08:18	08:23	40	38	DG	PASS
31	6-23-09	B10-B11	GB	08:59	09:04	40	38	DG	PASS
32	6-23-09	B11-B12	GB	09:00	09:05	40	40	DG	PASS
33	6-23-09	B12-B13/A	GB	09:17	09:22	40	37	DG	PASS
34	6-23-09	B13-B13A	GB	08:47	08:52	40	37	DG	PASS
35	6-23-09	B13/A-B14	GB	09:26	09:31	40	38	DG	PASS
36	6-23-09	B14-B15/A	GB	10:08	10:13	40	40	DG	PASS
37	6-23-09	B15-B15A	GB	09:30	09:33	40	40	DG	PASS
38	6-23-09	E4-E2	GB	10:31	10:36	40	40	DG	PASS
39	6-23-09	E1-E2	GB	09:37	09:42	40	40	DG	PASS
40	6-23-09	E1-E4	GB	10:32	10:37	40	40	DG	PASS
41	6-23-09	E4-E5	GB	10:38	10:42	40	40	DG	PASS
42	6-23-09	E5-E6	GB	10:49	10:54	40	40	DG	PASS
43	6-23-09	E6-E7	GB	10:01	10:06	40	40	DG	PASS
44	6-23-09	E7-E8	GB	10:57	11:02	40	40	DG	PASS
45	6-23-09	E8-E9	GB	11:02	11:07	40	37	DG	PASS
46	6-23-09	E9-E10	GB	11:09	11:14	40	38	DG	PASS
47	6-23-09	E10-E11	GB	11:13	11:18	40	40	DG	PASS
48	6-23-09	E2-E3	GB	10:25	10:30	40	40	DG	PASS
49	6-23-09	E3-E4	GB	09:52	09:57	40	40	DG	PASS
50	6-23-09	E11-E12	GB	11:18	11:23	40	40	DG	PASS
51	6-23-09	E12/11/10-E13	GB	11:21	11:26	40	40	DG	PASS
52	6-23-09	E13-E14	GB	11:25	11:30	40	38	DG	PASS
53	6-23-09	E14-E15	GB	11:33	11:38	40	39	DG	PASS
54	6-23-09	B15/A-E9 to 4/1	GB	12:58	13:03	40	37	DG	PASS
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.14. Primary Geomembrane Seam Vacuum Test and Defect-repair Log

GEOMEMBRANE SEAM VACUUM TEST AND DEFECT REPAIR LOG

PROJECT NAME:	Basin Pond 3 - Primary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 2

	REPAIR DATE	PANEL	TYPE OF REPAIR	REPAIR TECH	NUMBER OF LEAKS	TESTING TECH ID	DATE ACCEPTED	LOCATION
1	6-22-09	W1-W3	Patch	DY	0	SS	6-23-09	
2	6-22-09	W1-W2-W3	T	DY	0	SS	6-23-09	
3	6-22-09	W1-W2	Patch	DY	0	SS	6-23-09	PDT-1
4	6-22-09	W1-W3-W4	T	DY	0	SS	6-23-09	
5	6-22-09	B1A-W1-W4	T	DY	0	SS	6-23-09	
6	6-22-09	B1A-W4-W5	T	DY	0	SS	6-23-09	
7	6-22-09	B1A-W5-W6	T	DY	0	SS	6-23-09	
8	6-22-09	B1A-W6-W7	T	DY	0	SS	6-23-09	
9	6-22-09	B1A-W7-W8	T	DY	0	SS	6-23-09	
10	6-22-09	B1A-W8-W9	T	DY	0	SS	6-23-09	
11	6-22-09	B1-B1A-W9	T	DY	0	SS	6-23-09	
12	6-22-09	B1-W9-W13	T	DY	0	SS	6-23-09	
13	6-22-09	W9-W10-W13	T	DY	0	SS	6-23-09	
14	6-22-09	W10-W11-W12	T	DY	0	SS	6-23-09	
15	6-22-09	W10-W12-13	T	DY	0	SS	6-23-09	
16	6-22-09	B1-B1A-B2	T	DY	0	SS	6-23-09	
17	6-23-09	B2-B3	Patch	DY	0	SS	6-23-09	PDT-2
18	6-23-09	B4-B5	Patch	DY	0	SS	6-23-09	PDT-3
19	6-23-09	B6C	4 Beads	DY	0	SS	6-23-09	
20	6-23-09	B5-B6B-B6C	T	DY	0	SS	6-23-09	
21	6-23-09	B5-B6A-B6B	T	DY	0	SS	6-23-09	
22	6-23-09	B5-B6-B6A	T	DY	0	SS	6-23-09	
23	6-23-09	B6-B7	Bead	DY	0	SS	6-23-09	
24	6-23-09	B6-B6A-B7	Patch	DY	0	SS	6-23-09	
25	6-23-09	B6A-B6B-B7	Patch	DY	0	SS	6-23-09	
26	6-23-09	B6B-B6C-B7	Patch	DY	0	SS	6-23-09	
27	6-23-09	B7-B8-B8A	T	DY	0	SS	6-23-09	
28	6-23-09	B7-B8	Patch	DY	0	SS	6-23-09	PDT-4
29	6-23-09	B7-B8A	Patch	DY	0	SS	6-23-09	
30	6-23-09	B8-B8A-B9	T	DY	0	SS	6-23-09	
31	6-23-09	B9-B10	Bead	DY	0	SS	6-23-09	
32	6-23-09	B9-B10	Patch	DY	0	SS	6-23-09	PDT-5
33	6-23-09	B11-B12	Patch	DY	0	SS	6-23-09	PDT-6
34	6-23-09	B12-B13-B13A	T	DY	0	SS	6-23-09	
35	6-23-09	B13-B13A	Patch	DY	0	SS	6-23-09	
36	6-23-09	B13-B13A-B14	T	DY	0	SS	6-23-09	
37	6-23-09	B13	Patch	DY	0	SS	6-23-09	
38	6-23-09	B14-B15	Patch	DY	0	SS	6-23-09	PDT-7
39	6-23-09	B14-B15-B15A	T	DY	0	SS	6-23-09	
40	6-23-09	B15A-E1-E5	T	DY	0	SS	6-23-09	
41	6-23-09	E1-E4-E5	Patch	DY	0	SS	6-23-09	
42	6-23-09	E1-E2	Patch	DY	0	SS	6-23-09	PDT-9
43	6-23-09	E1-E2-E4	Patch	DY	0	SS	6-23-09	
44	6-23-09	E2-E3-E4	Patch	DY	0	SS	6-23-09	
45	6-23-09	E2-E3	T	DY	0	SS	6-23-09	

REVIEWED BY: _____

GEOMEMBRANE SEAM VACUUM TEST AND DEFECT REPAIR LOG

PROJECT NAME:	Basin Pond 3 - Primary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	2 of 2

	REPAIR DATE	PANEL	TYPE OF REPAIR	REPAIR TECH	NUMBER OF LEAKS	TESTING TECH ID	DATE ACCEPTED	LOCATION
1	6-23-09	E6-E7-B15A	T	DY	0	SS	6-23-09	
2	6-23-09	E7-E8-B15A	T	DY	0	SS	6-23-09	
3	6-23-09	E7-E8	Patch	DY	0	SS	6-23-09	PDT-8
4	6-23-09	B15-E8-E9	T	DY	0	SS	6-23-09	
5	6-23-09	B15-E9-E10	Patch	DY	0	SS	6-23-09	
6	6-23-09	B15-E10-E14	Patch	DY	0	SS	6-23-09	
7	6-23-09	E10-E11-E14	T	DY	0	SS	6-23-09	
8	6-23-09	E11-E13-E14	T	DY	0	SS	6-23-09	
9	6-23-09	E11-E12-E13	T	DY	0	SS	6-23-09	
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.15. Primary Geomembrane Seam Field Destructive Test Records

FIELD DESTRUCTIVE TEST RECORD

PROJECT INFORMATION			
PROJECT NAME:	Basin Pond 3 Primary Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Systems Inc.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1

PROJECT SPECIFICATIONS					
FUSION	TEXTURED:	PEEL	90	SHEAR	120
	SMOOTH:	PEEL	90	SHEAR	120
EXTRUSION	TEXTURED:	PEEL	78	SHEAR	120
	SMOOTH:	PEEL	78	SHEAR	120

DATE	DT #	QC INITIALS	WELDER'S INITIALS	MACHINE NUMBER	WEDGE WELDS		EXTRUSION		PULL	FIELD TEST RESULTS					COMMENTS
					Temperature	Speed	Barrel Temp	Pre-Heat Temp		Test #1	Test #2	Test #3	Test #4	Test #5	
6-22-09	P-1	DG	MB	1	750	7.9	-	-	P	110	129	147	120	127	W1-W2 15' South of North Anchor Trench
									P	117	116	126	119	120	
									S	159	159	159	140	163	
6-22-09	P-2	DG	MB	1	750	7.9	-	-	P	119	132	124	122	121	B2-B3 60' South of North Anchor Trench
									P	130	135	145	149	150	
									S	160	159	164	169	164	
6-22-09	P-3	DG	MB	1	750	7.9	-	-	P	120	141	134	127	110	B4-B5 150' South of North Anchor Trench
									P	127	137	136	119	141	
									S	171	162	152	147	168	
6-23-09	P-4	DG	JM	2	750	7.0	-	-	P	150	129	141	131	134	B7-B8 80' South of North Anchor Trench
									P	127	144	152	145	146	
									S	173	159	170	171	170	
6-23-09	P-5	DG	JM	2	750	7.5	-	-	P	137	124	134	135	137	B9-B10 80' North of South Anchor Trench
									P	132	132	136	131	127	
									S	167	161	165	162	161	
6-23-09	P-6	DG	MB	1	750	7.5	-	-	P	125	135	121	120	130	B11-B12 55' North of South Anchor Trench
									P	125	122	131	129	127	
									S	171	170	172	171	171	
6-23-09	P-7	DG	MB	1	750	7.5	-	-	P	144	122	123	125	125	B14-B15 30' North of South Anchor Trench
									P	144	145	143	143	146	
									S	166	167	171	169	170	
6-23-09	P-8	DG	MB	1	750	7.5	-	-	P	141	142	146	137	126	E7-E8 40' West of East Anchor Trench
									P	144	135	127	145	145	
									S	165	170	161	171	170	
6-23-09	P-9	DG	JM	2	750	7.5	-	-	P	131	128	130	132	126	E1-E2 25' South of North Anchor Trench
									P	129	135	136	132	131	
									S	170	169	171	168	171	
									P						
									P						
									S						
									P						
									P						
									S						

REVIEWED BY: _____

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.16. Textured FML Deployment Log

TEXTURED FML DEPLOYMENT LOG

PROJECT NAME:	Basin Evaporation Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Sothwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexcio	**SHEET NUMBER:**	1 of 1

PANEL NUMBER	ROLL NUMBER	APPROXIMATE LENGTH (FT)	APPROXIMATE WIDTH (FT)	APPROXIMATE AREA (FT^2)	DATE INSTALLED
S1	103148930	40.0	22.5	900.0	6-24-09
S2	103148930	40.0	11.25	450.0	6-24-09
S3	103148930	40.0	11.25	450.0	6-24-09
S4	103148930	40.0	11.25	450.0	6-23-09
W1	103148942	40.0	11.25	450.0	6-23-09
N1	103148942	40.0	11.25	450.0	6-23-09
N1	103148942	40.0	11.25	450.0	6-23-09
N3	103148942	40.0	11.25	450.0	6-23-09
E1	103148942	40.0	11.25	450.0	6-23-09
E2	103148942	40.0	11.25	450.0	6-23-09
E3	103148942	40.0	11.25	450.0	6-23-09
TOTAL LINER PLACED (FT^2):				5,400.0	

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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.17. Textured Liner Seam Vacuum Test Log

GEOMEMBRANE SEAM VACUUM TEST AND DEFECT REPAIR LOG

PROJECT NAME:	Basin Pond 3 - Textured Liner	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1

	REPAIR DATE	PANEL	TYPE OF REPAIR	REPAIR TECH	NUMBER OF LEAKS	TESTING TECH ID	DATE ACCEPTED	LOCATION
1	6-24-09	S1	Seam	DY	0	SS	6-24-09	
2	6-24-09	S2	Seam	DY	0	SS	6-24-09	
3	6-24-09	S3	Seam	DY	0	SS	6-24-09	
4	6-23-09	S4	Seam	DY	0	SS	6-24-09	
5	6-23-09	W1	Seam	DY	0	SS	6-24-09	
6	6-23-09	N1	Seam	DY	0	SS	6-24-09	
7	6-23-09	N2	Seam	DY	0	SS	6-24-09	
8	6-23-09	N3	Seam	DY	0	SS	6-24-09	
9	6-23-09	E1	Seam	DY	0	SS	6-24-09	
10	6-23-09	E2	Seam	DY	0	SS	6-24-09	
11	6-23-09	E3	Seam	DY	0	SS	6-24-09	
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REVIEWED BY: RAH

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.18. GCL Inventory Control Log

GCL INVENTORY CONTROL LOG

PROJECT NAME:	Basin Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Sys.
PROJECT LOCATION:	Bloomfield, NM	**SHEET NUMBER:**	1 of 1
MATERIAL TYPE:	GCL	**DATE OF INVENTORY:**	See Below
MATERIAL IDENTIFICATION:	Bentomat ST	**INVENTORY MONITOR:**	Don Gray
MATERIAL MANUFACTURER:	CETCO	**UNLOADING METHOD:**	Stinger

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			MANUF. QC CERT. (Y/N)	CONFORMANCE SAMPLE (Y/N)	DATE OF INVENTORY
			LENGTH (FT)	WIDTH (FT)	WEIGHT (LBS)			
1	00002901	200829LO	150.0	15.0	2550.0	Y	Y	6-15-09
2								
3								
4								
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REVIEWED BY: _____

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.19. Geonet Inventory Control Log

GEONET INVENTORY CONTROL LOG

PROJECT NAME:	Basin Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Lining Sys.
PROJECT LOCATION:	Bloomfield, NM	**SHEET NUMBER:**	1 of 1
MATERIAL TYPE:	200 mil geonet	**DATE OF INVENTORY:**	See Below
MATERIAL IDENTIFICATION:	GN-200-325	**INVENTORY MONITOR:**	Don Gray
MATERIAL MANUFACTURER:	Poly-Flex	**UNLOADING METHOD:**	Lift and Straps

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			MANUF. QC CERT. (Y/N)	CONFORMANCE SAMPLE (Y/N)	DATE OF INVENTORY
			LENGTH (FT)	WIDTH (FT)	WEIGHT (LBS)			
1	GN-200-08-0545-325	CWK610841	325.0	14.0	830.0	Y	N	6-15-09
2	GN-200-08-0529-325	CWK610841	325.0	14.0	835.0	Y	N	6-15-09
3	GN-200-08-0530-325	CWK610841	325.0	14.0	810.0	Y	Y	6-15-09
4	GN-200-08-0537-325	CWK610841	325.0	14.0	820.0	Y	N	6-15-09
5	GN-200-08-0531-325	CWK610841	325.0	14.0	840.0	Y	N	6-15-09
6	GN-200-08-0518-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
7	GN-200-08-0515-325	CWK610841	325.0	14.0	820.0	Y	N	6-15-09
8	GN-200-08-0510-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
9	GN-200-08-0522-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
10	GN-200-08-0535-325	CWK610841	325.0	14.0	823.0	Y	N	6-15-09
11	GN-200-08-0533-325	CWK610841	325.0	14.0	818.0	Y	N	6-15-09
12	GN-200-08-0302-325	CWK610841	325.0	14.0	845.0	Y	N	6-15-09
13	GN-200-08-0534-325	CWK610841	325.0	14.0	820.0	Y	N	6-15-09
14	GN-200-08-0543-325	CWK610841	325.0	14.0	830.0	Y	N	6-15-09
15	GN-200-08-0544-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
16	GN-200-08-0549-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
17	GN-200-08-0525-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
18	GN-200-08-0524-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
19	GN-200-08-0539-325	CWK610841	325.0	14.0	823.0	Y	N	6-15-09
20	GN-200-08-0542-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
21	GN-200-08-0517-325	CWK610841	325.0	14.0	820.0	Y	N	6-15-09
22	GN-200-08-0538-325	CWK610841	325.0	14.0	820.0	Y	N	6-15-09
23	GN-200-08-0536-325	CWK610841	325.0	14.0	825.0	Y	N	6-15-09
24	GN-200-08-0528-325	CWK610841	325.0	14.0	835.0	Y	N	6-15-09
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REVIEWED BY: MKH

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.20. FML Inventory Control Log

FML INVENTORY CONTROL LOG

PROJECT NAME:	Basin Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1
MATERIAL TYPE:	60 mil Smooth HDPE	**DATE OF INVENTORY:**	See Below
MATERIAL IDENTIFICATION:	GHS-060-0500	**INVENTORY MONITOR:**	Don Gray
MATERIAL MANUFACTURER:	Poly-Flex Inc.	**UNLOADING METHOD:**	Lift and Straps

	ROLL NUMBER	BLEND NO. OR LOT NO.	MATERIAL DIMENSIONS			MANUF. QC CERT. (Y/N)	CONFORMANCE SAMPLE (Y/N)	DATE INVENTORIED
			LENGTH (FT)	WIDTH (FT)	WEIGHT (LBS)			
1	HS2-6-09-0708-5	CO81231LO3	500.0	23.0	3503.0	Y	N	6-15-09
2	HS2-6-09-0719-5	CO81231LO3	500.0	23.0	3505.0	Y	N	6-15-09
3	HS2-6-09-0709-5	CO81231LO3	500.0	23.0	3500.0	Y	N	6-15-09
4	HS2-6-09-0710-5	CO81231LO3	500.0	23.0	3498.0	Y	N	6-15-09
5	HS2-6-09-0707-5	CO81231LO3	500.0	23.0	3502.0	Y	N	6-15-09
6	HS2-6-09-0723-5	CO81226LO4	500.0	23.0	3497.0	Y	N	6-15-09
7	HS2-6-09-0716-5	CO81231LO3	500.0	23.0	3506.0	Y	N	6-15-09
8	HS2-6-09-0720-5	CO81231LO3	500.0	23.0	3503.0	Y	N	6-15-09
9	HS2-6-09-0711-5	CO81231LO3	500.0	23.0	3504.0	Y	N	6-15-09
10	HS2-6-09-0713-5	CO81231LO3	500.0	23.0	3499.0	Y	Y	6-15-09
11	HS2-6-09-0717-5	CO81231LO3	500.0	23.0	3507.0	Y	N	6-15-09
12	HS2-6-09-0715-5	CO81231LO3	500.0	23.0	3503.0	Y	N	6-15-09
13	HS2-6-09-0721-5	CO81226LO4	500.0	23.0	3505.0	Y	N	6-15-09
14	HS2-6-09-0712-5	CO81231LO3	500.0	23.0	3509.0	Y	N	6-15-09
15	HS2-6-09-0722-5	CO81226LO4	500.0	23.0	3500.0	Y	Y	6-15-09
16	HS2-6-09-0729-5	CO81226LO4	500.0	23.0	3500.0	Y	N	6-15-09
17	HS2-6-09-0714-5	CO81231LO3	500.0	23.0	3505.0	Y	N	6-15-09
18	HS2-6-09-0727-5	CO81226LO4	500.0	23.0	3505.0	Y	N	6-15-09
19	HS2-6-09-0718-5	CO81231LO3	500.0	23.0	3503.0	Y	N	6-15-09
20	Textured							
21	1013148942	8281601	Partial	22.5	N/A	Y	N	6-15-09
22	1013148930	8281601	Partial	22.5	N/A	Y	Y	6-22-09
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APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.21. Geotextile Inventory Control Log

GEOTEXTILE INVENTORY CONTROL LOG

PROJECT NAME:	Basin Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1

MATERIAL TYPE:	Nonwoven Geotextile	**DATE OF INVENTORY:**	See Below
MATERIAL IDENTIFICATION:	GEOTEX 1291	**INVENTORY MONITOR:**	Don Gray
MATERIAL MANUFACTURER:	Propex Geosynthetics	**UNLOADING METHOD:**	Lift and Straps

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			MANUF. QC CERT. (Y/N)	CONFORMANCE SAMPLE (Y/N)	DATE INVENTORIED
			LENGTH (FT)	WIDTH (FT)	WEIGHT (LBS)			
1	2011217475	1004480	300.0	15.0	12oz/yd^2	Y	Y	6-15-09
2								
3								
4								
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REVIEWED BY: MAH

APPENDIX D

Evaporation Pond 3 Liner Installation Documentation

D.22. Leak Detection Sump Riser Pipe Inventory Control Log

LEAK DETECTION PIPE INVENTORY CONTROL LOG

PROJECT NAME:	Basin Pond 3	**PROJECT NUMBER:**	520.01.01
CLIENT:	Basin Disposal Inc.	**CONTRACTOR:**	Southwest Liner Sys.
PROJECT LOCATION:	Bloomfield, New Mexico	**SHEET NUMBER:**	1 of 1
MATERIAL TYPE:	SDR17 HDPE Pipe	**DATE OF INVENTORY:**	See Below
MATERIAL IDENTIFICATION:	Leachate Pipe and Fittings	**INVENTORY MONITOR:**	Don Gray
MATERIAL MANUFACTURER:	Performance Pipe	**UNLOADING METHOD:**	Lift and Straps

	TYPE	QUANTITY	MATERIAL DIMENSIONS			MANUF. QC CERT. (Y/N)	TOTAL LENGTH	DATE INVENTORIED
			LENGTH (FT)	DIAM. (IN)	PIPE SDR			
1	Solid	6	20'	4"	SDR17	Y	120'	6-15-09
2								
3								
4								
5								
6								
7								
8								
9								
10								
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APPENDIX E

Independent Laboratory FML Destructive Testing Results

TRI / Environmental, Inc.
A Texas Research International Company

June 17, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

E-mail: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project :	**Basin Disposal**
TRI Job Reference Number :	E2330-22-05
Material(s) Tested :	5 Heat Fusion Weld Seam(s)
Test(s) Requested :	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

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

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-22-05

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**DT-1**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	155	178	149	154	153	158
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	152	159	153	153	151	154
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	189	205	196	215	203	202
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**DT-2**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	147	140	138	148	148	144
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	137	136	148	143	143	141
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	205	199	199	196	199	200
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-22-05

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**DT-3**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	151	149	152	148	155	Peel A: 151
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	138	141	148	139	138	Peel B: 141
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	205	192	196	212	202	Shear: 201
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**DT-4**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	157	155	149	153	154	Peel A: 154
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	149	141	138	136	142	Peel B: 141
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	192	194	196	206	203	Shear: 198
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-22-05

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**DT-5**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	136	131	133	133	134	133
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	161	144	148	145	150	150
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	186	190	189	192	203	192
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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TRI / Environmental, Inc.
A Texas Research International Company

June 18, 2009

Mail To:

Mr. Mark DeCarlo
Southwest Liner Systems, Inc.
PO Box 1972
Bernalillo, NM 87004

E-mail: swls.md@gmail.com

Bill To:

<= Same

Dear Mr. DeCarlo:

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

Project :	**Basin Disposal**
TRI Job Reference Number :	E2330-24-08
Material(s) Tested :	4 Heat Fusion Weld Seam(s)
Test(s) Requested :	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

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

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-24-08

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**DT-6**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	155	135	165	139	114	142
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	143	146	140	159	142	146
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	197	192	203	192	192	195
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**DT-7**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	145	155	138	134	149	144
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	130	99	120	144	123	123
Side B	Peel Incursion (%)	<10	100	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	AD	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	NON-FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	185	191	182	189	184	186
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-24-08

		TEST REPLICATE NUMBER					
PARAMETER		**1**	**2**	**3**	**4**	**5**	**MEAN**
Sample ID:	**DT-8**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	151	144	145	151	135	Peel A: 145
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	137	146	143	144	146	Peel B: 143
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	198	199	198	208	208	Shear: 202
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**DT-9**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	141	138	139	147	143	Peel A: 142
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	147	136	147	159	150	Peel B: 148
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	197	202	195	196	194	Shear: 197
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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June 24, 2009

Mail To:	**Bill To:**
Mr. Mark DeCarlo	**<= Same**
Southwest Liner Systems, Inc.	
PO Box 1972	
Bernalillo, NM 87004	

E-mail: swls.md@gmail.com

Dear Mr. DeCarlo:

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

Project :	**Basin Disposal**
TRI Job Reference Number :	E2330-32-01
Material(s) Tested :	9 Heat Fusion Weld Seam(s)
Test(s) Requested :	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)

Codes	
AD	Adhesion failure (100% Peel)
BRK	Break in sheeting away from Seam edge
SE	Break in sheeting at edge of seam
AD-BRK	Break in sheeting after some adhesion failure - partial peel
SIP	Separation in the plane of the sheet (leaving the bond intact)
FTB	Film tearing bond (all non "AD" failures)
NON-FTB	100% peel

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

Sincerely,

Jennifer T. Tenney

Jennifer Tenney
Project Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-32-01

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**P-DT1**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	144	161	133	132	165	Peel A: 147
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	156	133	155	145	136	Peel B: 145
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	190	188	187	187	187	Shear: 188
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**P-DT2**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	167	141	153	169	172	Peel A: 160
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	137	144	149	154	142	Peel B: 145
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	196	195	194	197	198	Shear: 196
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-32-01

		TEST REPLICATE NUMBER					
PARAMETER		**1**	**2**	**3**	**4**	**5**	**MEAN**
Sample ID:	**P-DT3**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	165	139	130	171	139	149
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	153	154	156	157	150	154
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	192	189	188	191	194	191
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**P-DT4**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	174	142	145	146	147	151
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	148	148	151	150	149	149
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	190	189	189	192	192	190
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-32-01

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**P-DT5**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	140	137	136	135	144	Peel A: 138
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	140	152	133	143	137	Peel B: 141
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	195	197	196	198	200	Shear: 197
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**P-DT6**						
Weld:	**Heat Fusion**						
Side A	Peel Strength (ppi)	152	148	142	134	133	Peel A: 142
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side B	Peel Strength (ppi)	146	160	136	134	135	Peel B: 142
	Peel Incursion (%)	<10	<10	<10	<10	<10	
	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
	Shear Strength (ppi)	199	194	192	196	197	Shear: 196
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-32-01

	PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**P-DT7**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	162	161	163	141	117	149
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	142	141	139	162	150	147
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	193	196	191	193	194	193
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID:	**P-DT8**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	164	137	155	139	143	148
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	148	153	158	140	156	151
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	192	191	193	192	196	193
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Southwest Liner Systems, Inc.
Project: Basin Disposal

Material: 60 mil HDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54)
TRI Log #: E2330-32-01

PARAMETER		TEST REPLICATE NUMBER 1	2	3	4	5	MEAN
Sample ID:	**P-DT9**						
Weld:	**Heat Fusion**						
							Peel A
Side A	Peel Strength (ppi)	141	141	146	141	142	142
Side A	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side A	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side A	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Peel B
Side B	Peel Strength (ppi)	142	141	143	161	140	145
Side B	Peel Incursion (%)	<10	<10	<10	<10	<10	
Side B	Peel Locus of Failure Code	SE	SE	SE	SE	SE	
Side B	Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
							Shear
	Shear Strength (ppi)	198	196	197	197	200	198
	Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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APPENDIX F

Leak Detection System Certifications

F.1. Pipe Certification

PERFORMANCE PIPE
A Division of Chevron Phillips Chemical Company LP

PERFORMANCE PIPE
PO BOX 1060
BROWNWOOD TEXAS 76801

June 8, 2009

DriscoPlex® 4100 PRODUCT QUALITY CERTIFICATION

SOLD TO CUSTOMER: SCHEELE ENGINEERING CORPORATION
AKA SECOR
17321 GROESCHKE ROAD
HOUSTON TX 77084
USA

SHIP TO CUSTOMER: SECOR
705 RANKIN ROAD NE
ALBUQUERQUE NM 87107
USA

ATTENTION: TRISH NICHOLSON

CUSTOMER ORDER NO: 0040289
PERFORMANCE PIPE ORDER NO: 6741743
SHIPPING DATE: 1/23/09
DELIVERY NO: 87802429
QUANTITY: 15,360'
PRODUCT: 4-17-4100X40' 61

This product quality certification letter for DriscoPlex® 4100 series pipe has been prepared at your request. DriscoPlex® 4100 series pipe is manufactured from polyethylene resin that meets or exceeds a material designation of PE3408/3608 and a minimum cell classification of 345464C in accordance with ASTM D3350. DriscoPlex®4100 series pipe material is listed by the Plastic Pipe Institute in PPI TR-4 with a standard grade recommended hydrostatic design basis of 1600 psi at 73°F (23°C).

DriscoPlex® 4100 series pipe is manufactured in accordance with the requirements of AWWA C906-99 and ASTM F714 OR AWWA C901-02 and ASTM D3035 depending on pipe size. DriscoPlex® 4100 series meets NSF standards 14 and/or 61 requirements for potable water piping systems. This pipe is tested and certified by WQA per NSF/ANSI 61.

Sincerely,

R.B. Smith
QA Supervisor

APPENDIX F

Leak Detection System Certifications

F.2. Leak Detection Sump Aggregate Gradation

"SAFETY FIRST - QUALITY ALWAYS"
SKY UTE SAND & GRAVEL

GRADATION WORKSHEET

ASTM C136

MATERIAL TYPE	1-1/2" Minus Rounded - Retest after field washing
SAMPLE DATE	6/17/2009
TYPE OF SAMPLE	Foutz & Bursum Field Sample
PROJECT	Basin Disposal Project

WET WEIGHT BEFORE WASH	24255.9
DRY WEIGHT BEFORE WASH	24255.9
DRY WEIGHT AFTER WASH	24255.9
ELUTRIATION	0.0

SIZE	WEIGHT RET, gms	%RET	% PASS	SPECIFICATION
6"	0	0.0	100.0	
5"	0	0.0	100.0	
4"	0	0.0	100.0	
3"	0	0.0	100.0	
2-1/2"	0	0.0	100.0	
2"	0	0.0	100.0	
1-1/2"	0	0.0	100.0	
1"	12545.7	51.7	48.3	
3/4"	22269.3	91.8	8.2	
1/2"	24105.8	99.4	0.6	
3/8"	24168.2	99.6	0.4	
1/4"	24168.2	99.6	0.4	
#4	24207.7	99.8	0.2	
#8	24207.7	99.8	0.2	
#10	24207.7	99.8	0.2	
#16	24207.7	99.8	0.2	
#30	24207.7	99.8	0.2	
#40	24207.7	99.8	0.2	
#50	24207.7	99.8	0.2	
#100	24207.7	99.8	0.2	
#200	24207.7	99.8	0.2	
Pan	24255.9			

MOISTURE SAMPLE WET, gms	24255.9
MOISTURE SAMPLE DRY, gms	24255.9
% MOISTURE	0.00

FM =	7.9