

## Haley Griffith (adpce.ad)

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**Subject:** RE: Little Rock Landfill Leachate Pond Liner Replacement - CQA Report (AFIN 60-01071, Permit No. 0266-S1)

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**From:** Jason Ghidotti <jghidotti@olsson.com>

**Sent:** Tuesday, March 18, 2025 12:14 PM

**To:** Charles Hurt (adpce.ad) <Charles.Hurt@arkansas.gov>; Kimberly Davenport (adpce.ad) <Kimberly.Davenport@arkansas.gov>

**Cc:** Owens, Bernard <sowens@littlerock.gov>; Bower, Trent A. <tbower@littlerock.gov>

**Subject:** Little Rock Landfill Leachate Pond Liner Replacement - CQA Report (AFIN 60-01071, Permit No. 0266-S1)

Some people who received this message don't often get email from [jghidotti@olsson.com](mailto:jghidotti@olsson.com). [Learn why this is important](#)

Charles, Kim,

Attached is the CQA report for replacement of the leachate pond primary HDPE liner at the City of Little Rock Class 1 Landfill. Please contact me if you have any questions.

Thanks,  
Jason

**Jason J. Ghidotti, P.E.**

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# **CONSTRUCTION QUALITY ASSURANCE**

**(AFIN 60-01071, PERMIT NO. 0266-S1)  
LEACHATE POND LINER REPLACEMENT**

**Prepared for:**

City of Little Rock, Little Rock Landfill  
Little Rock, Arkansas

March 2025

Olsson Project No. 024-06949



## PROFESSIONAL ENGINEERING CERTIFICATION

"I certify that, to the best of my professional engineering judgment, that the replacement of the primary liner of the leachate pond for the City of Little Rock Class 1 Landfill (Permit No. 0266-S1) was constructed in accordance with the project plans and specifications, the facility permit documents, and Arkansas Pollution Control and Ecology Commission Rule No. 22. This Construction Quality Assurance (CQA) Report has been prepared based upon my (or my designated representative's) observations of construction and the constructed facility and materials testing data provided by WSP USA. This certification is contingent on the fact that all information supplied, up to the date of this certification, is unquestionably accurate and was provided in good faith."



03-18-2025

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Jason`J Ghidotti

Arkansas PE License #10031

Date

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# 1. INTRODUCTION

## 1.1 General

The City of Little Rock (AFIN 60-01071) owns and operates a solid waste management facility that includes a Class 1 landfill (Permit No. 0266-S1), a Class 4 landfill (Permit No. 0266-S4J), and a compost facility (Permit No. 0031-SCYW) located approximately one-half mile southeast of the intersection of Highways 338 and 367, as shown on Figure 1 (all figures are located in Appendix A). The landfill facility was permitted on April 27, 1993, by the Arkansas Department of Environmental Quality (ADEQ). The leachate pond liner replacement project includes removal of the defective primary HDPE liner and flow curtain, visual inspection of the underlying geocomposite drainage layer, and replacement of the primary liner and flow curtain.

The City contracted FTN Associates, Ltd., now Olsson, to provide Construction Quality Assurance (CQA) services associated with the project.

This document summarizes the activities associated with the replacement of the leachate pond primary liner. Correspondence, quality control testing results, and certifications associated with the construction are also provided. This document is intended to satisfy the requirements of Arkansas Pollution Control and Ecology Commission Rule No. 22, §22.428(i).

## 1.2 Site Description

The total permitted area of the Little Rock Class 1 Landfill encompasses approximately 110 acres of the 240 acre facility. Leachate from the Class 1 Landfill is collected in leachate sumps and pumped to the leachate pond, located northwest of the landfill, for treatment. The leachate is then discharged to the City's sanitary sewer system for disposal.

## 1.3 Project Description

This project involved the removal and replacement of the damaged primary HDPE liner from the leachate pond. Additionally, the flow curtain, designed to increase treatment time, was replaced.

The sequence of construction activities included:

1. Removal of existing flow curtain;
2. Removal, dewatering, and disposal of sediment in Class 1 landfill;
3. Removal of existing primary high density polyethylene (HDPE) liner;
4. Installation and testing of textured 60-mil HDPE geomembrane liner;
5. Installation of pipe boots and connections to sumps; and,
6. Installation of new flow curtain.

Appendix B provides a photographic log of the construction project, and a daily field log of construction activities is included as Appendix C.

## 1.4 Project Personnel

### **Owner:**

City of Little Rock

Project Manager: Trent Bower, Little Rock Assistant Solid Waste Services Manager

### **Design Engineer:**

FTN Associates, Ltd.

Project Manager: Jason Ghidotti, PE

Project Engineer: Nick Siria, EI

### **Construction Quality Assurance Consultant:**

FTN Associates, Ltd./Olsson

Project Manager: Mr. Jason Ghidotti, PE

Project Engineers: Nick Siria, EI

CQA Monitors: James McKeever

Geotechnical Laboratory: WSP USA

### **Geosynthetics and HDPE Piping Contractors:**

Paragon/Lone Star Lining Company

Project Superintendent: Todd Watkins, Paragon

Liner Superintendent: Miguel Garcia, Lone Star Lining Company

## 1.5 Project Documents

The installation of the leachate pond primary liner was conducted in accordance with the following documents:

1. “City of Little Rock Class 1 Landfill Leachate Pond Improvements,” (Specifications) City of Little Rock, Department of Public Works, Civil Engineering Division and FTN Associates, Ltd., 2022.
2. “City of Little Rock Class 1 Landfill – Leachate Pond Improvements – Little Rock, Arkansas – Landfill Permit #0266-S1” (Drawings), FTN Associates, Ltd., June 2022.
3. “Construction Quality Assurance Plan”, Genesis Consultants, February 2004.
4. “Rule Number 22, Solid Waste Management”, APCEC.

## **2. GEOMEMBRANE LINER INSTALLATION**

This section of the report summarizes the construction activities associated with the installation and testing of the geomembrane pond liner. Geomembrane construction activities consisted of the installation and testing of 84,000 square ft of textured 60-mil HDPE liner material. Following removal of the existing baffle curtain and liner, installation of the geomembrane liner began on November 12, 2024 and was completed on November 15, 2024. Photos 1 through 12 in Appendix B present preparation and geomembrane installation, repair, and testing activities.

### **2.1 Project Specifications**

The project specifications required that a 60-mil textured HDPE geomembrane liner be installed on the bottom and side slopes of the leachate. The geomembrane was to be installed as shown on the project drawings and in accordance with the project specifications.

### **2.2 Submittals**

#### **2.2.1 Manufacturer's Quality Control Certificates**

In accordance with the project specifications, the geomembrane installation company, Lone Star Lining Company, submitted their company's qualifications for review by FTN. This included the company's experience, representative projects, experience of the field superintendent and master seamer, installation procedures, and approval by the geomembrane manufacturer to install their materials. The information provided by Lone Star demonstrated their qualifications to perform the work, and they were approved by FTN. A copy of Lone Star's submittal information is included as Appendix D.

#### **2.2.2 Material Conformance Testing**

Manufacturer's quality control certificates (roll certification reports) were submitted by Paragon for comparison of the materials to be installed with the project specifications. Copies of the manufacturer's (Solmax) test results for the geomembrane material supplied for the project are included as Appendix E, and an inventory of the geomembrane rolls sent to the project site are included as Appendix F. Based on the information supplied by Paragon and Solmax, the material was approved for shipment to the project.

## 2.2.3 Material Conformance Testing

After acceptance of the roll certification reports, conformance test samples of the textured geomembrane material were sent directly from the manufacturing facility (Solmax) to the WSP USA laboratory in Atlanta, Georgia, for compliance testing. A copy of the laboratory test results is included as Appendix G. Based on the conformance test results, the geomembrane materials were approved for installation.

## 2.3 Construction Procedures

### 2.3.1 Deployment of Geomembrane

Prior to installation of the geomembrane liner, the field superintendents and the Olsson CQA Monitor reviewed the existing underlying geocomposite material leak detection layer. Any defects in the geocomposite were repaired prior to installation.

Deployment of the geomembrane was accomplished using a fork truck and manual labor to transport each geomembrane panel into place. An Olsson employee monitored and documented the deployment of the geomembrane panels. The panels were reviewed, and any defects were noted for repair. Panels were temporarily anchored with sandbags to prevent wind damage. The panels were seamed and then permanently anchored in a new anchor trench around the perimeter of the pond. The daily deployment logs for the geomembrane installation are included as Appendix H. Figure 3 shows the panel layout of the geomembrane liner.

### 2.3.2 Trial Seam Testing

In accordance with the project specifications, the fusion and extrusion welder operators were required to do trial seams before the startup of each seaming period. Coupons were cut from the trial seam and were tested in the field on a gauged tensiometer to check for seaming machine failures or operator errors. The trial seams were tested for peel and shear strength, and had to exhibit a film tear bond (FTB) and meet the project requirements for strength to be deemed acceptable. If the trial seam met the peel and shear strength requirements, the operator was allowed to begin seaming. A summary of the trial seam logs is included in Appendix I.

### **2.3.3 Geomembrane Seaming**

The principle method for joining the geomembrane panels was through the use of an automated double-track fusion welder. Extrusion welders were used for seaming patches, repairs, intersections of seams, and seam reconstruction.

An Olsson employee monitored and documented the seaming activities. Duties included visual observation of the seaming process, visual examination of the completed seam, and verification and documentation that the seam was welded for its entire length. Any seaming imperfections were marked by the Olsson CQA Monitor or the Lone Star Lining Company field superintendent and were repaired in accordance with the project specifications. The geomembrane production seaming log, which includes information on the geomembrane panel, seam number, seam length, and welding information, is included as Appendix J.

## **2.4 Testing Procedures**

### **2.4.1 Non-Destructive Seam Testing and Repairing**

All seams, seam repairs, and patches were non-destructively tested for continuity by the installer, using an air pressure test for fusion welds or vacuum box techniques for extrusion welds. An Olsson employee monitored and documented all field testing of the geomembrane seams to ensure that the tests were performed in accordance with the project specifications. The seaming continuity test log is presented with the production seaming log in Appendix P.

The location, size, and testing results of all seam repairs, patches, and defects were documented by an Olsson employee. Information on the repairs made to the liner is included in the geomembrane liner defect and repair log which is included as Appendix K.

### **2.4.2 Destructive Seam Strength Testing**

In accordance with the project specifications, destructive samples were obtained at a minimum frequency of one sample per 500 linear ft of completed seam. Each destructive sample was divided into three equal-sized sections: one for field testing, one for laboratory testing, and one to be archived. Prior to shipment of the laboratory samples to WSP USA, the field test sample was tested by Lone Star Lining Company on their tensiometer for peel and shear strength to determine the seam's conformance with the project specifications.

No destruction samples, field samples, or laboratory samples failed. Summaries of the field and laboratory destructive seam strength testing are included as Appendix R. Locations of destructive seam samples are shown on Figure 3.

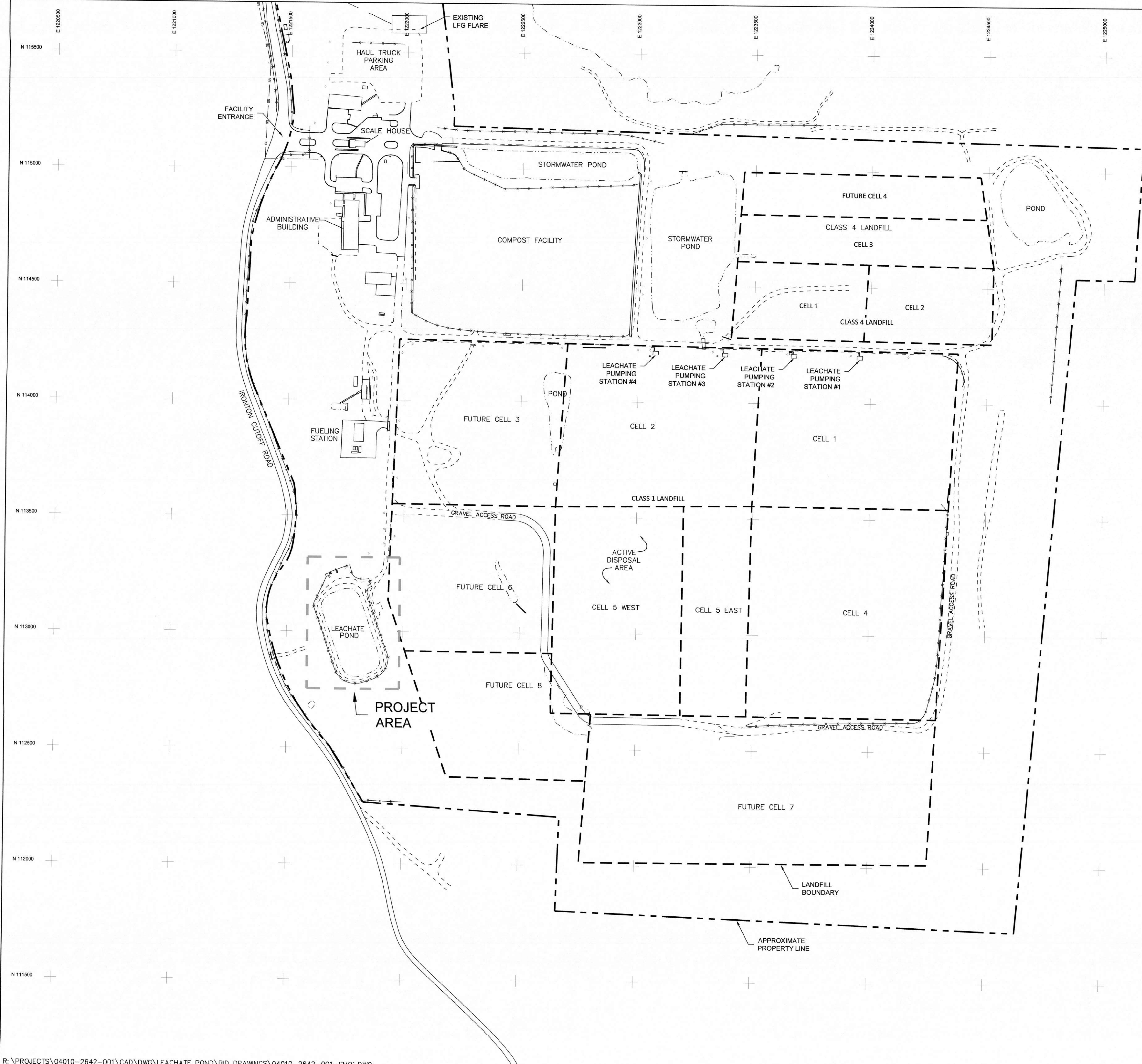
### **3. CONCLUSIONS**

Replacement of the leachate pond primary liner and baffle curtain at the City of Little Rock Class 1 Landfill began in September 2024 and was completed in January 2025. The pond liner was constructed according to the project specifications, the facility CQA Plan, and APCEC Rule No. 22. Required field and laboratory testing was performed and successfully completed as detailed in this report. Photos 13 through 15 in Appendix B show the completed pond and baffle curtain.

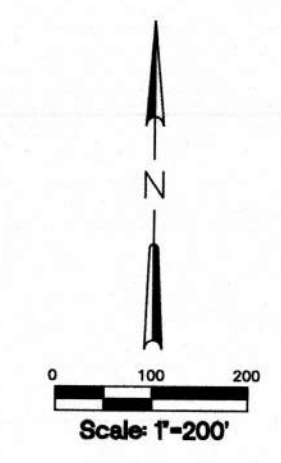
The Professional Engineering certification for the installation of the leachate pond primary liner is included at the beginning of this report.

# **APPENDIX A**

## **FIGURES**



**FIGURE 1**



- LEGEND**
- EXISTING UNPAVED ROAD
  - ==== EXISTING PAVED ROAD
  - - - - EXISTING FENCE
  - - - - EXISTING DRAINAGE OR LIMITS OF WATER
  - - - - APPROXIMATE PROPERTY LINE
  - - - - APPROXIMATE WASTE CELL LIMITS

REV	DATE	DESCRIPTION	BY	APVD

**CITY OF LITTLE ROCK  
CLASS 1 LANDFILL  
LEACHATE POND IMPROVEMENTS  
LITTLE ROCK, ARKANSAS**

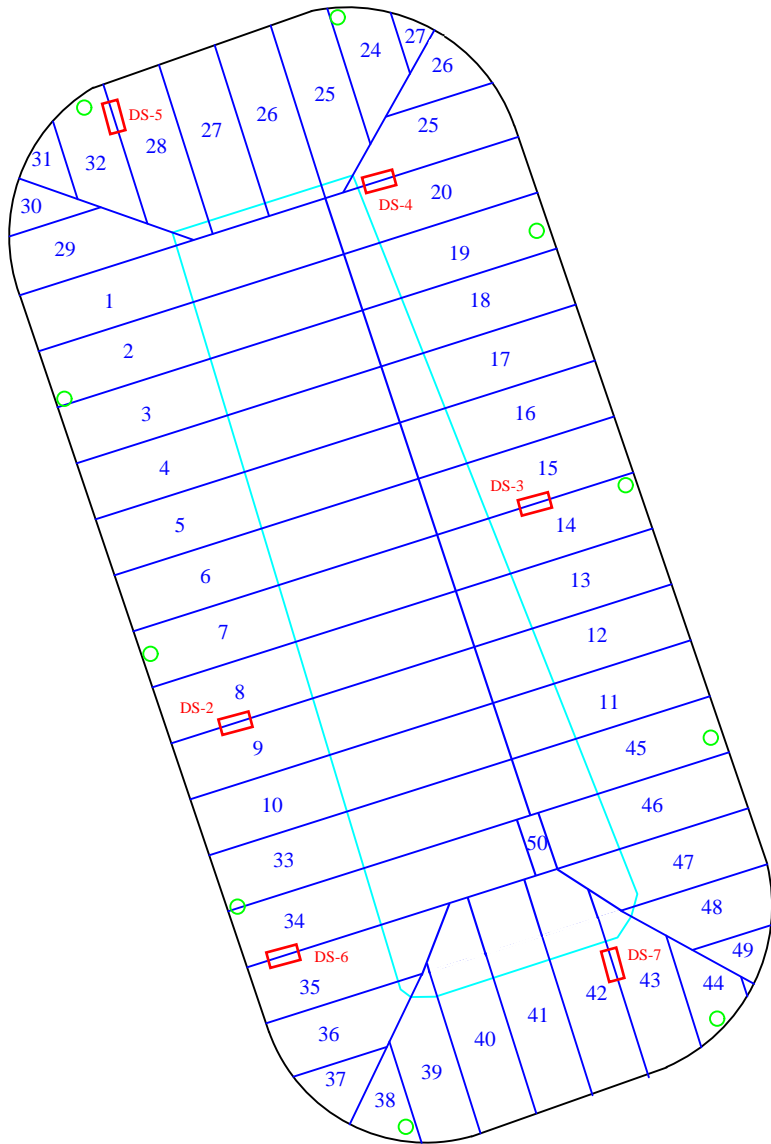
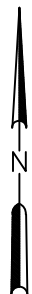
**LANDFILL SITE MAP**

DRAWN BY: <i>sjb</i>	FILE NAME: SM01.DWG
APPROVED: <i>jjb</i>	PROJECT NO. 04010-2642-001
SCALE: 1" = 200'	DATE: 6-8-2022
SHEET NO.	1 OF 5

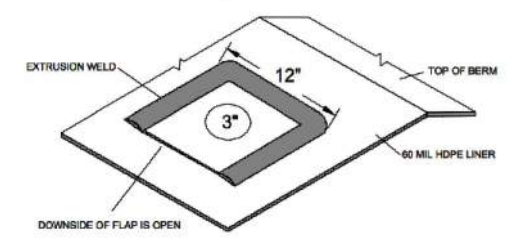
**BID DRAWINGS**



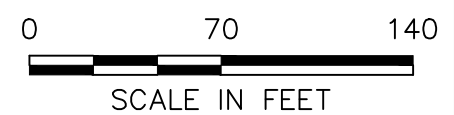
**FIGURE 3**



- GEOMEMBRANE SEAM
- TOE OF SLOPE
- PERIMETER
- VENT



VENT DETAIL



Lone Star Lining Company  
 1675 American Way  
 Cedar Hill, Texas 75104  
 Phone: (972) 291-5494  
 Fax: (972) 291-5515

**CITY OF LITTLE ROCK LANDFILL  
 LITTLE ROCK, ARKANSAS**

8.5" x 11"	SIZE	DWG NO.	22417-ppl
AS SHOWN	SCALE	9/3/2024	DATE

**LEACHATE POND  
 PROPOSED PANEL LAYOUT**

REV	
SHEET	

**APPENDIX B**  
**PHOTOGRAPHIC LOG**



**Photo 1 – Existing geocomposite and secondary liner looking northwest.**



**Photo 2 – Existing geocomposite and secondary liner looking west.**



**Photo 3 – Existing geocomposite and secondary liner looking southwest.**



**Photo 4 – Existing geocomposite liner preparation.**



**Photo 5 – Deployment of geomembrane over GCL, west slope and bottom.**



**Photo 6 – Fusion seaming of geomembrane liner.**



**Photo 7 – Geomembrane installation on south slope.**



**Photo 8 – Geomembrane installation looking north.**



**Photo 9 – Seaming and testing of geomembrane liner connection to northwest sump.**



**Photo 10 – Typical geomembrane liner pipe boot.**



**Photo 11 – Geomembrane liner repair testing.**



**Photo 12 – Typical destructive seam test repair (DS-6).**



**Photo 13 – Completed primary liner installation looking southwest.**



**Photo 14 – Typical liner vent.**



**Photo 15 – Pond baffle curtain after installation (stormwater in pond from rainfall).**

**APPENDIX C**  
**DAILY FIELD LOGS**



# DAILY CONSTRUCTION REPORT

DATE 11-12-24  
 DAY 

S	M	<u>T</u>	W	T	F	S
---	---	----------	---	---	---	---

PROJECT City of Little Rock Class 1 Landfill Leachate Pond Improvements  
 JOB NO. 024-0649  
 CLIENT CITY OF LITTLE ROCK  
 CONTRACTOR PARSON

WEATHER	Part Cloud	Clear <input checked="" type="checkbox"/>	Overcast <input checked="" type="checkbox"/>	Rain	Snow
TEMP.	<32	32-50	<u>50-70</u>	70-85	85 up
WIND	Still	<u>Moder</u>	High	Report No.	
HUMIDITY	<u>Dry</u>	Moder	Humid		

AVERAGE FIELD FORCE			
Name of Contractor	Non-manual	Manual	Remarks
PARSON	<u>2</u>	<u>3</u>	
LOAN STAR	<u>1</u>	<u>1</u>	

VISITORS			
Time N/A	Representing N/A	Representing N/A	Remarks

EQUIPMENT AT THE SITE 1-Skid steer 1-Mini excavator 1-Dump truck  
2- High Lift Fork lifts 1-Side By Side 1-Water pump

CONSTRUCTION ACTIVITIES  
11:15 ARRIVED ON SITE Looked over site TALKED TO BTAN  
1:00 LOAN STAR STARTED PREPARING FOR PUSAN  
5:00 STOPPED WORK FOR THE DAY 10 PANELS PUT DOWN

- DISTRIBUTION:
1. Proj. Mgr.
  2. Field Office
  3. File
  4. Client

BY Jamall Title COA inspector



# DAILY CONSTRUCTION REPORT

DATE 11-13  
 DAY 

S	M	T	<u>W</u>	T	F	S
---	---	---	----------	---	---	---

PROJECT City of Little Rock Class 1 Landfill Leachate Pond Improvements  
 JOB NO. 024-0649  
 CLIENT City of Little Rock  
 CONTRACTOR PARAGON

WEATHER	Part Cloud	Clear	Overcast	Rain	Snow
TEMP.	<32	32-50	<u>50-70</u>	70-85	85 up
WIND	<u>Still</u>	Moder	High	Report No.	
HUMIDITY	Dry	Moder	Humid		

AVERAGE FIELD FORCE			
Name of Contractor	Non-manual	Manual	Remarks
<u>PARAGON</u>		<u>1</u>	
<u>LOWE STAR</u>		<u>110</u>	

VISITORS			
Time	Representing	Representing	Remarks
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	

EQUIPMENT AT THE SITE 1-Skid steer 1-Dump truck 1-Mini X water pump  
inside by side 2-High lift forks

CONSTRUCTION ACTIVITIES  
6:50 Arrived on site LOWE STAR preparing to install river panels 11 through 32 put down today 3/4 of pond blocked out south portion of pond 1/4 of north pond left to do  
5:15 Stopped work for the day

- DISTRIBUTION:
1. Proj. Mgr.
  2. Field Office
  3. File
  4. Client

BY [Signature] Title COA inspector



# DAILY CONSTRUCTION REPORT

DATE 11-14  
 DAY 

S	M	T	W	<u>T</u>	F	S
---	---	---	---	----------	---	---

PROJECT City of Little Rock Class 1 Landfill Leachate Pond Improvements  
 JOB NO. 024-0649  
 CLIENT CITY OF LITTLE ROCK  
 CONTRACTOR PARAGON

WEATHER	Part Cloud	<input checked="" type="checkbox"/> Clear	Overcast	Rain	Snow
TEMP.	<32	32-50	<u>50-70</u>	70-85	85 up
WIND	<input checked="" type="checkbox"/> Still	Moder	High	Report No.	
HUMIDITY	<input checked="" type="checkbox"/> Dry	Moder	Humid		

AVERAGE FIELD FORCE			
Name of Contractor	Non-manual	Manual	Remarks
PARAGON	~	1	
LONE STAR		10	

VISITORS			
Time N/A	Representing N/A	Representing N/A	Remarks

EQUIPMENT AT THE SITE  
 1 - Skid Steer 1 - mini excavator 1 - pump truck  
 2 - high lift fork lifts 1 - side by side 1 - water pump

CONSTRUCTION ACTIVITIES  
 6:45 Arrived on site Lone Star Arrived on site  
 7:30 Lone Star pumping out water to Repair Hole they cut in liner to drain water out from under it  
 PARAGON pumping water out of Anchor trench so Lone Star can start pressure testing new liner  
 5:00 stopped work for the day Cell Backed out with liner

- DISTRIBUTION:
1. Proj. Mgr.
  2. Field Office
  3. File
  4. Client

BY [Signature] Title COA inspector



# DAILY CONSTRUCTION REPORT

DATE 11-15  
 DAY 

S	M	T	W	T	<u>F</u>	S
---	---	---	---	---	----------	---

PROJECT City of Little Rock Class 1 Landfill Leachate Pond Improvements  
 JOB NO. 024-0649  
 CLIENT CITY OF LITTLE ROCK  
 CONTRACTOR PARAGON

WEATHER	Part Cloud	<u>Clear</u>	Overcast	Rain	Snow
TEMP.	<32	32-50	<u>50-70</u>	70-85	85 up
WIND	<u>Still</u>	Moder	High	Report No.	
HUMIDITY	<u>Dry</u>	Moder	Humid		

AVERAGE FIELD FORCE			
Name of Contractor	Non-manual	Manual	Remarks
<u>PARAGON</u>		<u>1</u>	
<u>LOWE STAR</u>		<u>10</u>	

VISITORS			
Time N/A	Representing N/A	Representing N/A	Remarks

EQUIPMENT AT THE SITE 2 high lift Fork lifts 1-Skid Steer 1-track hoe  
1-Dump truck 1-water pump 1-mini excavator

CONSTRUCTION ACTIVITIES  
6:45 Arrived on site  
7:00 LOWE STAR finishing up testing and patching liner  
5:15 FINISHED LIME All tested West Jet pipe cut  
+100 short put BAND AROUND and silicone  
5:30 LEFT SITE

- DISTRIBUTION:
1. Proj. Mgr.
  2. Field Office
  3. File
  4. Client

BY  Title COA inspector

**APPENDIX D  
GEOMEMBRANE INSTALLATION COMPANY  
QUALIFICATIONS**

# Lone Star Lining Company

## Partial Experience Resume

**Project:** EPCO Pond 7  
**Location:** Mont Belvieu, Texas  
**Material:** geotextile, 60 mil HD conductive, geonet  
**Size/Layer** 1,400,000 sf  
**Application:** Brine Pond  
**Contact:** Tim Newton-Pender  
**Phone:** 713-204-9268

**Project:** SORD Lagoon Extension  
**Location:** Ardmore, Oklahoma  
**Material:** 40 mil HDPE  
**Size/Layer** 70,000 sf  
**Application:** Leachate Pond  
**Contact:** Troy Duke  
**Phone:** 580-226-1276

**Project:** Williamson County Cell 3C  
**Location:** Hutto, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Skyline Landfill Cell 16B  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 410,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Caleb Hollingshead  
**Phone:** 817-563-1144

**Project:** Lyondell/Equistar Pond  
**Location:** Mt. Belvieu, Texas  
**Material:** 60 mil HDPE/HDT, geonet  
**Size/Layer** 90,000 sf  
**Application:** Brine Pond  
**Contact:** Jim Rose  
**Phone:** 432-559-4799

**Project:** Martin Lake West Ash Pond Reline  
**Location:** Tatum, Texas  
**Material:** 60 mil HDT, GCL  
**Size/Layer** 700,000 sf  
**Application:** Coal Ash Pond  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** 130 Environmental Park  
**Location:** Lockhart, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 700,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gaylon Hammett  
**Phone:** 903-271-3906

**Project:** Mesquite Creek Landfill Unit 2 Phase VS  
**Location:** New Braunfels, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Hillside Cell 4B  
**Location:** Sherman, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 180,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** AEL Phase IVD/IVE/IVF South  
**Location:** Sand Springs, OK  
**Material:** 60 HDPE/HDT, Geotextile  
**Size/Layer** 505,000 sf  
**Application:** Leachate Pond  
**Contact:** Wade Miller  
**Phone:** 405-269-3960

**Project:** Long Cove WWTP  
**Location:** Malakoff, Texas  
**Material:** 40 mil HDPE  
**Size/Layer** 100,000 sf  
**Application:** WWTP  
**Contact:** Stetson Keen  
**Phone:** 903-832-8001

**Project:** Northeastern Landfill Rain Flap  
**Location:** Oologah, Oklahoma  
**Material:** 12 mil Duraskrim, Wind Defender  
**Size/Layer** 500,000 sf  
**Application:** Temporary Cover  
**Contact:** Bryan White  
**Phone:** 918-352-8213

# Lone Star Lining Company

## Partial Experience Resume

**Project:** NRG Parish Pond E  
**Location:** Thompsons, Texas  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 27,000 sf  
**Application:** Wastewater Containment  
**Contact:** David Janik  
**Phone:** 979-541-7231

**Project:** Butler County Landfill Cells 18A and 19A  
**Location:** David City, Nebraska  
**Material:** GCL, 60 mil HDPE/HDT  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Kelly Danielson  
**Phone:** 402-367-4669

**Project:** Cherokee Village B3-B4  
**Location:** Cherokee Village, Arkansas  
**Material:** GCL, 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 240,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Joe Vieceli  
**Phone:** 832-442-2906

**Project:** East Texas Regional Sector 1 Cell 8C  
**Location:** Henderson, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 162,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gary Bartels  
**Phone:** 817-705-6072

**Project:** G & P Landfill Cell 11A - 12A  
**Location:** Milford, Nebraska  
**Material:** 60 mil HDPE, GCL, geotextile  
**Size/Layer** 170,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Plumb Thicket Module 12  
**Location:** Harper, Kansas  
**Material:** GCL, 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 430,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** US Ecology Cells 51-2 Phase 2  
**Location:** Robstown, Texas  
**Material:** 60 mil HDPE/HDT, Geonet, Geocomposite  
**Size/Layer** 450,000 sf  
**Application:** Hazardous Waste Landfill  
**Contact:** Kirk Hansen  
**Phone:** 208-489-1662

**Project:** Camino Real Cell 3.1B  
**Location:** Sunland Park, New Mexico  
**Material:** GCL, 60 mil HDPE/HDT  
**Size/Layer** 475,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Durham Regional Landfill Cell 4  
**Location:** Florence, Arizona  
**Material:** GCL, 60 mil HDT, Geocomposite  
**Size/Layer** 360,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dalton Ellis  
**Phone:** 720-236-7359

**Project:** Front Range Landfill Cell 15  
**Location:** Erie, Colorado  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 890,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dalton Ellis  
**Phone:** 720-236-7359

**Project:** Loess Hills Cell G East M  
**Location:** Malvern, Iowa  
**Material:** Underdrain, 60 mil HDT, geocomposite  
**Size/Layer** 400,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Post Oak Landfill Cell 1A  
**Location:** Kingsbury, Texas  
**Material:** Underdrain, 60 mil HDT, geocomposite  
**Size/Layer** 380,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 832-442-2107

# Lone Star Lining Company

## Partial Experience Resume

**Project:** SKB Cloquet Partial Cell  
**Location:** Cloquet, Minnesota  
**Material:** 60 mil HDPE, HDT, GCL  
**Size/Layer** 113,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** SKB Cell 6 Phase 1  
**Location:** Rosemount, Minnesota  
**Material:** GCL, 80 mil HDT, Geocomposite  
**Size/Layer** 900,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** White Oaks Cell I-II D  
**Location:** Monroe, Louisiana  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 306,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 832-442-2107

**Project:** Hillside Landfill Cell 4B  
**Location:** Sherman, Texas  
**Material:** 60 mil HDPE, HDT, Geocomposite  
**Size/Layer** 180,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Mesquite Creek Landfill Unit 2 Phase VS  
**Location:** New Braunfels, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** New Boston Cell 3A  
**Location:** New Boston, Texas  
**Material:** 60 mil HDPE, HDT, Geocomposite  
**Size/Layer** 200,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** SKB Lansing Phase 5  
**Location:** Austin, Minnesota  
**Material:** GCL, 60 mil HDPE, Geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Timberlane Cell 10B  
**Location:** Oakdale, Louisiana  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 221,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 832-442-2107

**Project:** Atascocita Phase 6, Cell 1  
**Location:** Humble, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Jefferson County Cell 5B  
**Location:** Pine Bluff, Arkansas  
**Material:** 60 mil HDT/geocomposite  
**Size/Layer** 195,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Conrad  
**Phone:** 501-804-0806

**Project:** New Boston Area 6 Closure  
**Location:** New Boston, Texas  
**Material:** 50 mil Drainliner, Geocomposite  
**Size/Layer** 765,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Newton Complex Cell 1-15  
**Location:** Deweyville, Texas 77614  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 320,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Newton Complex Cell 1-16E  
**Location:** Deweyville, Texas 77614  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 80,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Skyline Landfill Cell 16B  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 410,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** Williamson County Cells 3C  
**Location:** Hutto, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Central Missouri Landfill Cell 15  
**Location:** Sedalia, Missouri  
**Material:** 60 mil HDT, Geocomposite, Geotextile  
**Size/Layer** 350,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Marcos Elizondo  
**Phone:** 713-292-2417

**Project:** AEL Leachate Pond  
**Location:** Sand Springs, OK  
**Material:** 60 HDT  
**Size/Layer** 55,000 sf  
**Application:** Leachate Pond  
**Contact:** Wade Miller  
**Phone:** 405-269-3960

**Project:** Hinton Landfill Cell 8  
**Location:** Garland, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 680,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gaylon Hammett  
**Phone:** 903-271-3906

**Project:** Ozark Ridge Cell 4A  
**Location:** Pine Bluff, Arkansas  
**Material:** 60 mil HDT, GCL, geocomposite  
**Size/Layer** 195,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Conrad  
**Phone:** 501-804-0806

**Project:** Temple Landfill Cells 1S and 2S  
**Location:** Temple, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 430,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Williamson County Cells 3C  
**Location:** Hutto, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 320,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Black Oak Landfill Phase 9B, 5C  
**Location:** Hartville, Missouri  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 340,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Marcos Elizondo  
**Phone:** 713-292-2417

**Project:** Vopak Yosemite Tanks  
**Location:** Portland, Texas  
**Material:** 80 mil HDPE  
**Size/Layer** 76,000 sf  
**Application:** Secondary Containment  
**Contact:** Jeff Tabor  
**Phone:** 918-223-6014

**Project:** S&S CISD New Middle School  
**Location:** Sadler, Texas  
**Material:** 40 mil HDPE  
**Size/Layer** 15,000 sf  
**Application:** Waterproofing  
**Contact:** Sam Ozuna  
**Phone:** 817-584-5129

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Angelina County Leachate Pond  
**Location:** Lufkin, Texas  
**Material:** 60 mil HDT  
**Size/Layer** 200,000 sf  
**Application:** Leachate Pond  
**Contact:** Gaylon Hammett  
**Phone:** 903-271-3906

**Project:** Fountain Landfill Cell O  
**Location:** Fountain, Colorado  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 220,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

**Project:** Bondad Landfill Cell 11W  
**Location:** Durango, Colorado  
**Material:** 60 mil HDT, GCL, geocomposite  
**Size/Layer** 75,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Olivia Vogelsberg  
**Phone:** 630-917-9139

**Project:** Seabreeze Landfill Cell 12  
**Location:** Angleton, Texas  
**Material:** Underdrain, 60 mil HDPE, geocomposite  
**Size/Layer** 540,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Skyline Landfill Cell 16A  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 386,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Caleb Hollingshead  
**Phone:** 817-563-1144

**Project:** Keller's Creamey Lagoon  
**Location:** Winnsboro, Texas  
**Material:** 60 mil HDPE, Geotextile  
**Size/Layer** 68,000 sf  
**Application:** Wastewater Containment  
**Contact:** Tony Heady  
**Phone:** 817-366-8818

**Project:** Celina Elementary School  
**Location:** Celina, Texas  
**Material:** 30 mil HDPE  
**Size/Layer** 7,700 sf  
**Application:** Waterproofing  
**Contact:** Jason Lowrey  
**Phone:** 817-267-4788

**Project:** Plumb Thicket Module 11  
**Location:** Harper, Kansas  
**Material:** 60 mil HDPE/HDT, GCL, geotextile  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Ben Tucker  
**Phone:** 303-949-5088

**Project:** Rolling Meadows Landfill  
**Location:** Hazen Arkansas  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 180,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Eduardo Choquis  
**Phone:** 941-377-5370

**Project:** Jefferson Parish Cell 24 North  
**Location:** Avondale, Louisiana  
**Material:** GCL, 40, 60 mil HDPE, Geocomposite  
**Size/Layer** 170,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** AEL Phase 4 North  
**Location:** Sand Springs, OK  
**Material:** 60 HDT, Geotextile  
**Size/Layer** 450,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Wade Miller  
**Phone:** 405-269-3960

**Project:** Bannister Basins  
**Location:** Kansas City, Missouri  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 285,000 sf  
**Application:** Stormwater Containment  
**Contact:** Chip Zuck  
**Phone:** 816-506-6717

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Celina Elementary School  
**Location:** Celina, Texas  
**Material:** 30 mil HDPE  
**Size/Layer** 7,700 sf  
**Application:** Waterproofing  
**Contact:** Jason Lowrey  
**Phone:** 817-267-4788

**Project:** Eustace High School  
**Location:** Eustace, Texas  
**Material:** 30 mil HDPE  
**Size/Layer** 15,000 sf  
**Application:** Waterproofing  
**Contact:** Will Cappell  
**Phone:** 214-239-4722

**Project:** NRG Parish APH Pond  
**Location:** Thompsons, Texas  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 65,000 sf  
**Application:** Wastewater Containment  
**Contact:** David Janik  
**Phone:** 979-541-7231

**Project:** Pirkey Power Rain Flap Addition  
**Location:** Hallsville, Texas  
**Material:** 12 mil Duraskrim, Wind Defender  
**Size/Layer** 361,000 sf  
**Application:** Temporary Cover  
**Contact:** Ron Franklin  
**Phone:** 903-407-8539

**Project:** Snyder Landfill Cell 3A  
**Location:** Snyder, Texas  
**Material:** Gundseal, Geocomposite  
**Size/Layer** 55,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Randy Taylor  
**Phone:** 903-649-3393

**Project:** Central Missouri Landfill Cell 14  
**Location:** Sedalia, Missouri  
**Material:** 60 mil HDT, Geocomposite, Geotextile  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Olivia Vogelsberg  
**Phone:** 630-917-9139

**Project:** Elk City Landfill Expansion  
**Location:** Elk City, Oklahoma  
**Material:** 60 mil HDPE/HDT, Geotextile, Geocomposit  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Lanfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** Martin Lake East Ash Pond Reline  
**Location:** Tatum, Texas  
**Material:** 60 mil HDPE, GCL  
**Size/Layer** 445,000 sf  
**Application:** Coal Ash Pond  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Borger Nitrogen Pond  
**Location:** Borger, Texas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 57,000 sf  
**Application:** Wastewater Containment  
**Contact:** Jim Rose  
**Phone:** 432-203-8665

**Project:** Prairie Valley Cell 5  
**Location:** Cuba, Missouri  
**Material:** 60 mil HDPE, Geotextile  
**Size/Layer** 146,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jim Dallas  
**Phone:** 573-395-4354

**Project:** TASWA Sector 5  
**Location:** Whitesboro, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 900,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

**Project:** Baytown Landfill Sector 4, Cell 4  
**Location:** Baytown, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 108,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

# Lone Star Lining Company

## Partial Experience Resume

**Project:** East Oak Cell XIII and sideslope  
**Location:** Oklahoma City, Oklahoma  
**Material:** GCL, 60 mil HDPE/HDT, Geotextile  
**Size/Layer** 950,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Newton Complex Cell 1-16M  
**Location:** Deweyville, Texas 77614  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 115,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Williamson County Cells 3A- 3B  
**Location:** Hutto, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 375,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Champ Landfill Cell 4A  
**Location:** Maryland Heights, Missouri  
**Material:** 60 mil HDT, Geotextile  
**Size/Layer** 780,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Jefferson Parish Cell 24 North  
**Location:** Avondale, Louisiana  
**Material:** Gundseal, 60 mil HDT, Geocomposite  
**Size/Layer** 170,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Oklahoma Landfill Phase V, Sector 2  
**Location:** Oklahoma City, Oklahoma  
**Material:** GCL, 60 mil HDT, Geotextile  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** New Boston Cell 3A  
**Location:** New Boston, Texas  
**Material:** 60 mil HDPE, HDT, Geocomposite  
**Size/Layer** 200,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Temple Landfill Cells 1N and 2N  
**Location:** Temple, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Blossom Prairie Landfill Cell I-3B  
**Location:** Blossom, Texas  
**Material:** 60 mil HDPE, HDT, Geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gary Bartels  
**Phone:** 817-705-6072

**Project:** SKB Cloquet Cells 5B & 6B  
**Location:** Cloquet, Minnesota  
**Material:** 60 mil HDPE, HDT, GCL  
**Size/Layer** 120,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** L.P. Gill Phase V, Cell 1  
**Location:** Jackson, Nebraska  
**Material:** 60 mil HDPE, HDT, GCL, Geotextile  
**Size/Layer** 432,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Southside Landfill Cell L  
**Location:** Pueblo, Colorado  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Timber Ridge Cell 7B  
**Location:** Richwoods, Missouri  
**Material:** 60 mil HDPE, Geotextile, Rain Cover  
**Size/Layer** 113,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Cherokee Nation Landfill  
**Location:** Stillwell, Oklahoma  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 220,000 sd  
**Application:** Sanitary Landfill  
**Contact:** Greg Vance  
**Phone:** 405-285-7720

**Project:** EPCO Pond 1  
**Location:** Hutchinson, Kansas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 400,000 sf  
**Application:** Brine Pond  
**Contact:** Mitch Blanchard  
**Phone:** 225-292-9007

**Project:** ETP Midland  
**Location:** Stanton, Texas  
**Material:** GCL  
**Size/Layer** 150,000 sf  
**Application:** Secondary Containment  
**Contact:** Jim Rose  
**Phone:** 432-206-8665

**Project:** Luminant Lamar Plant  
**Location:** Paris, Texas  
**Material:** 60 mil HDPE  
**Size/Layer** 43,000 sf  
**Application:** Stormwater Pond  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Oneok Mt. Belvieu North Pond 6  
**Location:** Baytown, Texas  
**Material:** Geotextile, geonet, 60 mil HDPE/HDT  
**Size/Layer** 800,000 sf  
**Application:** Brine Pond  
**Contact:** Tim Newton-Pender  
**Phone:** 713-204-9268

**Project:** West End Landfill Phase 2, Cell 5  
**Location:** Thompsonville, Illinois  
**Material:** 60 mil HDT, Geotextile, Geocomposite  
**Size/Layer** 123,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** City of Enid Cell 11E  
**Location:** Enid, Oklahoma  
**Material:** 60 mil HDPE/HDT/Geotextile  
**Size/Layer** 220,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** EPCO Pond 2  
**Location:** Hutchinson, Kansas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 380,000 sf  
**Application:** Brine Pond  
**Contact:** Mitch Blanchard  
**Phone:** 225-292-9007

**Project:** Exxon Mobil Pond Reline  
**Location:** Port Allen, Louisiana  
**Material:** 60 mil HDPE  
**Size/Layer** 36,000 sf  
**Application:** Stormwater Pond  
**Contact:** Mitch Blanchard  
**Phone:** 225-292-9007

**Project:** Luminant Oak Grove Cell 2 Cap  
**Location:** Franklin, Texas  
**Material:** 40 mil LLDT/geocomposite  
**Size/Layer** 1,100,000 sf  
**Application:** Coah Ash Cap  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** SORD Landfill Cells 5-6  
**Location:** Ardmore, Oklahoma  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Wade Miller  
**Phone:** 405-269-3960

# Lone Star Lining Company

## Partial Experience Resume

**Project:** US Ecology Cells 51-1 and 51-2  
**Location:** Robstown, Texas  
**Material:** 60 mil HDPE/HDT, Geonet, Geocomposite  
**Size/Layer** 477,000 sf  
**Application:** Hazardous Waste Landfill  
**Contact:** Kirk Hansen  
**Phone:** 208-489-1662

**Project:** Willis WTP  
**Location:** Willis, Oklahoma  
**Material:** Geotextile, 60 mil HDT  
**Size/Layer** 650,000 sf  
**Application:** Wastewater Treatment  
**Contact:** Shawn Blair  
**Phone:** 580-235-1121

**Project:** Buffalo Creek Landfill  
**Location:** Iowa Park, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brett Devries  
**Phone:** 817-358-6110

**Project:** Fountain Landfill Cell N  
**Location:** Fountain, Colorado  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

**Project:** Jefferson Parish Cell 24 South  
**Location:** Avondale, Louisiana  
**Material:** GCL, 40, 60 mil HDPE, Geocomposite  
**Size/Layer** 170,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Oklahoma Landfill Phase V, Sector I  
**Location:** Oklahoma City, Oklahoma  
**Material:** GCL, 60 mil HDT, Geotextile  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** City of Waco Landfill Phase VII  
**Location:** Waco, Texas  
**Material:** GCL, 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brett Devries  
**Phone:** 817-358-6110

**Project:** Butler County Landfill Cells 15A and 17A  
**Location:** David City, Nebraska  
**Material:** GCL, 60 mil HDPE/HDT  
**Size/Layer** 225,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Kelly Danielson  
**Phone:** 402-367-4669

**Project:** Camino Real Cell 3.1A  
**Location:** Sunland Park, New Mexico  
**Material:** GCL, 60 mil HDPE/HDT  
**Size/Layer** 416,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Front Range Landfill Cell 14  
**Location:** Erie, Colorado  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 680,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

**Project:** Nobles County Phase VI South  
**Location:** Rushmore, Minnesota  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 105,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Eric Joens  
**Phone:** 507-360-5858

**Project:** Osage Landfill Sector 1C  
**Location:** Bartlesville, Oklahoma  
**Material:** 60 mil HDPE, Geotextile  
**Size/Layer** 140,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Plumb Thicket Module 10  
**Location:** Harper, Kansas  
**Material:** GCL, 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 350,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** SKB Cell 3-G  
**Location:** Rosemount, Minnesota  
**Material:** GCL, 80 mil HDT, Geocomposite  
**Size/Layer** 366,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Timberlane Cell 9  
**Location:** Oakdale, Louisiana  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 220,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Weatherford Landfill  
**Location:** Weatherford, Texas  
**Material:** 190,000 sf  
**Size/Layer** GCL, 60 mil HDT, Geocomposite  
**Application:** Sanitary Landfill  
**Contact:** Brett Devries  
**Phone:** 817-358-6110

**Project:** Eco Vista Landfill 11A, South 12  
**Location:** Springdale, Arkansas  
**Material:** GCL, 60 mil HDT, Geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dave Conrad  
**Phone:** 501-487-6158

**Project:** Coastal Plains Cell T28M  
**Location:** Alvin, Texas  
**Material:** 60 mil HDT, Geocomposite  
**Size/Layer** 130,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Seabreeze Landfill Pond  
**Location:** Angleton, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Leachate Collection Pond  
**Contact:** Matt Crockett  
**Phone:** 832-442-2913

**Project:** Southern Plains Landfill Cell 10  
**Location:** Alex, Oklahoma  
**Material:** GCL, 60 mil HDPE/HDT, Geotextile  
**Size/Layer** 200,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** Turkey Creek Sector 11A  
**Location:** Alvarado, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 188,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brett Devries  
**Phone:** 817-358-6110

**Project:** Western Plains Regional Area 6A  
**Location:** Garden City, Kansas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 110,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Rachel Hanigan  
**Phone:** 405-435-7788

**Project:** Atascocita Phase 5, Cell 8 North and South  
**Location:** Humble, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Covell Gardens Phase IX South  
**Location:** San Antonio, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 450,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

# Lone Star Lining Company

## Partial Experience Resume

**Project:** East Oak Cells XIV and XV  
**Location:** Oklahoma City, Oklahoma  
**Material:** GCL, 60 mil HDPE/HDT, Geotextile  
**Size/Layer** 600,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** New Boston Cells 1A and 2A  
**Location:** New Boston, Texas  
**Material:** 50 mil HDPE Drain Liner, geotextile  
**Size/Layer** 460,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Terral WWTP  
**Location:** Terral, Oklahoma  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 190,000 sf  
**Application:** Waste Water Treatment  
**Contact:** Shawn Blair  
**Phone:** 580-235-1121

**Project:** Absolute Waste Cell 2  
**Location:** Tecumseh, Oklahoma  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 257,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Greg Vance  
**Phone:** 405-285-7720

**Project:** New Boston Area 5 Cover  
**Location:** New Boston, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 450,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Dumas WTP  
**Location:** Stinnett, Texas  
**Material:** GCL, 60 mil HDT  
**Size/Layer** 20,000 sf  
**Application:** Treatment Pond  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** Skyline Landfill Cell 14B/15B  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

**Project:** Winstar Pond  
**Location:** Thackerville, Oklahoma  
**Material:** 60 mil HDPE & Geotextile  
**Size/Layer** 107,000 sf  
**Application:** Wastewater Treatment  
**Contact:** Richard Wyatt  
**Phone:** 580-272-7564

**Project:** SKB Cloquet 5A and 6A  
**Location:** Cloquet, MN  
**Material:** 60 mil HDPE/HDT, GCL  
**Size/Layer** 140,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** OPD Pond  
**Location:** Mt. Belvieu, Texas  
**Material:** 40 mil HDT, geonet  
**Size/Layer** 42,000 sf  
**Application:** Retention Pond  
**Contact:** Joshua Nemeth  
**Phone:** 281-371-5984

**Project:** Blossom Prairie Cell I-3A  
**Location:** Blossom, Texas  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Ryan Kuntz  
**Phone:** 817-571-2288

**Project:** NTMWD 121 RDF  
**Location:** Melissa, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 600,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Williamson County Cell 3A - 3B  
**Location:** Hutto, Texas  
**Material:** 60 mil HDPE,HDT, geocomposite  
**Size/Layer** 510,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Pink Hills Acres  
**Location:** Blue Springs, Missouri  
**Material:** 60 mil HDT, Geotextile  
**Size/Layer** 170,000 sf  
**Application:** Demolition Landfill  
**Contact:** Matt Bowen  
**Phone:** 816-918-4445

**Project:** Butler County Landfill Cells 15A and 17A  
**Location:** David City, Nebraska  
**Material:** GCL, 60 mil HDPE/HDT  
**Size/Layer** 500,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Kelly Danielson  
**Phone:** 402-367-4669

**Project:** Durham Regional Landfill Cell 4  
**Location:** Florence, Arizona  
**Material:** GCL, 60 mil HDT, Geocomposite  
**Size/Layer** 480,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mark Adams  
**Phone:** 303-867-5505

**Project:** Front Range Landfill Cell 13  
**Location:** Erie, Colorado  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 680,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

**Project:** SKB Cell 3-E  
**Location:** Rosemount, Minnesota  
**Material:** GCL, 80 mil HDT, Geocomposite  
**Size/Layer** 315,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Pecos Pond  
**Location:** Road Jai, NM  
**Material:** Geotextile, 40 and 60 mil HDPE, Geonet  
**Size/Layer** 590,000 sf  
**Application:** Frac Pond  
**Contact:** Robert Gardner  
**Phone:** 601-671-1025

**Project:** Prairie Valley Cell 4  
**Location:** Cuba, Missouri  
**Material:** 60 mil HDPE, Geotextile  
**Size/Layer** 152,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jim Dallas  
**Phone:** 573-395-4354

**Project:** Champ Landfill Cell 11-3B  
**Location:** Maryland Heights, Missouri  
**Material:** 60 mil HDT, Geotextile  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Fountain Landfill Cell M  
**Location:** Fountain, Colorado  
**Material:** 60 mil HDPE/HDT, Geocomposite  
**Size/Layer** 225,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dan Liwicki  
**Phone:** 720-845-5318

**Project:** SKB Cell 3-F  
**Location:** Rosemount, Minnesota  
**Material:** GCL, 80 mil HDT, Geocomposite  
**Size/Layer** 215,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** SKB Lansing Phase 4  
**Location:** Austin, Minnesota  
**Material:** GCL, 60 mil HDPE, Geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Timber Ridge Cell 7A  
**Location:** Richwoods, Missouri  
**Material:** 60 mil HDPE, Geotextile, Rain Cover  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Austin Community Landfill WD-13N  
**Location:** Austin, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 750,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Mesquite Creek Landfill Unit 2 Phase IVN  
**Location:** New Braunfels, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 365,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Orchard Ridge Landfill Cap  
**Location:** Menomonee Falls, Wisconsin  
**Material:** 40 mil LLT, Geocomposite  
**Size/Layer** 915,000 sf  
**Application:** Landfill Cap  
**Contact:** Steve Myer  
**Phone:** 414-788-4485

**Project:** Martin Lake PDP #4 Closure  
**Location:** Tatum, Texas  
**Material:** 40 mil LLT  
**Size/Layer** 148,000 sf  
**Application:** Closure  
**Contact:** Bill Morgan  
**Phone:** 254-939-8610

**Project:** DFW Landfill Cell D1C2  
**Location:** Lewisville, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 425,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** Western Plains Regional Area 6A  
**Location:** Garden City, Kansas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 145,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Baytown Landfill Sector 6 Cells 4 and 5  
**Location:** Baytown, Texas  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 130,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Newton Complex Cell 1-16W  
**Location:** Deweyville, Texas 77614  
**Material:** 60 mil HDPE, Geocomposite  
**Size/Layer** 130,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Skyline Landfill Cell 14B/15B  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 550,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

**Project:** Williamson County Cell 3A  
**Location:** Hutto, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 510,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Austin Community Landfill Piggyback  
**Location:** Austin, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 265,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Edinburg Unit 6, Cell 5B  
**Location:** Edinburg, Texas  
**Material:** GCL, 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 355,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** EPCO Pond 5  
**Location:** Mont Belvieu, Texas  
**Material:** geotextile, 60 mil HD conductive, geonet  
**Size/Layer** 1,400,000 sf  
**Application:** Brine Pond  
**Contact:** Tim Newton-Pender  
**Phone:** 713-734-3090

**Project:** Kingston WWTP  
**Location:** Kingston, Oklahoma  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 636,000 sf  
**Application:** Waste Water Treatment  
**Contact:** Tom Pelton  
**Phone:** 580-221-4288

**Project:** Twin Oaks Sector 2B-1  
**Location:** Anderson, Texas  
**Material:** 60 mil/HDT, geocomposite  
**Size/Layer** 450,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Samantha Best  
**Phone:** 979-764-3878

**Project:** Camino Real Cell 10B-2  
**Location:** El Paso, Texas  
**Material:** 60 mil HDPE/HDT, GCL  
**Size/Layer** 216,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Fountain Landfill Cell L  
**Location:** Fountain, Colorado  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Ken Manzo  
**Phone:** 719-491-7944

**Project:** Mesquite Creek Landfill Unit 2 Phase IVS  
**Location:** New Braunfels, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 437,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Blossom Prairie Cell !-2D  
**Location:** Paris, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 152,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Josh Bray  
**Phone:** 903-517-6268

**Project:** Sandow A-1 Phase 3  
**Location:** Rockdale, Texas  
**Material:** 40 mil LLT, geocomposite  
**Size/Layer** 300,000 sf  
**Application:** Coal Ash Cap  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** EPCO Pond 6  
**Location:** Mont Belvieu, Texas  
**Material:** geotextile, 60 mil HD conductive, geonet  
**Size/Layer** 1,400,000 sf  
**Application:** Brine Pond  
**Contact:** Tim Newton-Pender  
**Phone:** 713-734-3090

**Project:** Champ Landfill Cell 1H  
**Location:** Maryland Heights, Missouri  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 129,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Brady Stewart  
**Phone:** 314-486-4733

**Project:** Osage Landfill Sector 2C  
**Location:** Bartlesville, Oklahoma  
**Material:** 60 mil HDPE, geotextile  
**Size/Layer** 140,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

# Lone Star Lining Company

## Partial Experience Resume

**Project:** G & P Landfill Cell 10 B  
**Location:** Milford, Nebraska  
**Material:** 60 mil HDPE, GCL, geotextile  
**Size/Layer** 108,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Red Carpet Landfill  
**Location:** Meno, Oklahoma  
**Material:** 60 mil HDPE/HDT, geotextile  
**Size/Layer** 175,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Southside Landfill Cell F  
**Location:** Pueblo, Colorado  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 272,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Atascocita Cells 5 and 6S  
**Location:** Humble, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 600,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** New Boston Area 4 Final Cover  
**Location:** New Boston, Texas  
**Material:** 50 mil HDPE Drain Liner, geotextile  
**Size/Layer** 450,000 sf  
**Application:** Landfill Cap  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** City of Beaumont Cell 2  
**Location:** Beaumont, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 338,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** Plumb Thicket Module 9  
**Location:** Harper, Kansas  
**Material:** 60 mil HDPE/HDT, GCL, geotextile  
**Size/Layer** 323,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** SKB Cell 3E and 4G  
**Location:** Rosemount, Minnesota  
**Material:** 60 mil HDT, GCL, geocomposite  
**Size/Layer** 106,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** Williams Pond 5  
**Location:** McPherson, Kansas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 280,000 sf  
**Application:** Brine Pond  
**Contact:** Jim Rose  
**Phone:** 432-203-8665

**Project:** Atascocita Cells 6N and 7  
**Location:** Humble, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 488,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Skyline Landfill Cell 14A  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 302,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

**Project:** Fort Hood Area 4, Cell 4  
**Location:** Fort Hood, Texas  
**Material:** 60 mil HDPE/HDT, GCL, geocomposite  
**Size/Layer** 430,000 sf  
**Application:** Sanitary Landfill  
**Contact:** John Barnett  
**Phone:** 800-554-6790

# Lone Star Lining Company

## Partial Experience Resume

**Project:** City of End Cells 9A9B10A10B  
**Location:** Enid, Oklahoma  
**Material:** 60 mil HDPE/HDT, geotextile  
**Size/Layer** 155,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** Luminant AX Landfill Cell 2A  
**Location:** Rockdale, Texas  
**Material:** 30 mil Gundseal  
**Size/Layer** 3,750,000 sf  
**Application:** Coal Ash Cell  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Chevron Sweetwater  
**Location:** Sweetwater, Texas  
**Material:** 40 mil LLDPE, geotextile  
**Size/Layer** 110,000 sf  
**Application:** Decon Pads  
**Contact:** Mitch Blanchard  
**Phone:** 225-773-9631

**Project:** U. S. Ecology Cells 50-4 and 50-5  
**Location:** Robstown, Texas  
**Material:** 60 mil HDPE/HDT, geonet, composite  
**Size/Layer** 392,000 sf  
**Application:** Landfill  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Front Range Landfill Cell 12  
**Location:** Erie, Colorado  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 680,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Osage Landfill Sector 1B-2B  
**Location:** Bartlesville, Oklahoma  
**Material:** 60 mil HDPE/HDT, geotextile  
**Size/Layer** 190,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chris Friis  
**Phone:** 918-914-2258

**Project:** New Franklin WTP  
**Location:** New Franklin, Missouri  
**Material:** 80 mil HDT  
**Size/Layer** 38,0000 sf  
**Application:** Sedimentation Basins  
**Contact:** Scott Schieber  
**Phone:** 573-657-7380

**Project:** Red Gate Liner  
**Location:** Edinburg, Texas  
**Material:** 40 mil PVC  
**Size/Layer** 40,000 sf  
**Application:** Evaporation Pond  
**Contact:** Scott Bennett  
**Phone:** 956-535-3301

**Project:** Luminant Sandow A1, Phase 2 Closure  
**Location:** Rockdale, Texas  
**Material:** 40 mil LLT, GCL, geocomposite  
**Size/Layer** 670,000 sf  
**Application:** Coal Ash Closure  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Camino Real Cell 10B  
**Location:** El Paso, Texas  
**Material:** 60 mil HDPE/HDT, GCL  
**Size/Layer** 216,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Lansing Phase 3  
**Location:** Lansing, Minnesota  
**Material:** 60 mil HDPE/HDT, GCL, geocomposite  
**Size/Layer** 165,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

**Project:** SKB Cell 4F  
**Location:** Rosemount, Minnesota  
**Material:** 60 mil HDT, GCL, geocomposite  
**Size/Layer** 145,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Geoff Strack  
**Phone:** 612-490-1175

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Seabreeze Landfill Cell 10  
**Location:** Angleton, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 315,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Dave Matthews  
**Phone:** 979-848-1157

**Project:** Williams Pond 6  
**Location:** McPherson, Kansas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 275,000 sf  
**Application:** Brine Pond  
**Contact:** Jim Rose  
**Phone:** 432-203-8665

**Project:** Austin Community Landfill Cell WD-12B  
**Location:** Austin, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 178,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Deffenbaugh Phase 1M, Stage C  
**Location:** Shawnee, Kansas  
**Material:** 60 mil HDT, GCL, geotextile  
**Size/Layer** 465,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Darryl Basham  
**Phone:** 913-238-2531

**Project:** Lacy Lakeview Cell 3-5  
**Location:** Waco, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 291,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Security Landfill Phase V, Cell 4  
**Location:** Cleveland, Texas  
**Material:** 60 mil HDPE/HDT, GCL, geocomposite  
**Size/Layer** 389,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Southside Landfill Cell E  
**Location:** Pueblo, Colorado  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 90,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Matt Crockett  
**Phone:** 303-867-5506

**Project:** Williams Pond 1  
**Location:** McPherson, Kansas  
**Material:** 40 mil HDPE, geonet, 60 mil HDPE/HDT  
**Size/Layer** 175,000 sf  
**Application:** Brine Pond  
**Contact:** Jim Rose  
**Phone:** 432-203-8665

**Project:** Atascocita Phase 5 Cell 4  
**Location:** Humble, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 455,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Austin Community Landfill Cell WD-12A  
**Location:** Austin, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 277,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Newton County Cell I-13  
**Location:** Deweyville, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 198,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Chuck Rivette  
**Phone:** 713-647-5542

**Project:** Skyline Landfill Cell 13C  
**Location:** Ferris, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 203,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Aleris Recycling  
**Location:** Sapulpa, Oklahoma  
**Material:** 40 mil LLT, geocomposite, geotextile  
**Size/Layer** 73,000 sf  
**Application:** Cover  
**Contact:** Turguy Ertugrul  
**Phone:** 918-665-6575

**Project:** Luminant AX Landfill Cell 2  
**Location:** Rockdale, Texas  
**Material:** 30 mil Gundeal  
**Size/Layer** 1,400,000 sf  
**Application:** Coal Ash Cell  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Feagins Recycle Pit  
**Location:** Kingfisher County, Oklahoma  
**Material:** 60 mil HDPE, geonet  
**Size/Layer** 660,000 sf  
**Application:** Pond  
**Contact:** Jeff Tabor  
**Phone:** 918-223-6014

**Project:** Jefferson City Landfill Cell 1  
**Location:** Jefferson City, Missouri  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 150,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jim Dallas  
**Phone:** 573-395-4354

**Project:** Winstar Pond #2  
**Location:** Thackerville, Oklahoma  
**Material:** 60 mil HDT  
**Size/Layer** 120,000 sf  
**Application:** Irrigation Pond  
**Contact:** Greg Korneta  
**Phone:** 815-341-5131

**Project:** Covel Gardens Phase IX North  
**Location:** San Antonio, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 718,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jayson Lang  
**Phone:** 512-823-2893

**Project:** Blossom Prairie Cell !-2B  
**Location:** Paris, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 145,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Josh Bray  
**Phone:** 903-517-6268

**Project:** Cefe Valenzuela Landfill Sectors 1B & 1C  
**Location:** Corpus Christi, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 855,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Mike Brackney  
**Phone:** 817-281-4470

**Project:** Haviland WTP  
**Location:** Haviland, Kansas  
**Material:** 60 mil HDPE/HDT, geonet  
**Size/Layer** 42,000 sf  
**Application:** WTP  
**Contact:** Jeff Shaw  
**Phone:** 620-662-6726

**Project:** Luminant Oak Grove FGD-C Pond  
**Location:** Franklin, texas  
**Material:** 60 mil HDT  
**Size/Layer** 751,000 sf  
**Application:** Pond  
**Contact:** Eddie Noak  
**Phone:** 512-446-7011

**Project:** Prairie Valley Landfill Phase 3  
**Location:** Cuba, Missouri  
**Material:** 60 mil HDT, geotextile  
**Size/Layer** 202,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jim Dallas  
**Phone:** 573-395-4354

**Project:** Skyline Landfill Cell 13A  
**Location:** Ferris, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 449,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Skyline Landfill Cell 12B and 13B  
**Location:** Ferris, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 209,000 sf  
**Application:** Sanitary Landfill  
**Contact:** David Clark  
**Phone:** 817-563-1144

**Project:** Wireway Addition  
**Location:** Dallas, Texas  
**Material:** 60 mil HDPE, geotextile  
**Size/Layer** 14,000 sf  
**Application:** Methane Barrier  
**Contact:** Robert Haddox  
**Phone:** 936-494-2001

**Project:** Turkey Creek Cell 6A  
**Location:** Alvarado, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 400,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jane Berry  
**Phone:** 817-790-2912

**Project:** Turkey Creek Cell 7A  
**Location:** Alvarado, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 260,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jane Berry  
**Phone:** 817-790-2912

**Project:** CSC Landfill Phase I Closure  
**Location:** Avalon, Texas  
**Material:** 40 mil LLT, geocomposite, geotextile  
**Size/Layer** 584,000 sf  
**Application:** Landfill Cap  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** Dyess AFB Soccer Base  
**Location:** Abilene, Texas  
**Material:** 12 mil Reinforced polyethylene  
**Size/Layer** 63,000 sf  
**Application:** Athletic Field Liner  
**Contact:** Gregg Williams  
**Phone:** 281-856-9255

**Project:** Muskogee Landfill Cell 11A  
**Location:** Muskogee, Oklahoma  
**Material:** 60 mil HDPE/HDT, geotextile  
**Size/Layer** 172,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Guy Campbell  
**Phone:** 405-417-8124

**Project:** CSC Repair Phase IIIA  
**Location:** Avalon, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 250,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** CSC Landfill Phase III, Cell 3B  
**Location:** Avalon, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 270,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** Ferrell Gas Brine Pond #3  
**Location:** Hurchinson, Kansas  
**Material:** 40 & 60 mil HDPE/HDT, geonet  
**Size/Layer** 400,000 sf  
**Application:** Brine Pond  
**Contact:** Shawn Cooper  
**Phone:** 713-734-3090

**Project:** CSC Landfill Phase III, Cell 12B  
**Location:** Avalon, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 187,308 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** Rock Prairie Landfill  
**Location:** College Station, Texas  
**Material:** geocomposite  
**Size/Layer** 40,000 sf  
**Application:** Underdrain  
**Contact:** Pat Kamesch  
**Phone:** 972-337-7371

# Lone Star Lining Company

## Partial Experience Resume

**Project:** Williams Energy Pond #7 Re-line  
**Location:** McPherson, Kansas  
**Material:** 40 & 60 mil HDPE/HDT, geonet  
**Size/Layer** 250,000 sf  
**Application:** Brine Pond  
**Contact:** Shawn Cooper  
**Phone:** 713-734-3090

**Project:** Fort Worth SE  
**Location:** Fort Worth, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 440,682 sf  
**Application:** Sanitary Landfill  
**Contact:** Gordon Spradley  
**Phone:** 281-848-3706

**Project:** Williams Field Services  
**Location:** Ignacio, Colorado  
**Material:** 60 mil HDPE  
**Size/Layer** 180,000 sf  
**Application:** Brine Pond Rehab  
**Contact:** Shawn Cooper  
**Phone:** 713-734-3090

**Project:** Clinton County Landfill  
**Location:** Frankfort, Indiana  
**Material:** 30 mil PVC, geotextile  
**Size/Layer** 198,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Derek Mauntel  
**Phone:** 219-661-3101

**Project:** CSC Landfill Phase III, Cell 3A  
**Location:** Avalon, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 135,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** CSC Landfill Phase III Remediation  
**Location:** Avalon, Texas  
**Material:** 60 mil HDT, geocomposite  
**Size/Layer** 40,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Gregg Adams  
**Phone:** 817-563-1144

**Project:** Blue Ridge Landfill  
**Location:** Fresno, Texas  
**Material:** 60 mil HDPE  
**Size/Layer** 15,000 sf  
**Application:** Rain Flap  
**Contact:** Pat Kamesch  
**Phone:** 972-337-7371

**Project:** Greenridge Landfill  
**Location:** Wheeling, West Virginia  
**Material:** 40 mil LLT, geocomposite  
**Size/Layer** 138,000 sf  
**Application:** Landfill Closure  
**Contact:** Brian Card  
**Phone:** 803-802-6713

**Project:** Grant County Feeders  
**Location:** Ulysses, Kansas  
**Material:** 40 mil HDPE  
**Size/Layer** 280,000 sf  
**Application:** Stormwater Pond  
**Contact:** Dennis Wood  
**Phone:** 620-356-4466

**Project:** Trinity Oaks Landfill Closure  
**Location:** Mesquite, Texas  
**Material:** GCL  
**Size/Layer** 2,962,000 sf  
**Application:** Landfill Closure  
**Contact:** Gordon Spradley  
**Phone:** 281-848-3706

**Project:** Camelot Cell 5A  
**Location:** Lewisville, Texas  
**Material:** 60 mil HDPE/HDT, geocomposite  
**Size/Layer** 400,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jane Berry  
**Phone:** 817-790-2912

**Project:** ECD Cell 4B  
**Location:** Ennis, Texas  
**Material:** 60 mil HDPE, geocomposite  
**Size/Layer** 220,000 sf  
**Application:** Sanitary Landfill  
**Contact:** Jane Berry  
**Phone:** 817-790-2912

**APPENDIX E**  
**GEOMEMBRANE QC TEST RESULTS**

# LIST OF GEOMEMBRANE ROLLS



PROJECT NUMBER: 22417-Solmax1  
 SALES ORDER: SO-097529  
 PACKING SLIP NUMBER: Pre-SO-097529-1

PROJECT NAME : City of Little Rock Leachate Pond

ROLL NUMBER	RESIN LOT NUMBER	MANUFACT. DATE	RESIN MELT INDEX 190/2.16 g/10 min D1238	RESIN DENSITY g/cc D1505	OIT min D8117	HPOIT min D5885	ESCR SP-NCTL hours D5397
<b>Product Code : 1101547</b>							
<b>HDPE 60 mils / 1.50 mm Black Textured</b>			<b>1.0</b>	<b>&gt; 0.932</b>	<b>100</b>		<b>500</b>
0107-182187	PRF821360	2024-08-17	0.10	0.937	120		>500 Certified 0107-182181
0107-182188	PRF821360	2024-08-17	0.10	0.937	120		>500 Certified 0107-182181
0107-182189	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182190	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182191	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182192	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182193	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182194	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181
0107-182195	PRF821360	2024-08-18	0.10	0.937	120		>500 Certified 0107-182181

**QUANTITY (ROLLS): 9**

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

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

**SOLMAX.COM**



# SOLMAX

## MANUFACTURING QUALITY CONTROL



### TEST RESULTS

PROJECT NUMBER: 22417-Solmax1  
 SALES ORDER: SO-097529  
 PACKING SLIP NUMBER: Pre-SO-097529-1

**PROJECT NAME :** City of Little Rock Leachate Pond

**PRODUCT:** 1101547

HDPE 60 mils / 1.50 mm Black Textured

Properties	Thickness ave/min.	GeoM Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension Stability	Asperity Height In/Out
					Yield Strength	Elong.	Break Strength	Elong.				
Unit	mils	g/cc	%	Cat 1 and 2	ppi	%	ppi	%	lbs	lbs	%	mils
Test Method	D5994	D792	D4218	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll	Every 10 rolls	Every 2 rolls	Every 10 rolls	Every 2 rolls				Every 5 rolls	Every 5 rolls		Every roll
Specification	57.0 / 51.0	≥ 0.940	2.0 - 3.0	Cat. 1 & Cat. 2	132	13	132	150	45	120		16 / 16
0107-182187 MD XD	66.4 / 57.5	0.943	2.61	10/10 views	151.6 155.1	18.7 17.6	184 180	406 458	56 54	145		21.8 / 22.7
0107-182188 MD XD	64.0 / 58.0	0.943	2.61	10/10 views	151.6 155.1	18.7 17.6	184 180	406 458	56 54	145		20.7 / 19.5
0107-182189 MD XD	66.4 / 59.0	0.943	2.25	10/10 views	147.0 154.5	19.2 20.0	192 186	501 554	56 54	145		22.4 / 22.5
0107-182190 MD XD	65.0 / 59.5	0.943	2.25	10/10 views	147.0 154.5	19.2 20.0	192 186	501 554	56 54	145		22.7 / 21.9
0107-182191 MD XD	61.8 / 54.5	0.943	2.22	10/10 views	146.1 150.3	18.2 19.7	191 177	532 454	56 54	145		25.2 / 25.0
0107-182192 MD XD	62.9 / 57.5	0.943	2.22	10/10 views	146.1 150.3	18.2 19.7	191 177	532 454	51 52	143		22.0 / 22.5
0107-182193 MD XD	64.0 / 61.5	0.943	2.49	10/10 views	148.2 151.8	17.5 17.5	160 184	382 484	51 52	143		22.5 / 21.9
0107-182194 MD XD	59.7 / 55.5	0.943	2.49	10/10 views	148.2 151.8	17.5 17.5	160 184	382 484	51 52	143		30.6 / 27.6
0107-182195 MD XD	59.6 / 54.0	0.943	2.49	10/10 views	150.3 155.8	17.4 16.3	185 165	499 367	51 52	143		30.7 / 27.4

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

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

SOLMAX.COM

## Certificate of Analysis

Shipped To: SOLMAX GEOSYNTHETICS, LLC : HOUSTON  
19103 Gundle Rd  
HOUSTON TX 77073-3515  
USA

Recipient: LabqualityUSA  
Fax:

Delivery # 81174522  
PO # 611607  
Weight: 194900.000 LB  
Ship Date: 07/01/2024  
Package: BULK  
Mode: Hopper Car  
Car # CPCX817144  
Seal No: 392983

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

Lot Number: PRF821360

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.1	g/10min
HLMI Flow Rate	ASTM D1238	12.0	g/10min
Density	D1505 or D4883	0.937	g/cm3
Production Date		06/25/2024	

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



Steven Beck  
Quality Systems Coordinator

For CoA questions contact Leslie Dziamara at +1-832-813-4806-4498

**APPENDIX F**  
**GEOMEMBRANE INVENTORY LISTING**

## GEOSYNTHETICS INVENTORY RECORD

Project Name: City of Little Rock Class 1 Landfill Leacheate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Roll Number	Batch Number	Date Received	Date Deployed	Length (Feet)	Width (Feet)	Area (S.F.)	Material Type	Certification Approved	Conformance Sample Taken	Conformance Results Approved	CQA Monitor
182190		10-7	11-12 <sup>14</sup>	520	22.5						
182188		10-7	11-12	520	22.5						
182195		10-7	11-13 <sup>14</sup>	520	22.5						
182191		10-7	11-13	520	22.5						
182189		10-7	11-13	520	22.5						
182193		10-7		520	22.5						
182192		10-7	11-14	520	22.5						
182194		10-7	11-14	520	22.5						
182184		10-7	11-12	520	22.5						

**Material Type Legend:**  
 60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane  
 GT - Geotextile

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane  
 GC - Geocomposite

GCL - Geosynthetic Clay Liner  
 GN - Geonet

**APPENDIX G**  
**GEOMEMBRANE CONFORMANCE TEST REPORTS**

SUMMARY OF TEXTURED GEOMEMBRANE CONFORMANCE TEST RESULTS
OLSSON CITY OF LITTLE ROCK LF ARKANSAS

ROLL DESIGNATION	Reference Value	0107-182187	0107-182195	-	-	-	-	-	-	-
THICKNESS (mils) ASTM D5199	>=60	72	67	-	-	-	-	-	-	-
TEAR RESISTANCE (lbs)(MD/TD)(1) ASTM D1004	>=42 >=42	60 58	56 54	-	-	-	-	-	-	-
CARBON BLACK DISPERSION (category) (µm²) ASTM D5596	1 or 2 -	1 101	1 122	-	-	-	-	-	-	-
DENSITY (g/cc) ASTM D792	>=0.940	0.949	0.949	-	-	-	-	-	-	-
CARBON BLACK CONTENT (%) ASTM D1603	2.0-3.0	2.68	2.63	-	-	-	-	-	-	-
STRENGTH AT YIELD (ppi) MD/TD (1) ASTM D6693	>=126 >=126	174 181	165 172	-	-	-	-	-	-	-
STRENGTH AT BREAK (ppi) MD/TD (1) ASTM D6693	>=90 >=90	193 160	166 178	-	-	-	-	-	-	-
ELONGATION AT YIELD (%) MD/TD (1) ASTM D6693	>=12 >=12	15 15	14 15	-	-	-	-	-	-	-
ELONGATION AT BREAK (%) MD/TD (1) ASTM D6693	>=100 >=100	487 305	318 486	-	-	-	-	-	-	-

(1) MD/TD corresponds to Machine Direction / Transverse Direction.

**APPENDIX H**  
**GEOMEMBRANE DEPLOYMENT LOGS**

# GEOMEMBRANE DEPLOYMENT LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Date	Panel ID	Roll Number	Weather Conditions		Material Type	Approximate Panel Dimensions		Panel Visually Inspected (Y or N)	CQA Monitor
			Ambient Temp (F)	Weather Conditions/ Wind		Width (Feet)	Length (Feet)		
11-12	P-1	182188	70	8	60 mil <i>textured HDPE</i>	22.5	127	Y	JWM
11-12	P-2	182188	70	8	60 mil	22.5	127	Y	JWM
11-12	P-3	182188	70	8	60 mil	22.5	127	Y	JWM
11-12	P-4	182188	70	8	60 mil	22.5	128	Y	JWM
11-12	P-5	182187	70	8	60 mil	22.5	128	Y	JWM
11-12	P-6	182187	70	8	60 mil	22.5	128	Y	JWM
11-12	P-7	182187	69	10	60 mil	22.5	129	Y	JWM
11-12	P-8	182187	69	10	60 mil	22.5	124	Y	JWM
11-12	P-9	182190	69	10	60 mil	22.5	129	Y	JWM
11-12	P-10	182190	68	10	60 mil	22.5	<del>128</del> 128	Y	JWM
11-13	P-11	182195	60	5	60 mil	22.5	83	Y	JWM
11-13	P-12	182195	60	5	60 mil	22.5	85	Y	JWM
11-13	P-13	182195	60	5	60 mil	22.5	86	Y	JWM
11-13	P-14	182195	60	5	60 mil	22.5	85	Y	JWM
11-13	P-15	182195	<del>60</del> 57	5	60 mil	22.5	87	Y	JWM
11-13	P-16	182191	<del>60</del> 57	5	60 mil	22.5	80	Y	JWM
11-13	P-17	182191	57	1	60 mil	22.5	88	Y	JWM
11-13	P-18	182191	57	1	60 mil	22.5	90	Y	JWM

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

# GEOMEMBRANE DEPLOYMENT LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Date	Panel ID	Roll Number	Weather Conditions		Material Type	Approximate Panel Dimensions		Panel Visually Inspected (Y or N)	CQA Monitor
			Ambient Temp (F)	Weather Conditions/ Wind		Width (Feet)	Length (Feet)		
<del>P-19</del> 11-13	2' P-19	182191	57	1	60+	22.5	<del>78</del> 85	Y	Juan
11-13	P-20	182191	58	1	60T	22.5	86	Y	Juan
11-13	P-21	182189	63	7	60+	22.5	70	Y	Juan
11-13	P-22	182189	63	7	60T	22.5	73	Y	Juan
11-13	P-23	182189	63	7	60T	22.5	78/66	Y	Juan
11-13	P-24	182189	63	7	60T	22.5	66/42	Y	Juan
11-13	P-25	182189	63	7	60T	22.5	68/49	Y	Juan
11-13	P-26	182189	63	6	60+	22.5	50/35	Y	Juan
11-13	P-27	182189	63	6	60T	22.5	34/19	Y	Juan
11-13	P-28	182189	63	6	60T	22.5	70	Y	Juan
11-13	P-29	182190	63	6	60T	22.5	68/1	Y	Juan
11-13	P-30	182190	63	6	60T	22.5	36	Y	Juan
11-13	P-31	182190	63	6	60+	22.5	27	Y	Juan
11-13	P-32	182190	63	6	60+	22.5	54/	Y	Juan
11-14	P-33	182192	58	10	60+	22.5	127	Y	Juan
11-14	P-34	182192	54	12	60T	22.5	127	Y	Juan
11-14	P-35	182192	54	12	60+	22.5	76	Y	Juan
11-14	P-36	182192	54	12	60+	22.5	65	Y	Juan

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

## GEOMEMBRANE DEPLOYMENT LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Date	Panel ID	Roll Number	Weather Conditions		Material Type	Approximate Panel Dimensions		Panel Visually Inspected (Y or N)	CQA Monitor
			Ambient Temp (F)	Weather Conditions/ Wind		Width (Feet)	Length (Feet)		
11-14	P-37	182192	59	12	60T	22.5	33	Y	Juan
11-14	P-38	182192	59	12	60T	27.5	33	Y	Juan
11-14	P-39	182192	59	12	60T	22.5	75	Y	Juan
11-14	P-40	182194	59	12	60T	22.5	90	Y	Juan
11-14	P-41	182194	59	12	60T	22.5	91	Y	Juan
11-14	P-42	182194	60	12	40T	22.5	91	Y	Juan
11-14	P-43	182194	64	14	60T	22.5	77	Y	Juan
11-14	P-44	182194	64	14	60T	27.5	34	Y	Juan
11-14	P-45	182194	64	14	60T	22.5	85	Y	Juan
11-14	P-46	182194	64	14	60T	22.5	74	Y	Juan
11-14	P-47	182195	64	14	60T	27.5	84	Y	Juan
11-14	P-48	182190	64	14	60T	22.5	63	Y	Juan
11-14	P-49	182190	64	14	60T	26	31	Y	Juan
11-14	P-50	182190	69	10	60T	11	22.5	Y	Juan

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

**APPENDIX I**  
**GEOMEMBRANE TRIAL SEAM LOGS**

## FUSION AND EXTRUSION TRIAL SEAM LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

**Project Specifications:**

Project Location: Little Rock, AR

Fusion Welds:

Extrusion Welds:

Project Number: 24-06949

Peel: 90

Peel: 78

Shear: 120

Shear: 120

Fusion/ Extrusion (F or E)	Material/ Material (S or T)	Date	Time	Seaming Machine Settings					Peel Tests					Shear Tests					Pass/ Fail	CQA Monitor	
				Ambient Temp (F)	Operator ID	Machine ID	Machine Temp or Ext. P.H.	Speed	Side	1 A/B (psi)	2 A/B (psi)	3 A/B (psi)	4 A/B (psi)	5 A/B (psi)	1 (psi)	2 (psi)	3 (psi)	4 (psi)			5 (psi)
F	60T	11-12	1:38	70	CS	2089	850	5.00	A	141	145	148	144	145	177	175	176	169	180	P	JWH
									B	145	137	153	159	143							
F	60T	11-12	1:44	70	BK	5189	850	5.00	A	125	152	138	144	149	174	174	174	177	141	F	JWH
									B	125	143	138	147	127							
F	60T	11-13	7:20	57	CS	2089	850	4.50	A	147	132	144	139	139	201	203	202	190	198	P	JWH
									B	134	139	125	121	130							
F	60T	11-13	7:30	57	MS	5189	850	5.00	A	132	130	128	118	138	195	195	195	194	192	P	JWH
									B	137	129	128	122	131							
F	60T	11-13	1:14	62	MS	5189	850	5.00	A	149	150	138	150	142	172	168	176	171	175	P	JWH
									B	148	146	134	140	140							
F	60T	11-13	1:14	62	CS	2089	850	4.50	A	148	144	133	136	146	170	174	171	175	175	P	JWH
									B	151	133	153	147	140							
E	60T	11-14	7:30	54	AD	0682	500	5.00	A	115	102	102	106	102	176	180	193	181	182	P	JWH
									B												
F	60T	11-14	8:15	54	CS	5189	850	4.00	A	116	122	122	120	116	195	191	194	193	199	P	JWH
									B	132	126	137	136	139							
F	60T	11-14	8:50	54	MS	207	850	4.0	A	120	130	119	130	126	178	183	180	171	175	P	JWH
									B	112	127	123	126	130							
F	60T	11-14	1:30	69	MS	207	850	4.0	A	126	111	130	123	124	168	179	188	177	176	P	JWH
									B	142	123	144	139	135							
F	60T	11-14	1:33	69	CS	5189	850	4.0	A	139	138	132	133	140	185	178	170	180	184	P	JWH
									B	133	137	123	141	128							
E	60T	11-15	8:12	52	MA	6897	5.50	5.50	A	129	125	127	135	134	200	201	197	200	189	P	JWH
									B												
E	60T	11-15	8:13	52	AD	682	5.50	5.50	A	127	124	130	136	129	200	200	212	189	197	P	JWH
									B												
E	60T	11-15	1:20	67	AD	682	5.50	5.50	A	125	146	149	129	131	178	176	172	158	176	P	JWH
									B												

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
40T - 40-Mil Textured HDPE Geomembrane

## FUSION AND EXTRUSION TRIAL SEAM LOG

Project Name: City of Little Rock Class 1 Landfill Leacheate Pond Improvements

**Project Specifications:**

Project Location: Little Rock, AR

Fusion Welds:

Extrusion Welds:

Peel: 90

Peel: 78

Project Number: 24-06949

Shear: 120

Shear: 120

Fusion/ Extrusion (F or E)	Material/ Material (S or T)	Date	Time	Seaming Machine Settings					Peel Tests					Shear Tests					Pass/ Fail	CQA Monitor	
				Ambient Temp (F)	Operator ID	Machine ID	Machine Temp or Ext. P.H.	Speed	Side	1 A/B (psi)	2 A/B (psi)	3 A/B (psi)	4 A/B (psi)	5 A/B (psi)	1 (psi)	2 (psi)	3 (psi)	4 (psi)			5 (psi)
E	60T	11-15	1:03	67	MA	6897	550	550	A	129	141	133	133	134	164	167	162	166	166		
									B												
									A												
									B												
									A												
									B												
									A												
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									B												
									A												
									B												
									A												
									B												

**Material Type Legend:**  
 60S - 60-Mil Smooth HDPE Geomembrane      40S - 40-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane      40T - 40-Mil Textured HDPE Geomembrane

**APPENDIX J**  
**GEOMEMBRANE SEAM CONTINUITY TEST LOGS**

# GEOMEMBRANE PRODUCTION SEAMING AND CONTINUITY TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Seam Welding Information						Seam Testing Information				
Seam Number	Material/ Material	Weld Date	Seam Length (Feet)	Operator ID	Machine ID	Test Date	Start Time/ Pressure	End Time/ Pressure	Pass/ Fail	CQA Monitor
34/35	60T	11-14	76	CS	5189	11-14	2:10 / 30	2:15 / 30	P	JWM
8/9	60T	11-14	126	CS	2089	11-14	2:13 / 30	2:18 / 30	P	JWM
5/6	60S	11-12	127	BK	5189	11-14	2:19 / 30	2:24 / 30	P	JM
28/32	60T	11-13	100	CS	5189	11-14	2:22 / 30	2:27 / 30	P	JWM
20/25	60T	11-13	54	CS	5189	11-14	2:36 / 30	2:41 / 30	P	JWM
42/43	60T	11-14	73	CS	5189	11-14	2:46 / 30	2:51 / 30	P	JWM
46/47	60T	11-14	71	MS	207	11-14	2:55 / 30	3:00 / 30	P	JWM
45/46	60T	11-14	69	CS	5189	11-14	2:54 / 30	2:59 / 30	P	JWM
47/48	60T	11-14	<del>65</del> 45	CS	5189	11-14	3:04 / 30	3:09 / 30	P	JWM
48/49	60T	11-14	28	MS	207	11-14	3:05 / 30	3:10 / 30	P	JWM
47/48	60T	11-14	9	CS	5189	11-14	3:19 / 30	3:24 / 30	P	JWM
14/15	60T	11-13	81	CS	2089	11-14	2:43 / 30	2:48 / 30	P	JWM
40/41	60S	11-14	87	CS	5189	11-14	4:34 / 30	4:39 / 30	P	JWM
41/42	60T	11-14	9	MS	207	11-15	7:45 / 30	7:50 / 30	P	JWM
41/42	60T	11-14	76	MS	207	11-14	4:33 / 30	4:38 / 30	P	JWM
34/41	60T	11-14	21	CS	5189	11-14	4:01 / 30	4:06 / 30	P	JWM
34/40	60T	11-14	21	CS	5189	11-14	4:09 / 30	4:14 / 30	P	JWM
35/40	60T	11-14	12	CS	5189	11-14	4:10 / 30	4:15 / 30	P	JWM
39/40	60T	11-14	76	MS	207	11-14	4:40 / 30	4:45 / 30	P	JWM

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

# GEOMEMBRANE PRODUCTION SEAMING AND CONTINUITY TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Seam Welding Information						Seam Testing Information				
Seam Number	Material/Material	Weld Date	Seam Length (Feet)	Operator ID	Machine ID	Test Date	Start Time/Pressure	End Time/Pressure	Pass/Fail	CQA Monitor
35/39	60T	11-14	15	5189	CS	11-14	4:27/30	4:32/30	P	JLW
38/39	60T	11-14	7	5189	CS	11-15	7:49/30	7:54/30	P	JLW
38/39	60T	11-14	9	5189	CS	11-15	7:38/30	7:43/30	P	JLW
38/39	60T	11-14	16	5189	CS	11-15	7:30/30	7:35/30	P	JLW
37/38	60T	11-14	25	5189	CS	11-15	7:37/30	7:42/30	P	JLW
36/37	60T	11-14	31	5189	CS	11-15	7:31/30	7:36/30	P	JLW
35/36	60T	11-14	57	207	MS	11-14	4:41/30	4:46/30	P	JLW
36/39	60T	11-14	24	5182	CS	11-14	4:26/30	4:31/30	P	JLW
34/42	60T	11-14	4	5189	CS	11-14	4:00/30	4:05/30	P	JLW
42/50	60T	11-14	10	5189	CS	11-14	3:45/30	3:50/30	P	JLW
46/50	60T	11-14	21	207	MS	11-14	3:51/30	3:56/30	P	JLW
45/50	60T	11-14	8	5189	CS	11-15	8:21/30	8:26/30	P	JLW
42/47	60T	11-14	12	207	MS	11-14	3:44/30	3:49/30	P	JLW
43/47	60T	11-14	16	207	MS	11-14	3:37/30	3:42/30	P	JLW
40/43	60T	11-14	20	207	MS	11-14	3:36/30	3:41/30	P	JLW
43/44	60T	11-14	33	207	MS	11-14	3:28/30	3:33/30	P	JLW
44/49	60T	11-14	60	207	MS	11-14	3:16/30	3:21/30	P	JLW
44/49	60T	11-14	12	207	MS	11-14	3:27/30	3:32/30	P	JLW
42/43	60T	11-14		5189	CS					JLW

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

# GEOMEMBRANE PRODUCTION SEAMING AND CONTINUITY TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Seam Welding Information						Seam Testing Information				
Seam Number	Material/ Material	Weld Date	Seam Length (Feet)	Operator ID	Machine ID	Test Date	Start Time/ Pressure	End Time/ Pressure	Pass/ Fail	CQA Monitor
11/45	60T	11-14	78	MS	207	11-15	9:00 / 30	9:05 / 30	P	JW
33/45	60T	11-14	20	MS	207	11-15	7:44 / 30	7:49 / 30	P	JW
10/33	60T	11-14	124	CS	5189	11-15	7:56 / 30	8:01 / 30	P	JW
9/10	60T	11-13	22	CS	2089	11-15	8:09 / 30	8:13 / 30	P	JW
9/10	60T	11-13	103	CS	2089	11-15	8:02 / 30	8:07 / 30	P	JW
11/12	60T	11-13	76	CS	2089	11-15	9:01 / 30	9:06 / 30	P	JW
10/11	60T	11-14	22	MS	207	11-15	7:46 / 30	7:51 / 30	P	JW
12/13	60T	11-13	83	CS	2089	11-15	9:46 / 30	9:45 / 30	P	JW
9/12	60T	11-14	22	MS	207	11-15	7:52 / 30	7:57 / 30	P	JW
8/13	60T	11-14	22	MS	207	11-15	7:54 / 30	7:59 / 30	P	JW
8/13	60T	11-12	124	BX	5189	11-15	8:03 / 30	8:08 / 30	P	JW
13/14	60T	11-12	85	BX	5189	11-15	9:41 / 30	9:46 / 30	P	JW
8/13	60T	11-12	10	CS	2089	11-15	8:29 / 30	8:34 / 30	P	JW
6/7	60T	11-12	116	CS	2089	11-15	8:15 / 30	8:20 / 30	P	JW
7/14	60T	11-14	22	MS	207	11-15	8:02 / 30	8:07 / 30	P	JW
6/15	60T	11-14	27	MS	207	11-15	8:04 / 30	8:09 / 30	P	JW
5/16	60T	11-14	22	MS	207	11-15	8:13 / 30	8:18 / 30	P	JW
15/16	60T	11-12	82	CS	2089	11-15	9:49 / 30	9:54 / 30	P	JW
16/17	60T	11-12	78	CS	2089	11-15	9:50 / 30	9:55 / 30	P	JW

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

center 207  
MS 1144

# GEOMEMBRANE PRODUCTION SEAMING AND CONTINUITY TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Seam Welding Information						Seam Testing Information				
Seam Number	Material/ Material	Weld Date	Seam Length (Feet)	Operator ID	Machine ID	Test Date	Start Time/ Pressure	End Time/ Pressure	Pass/ Fail	CQA Monitor
4/17	60T	11-14	22	MS	207	11-15	8:15 / 30	8:20 / 30	P	JW
4/5	60T	11-12	63	CS	2089	11-15	8:16 / 30	8:21 / 30	P	JW
4/5	60T	11-12	11	CS	2089	11-15	8:23 / 30	8:28 / 30	P	JW
4/5	60T	11-12	50	CS	2089	11-15	8:24 / 30	8:29 / 30	P	JW
3/4	60T	11-12	5	BX	5189	11-15	8:52 / 30	8:57 / 30	P	JW
3/4	60T	11-12	117	BX	5189	11-15	8:35 / 30	8:46 / 30	P	JW
3/18	60T	11-14	22	MS	207	11-15	8:26 / 30	8:31 / 30	P	JW
17/18	60T	11-12	84	CS	2089	11-15	9:58 / 30	10:03 / 30	P	JW
18/19	60T	11-12	20	CS	2089	11-15	9:59 / 30	10:04 / 30	P	JW
2/19	60T	11-14	22	MS	207	11-15	8:28 / 30	8:33 / 30	P	JW
2/3	60T	11-12	125	CS	2089	11-15	8:36 / 30	8:41 / 30	P	JW
1/2	60T	11-12	6	BX	5189	11-15	8:51 / 30	8:56 / 30	P	JW
1/2	60T	11-12	8	BX	5189	11-15	8:45 / 30	8:50 / 30	P	JW
1/2	60T	11-12	103	BX	5189	11-15	8:44 / 30	8:49 / 30	P	JW
1/20	60T	11-12	22	MS	207	11-15	8:40 / 30	8:45 / 30	P	JW
19/20	60T	11-12	71	CS	2089	11-15	10:06 / 30	10:11 / 30	P	JW
19/20	60T	11-12	11	CS	2089	11-15	10:12 / 30	10:17 / 30	P	JW
25/20	60T	11-12	47	CS	5189	11-15	10:20 / 30	10:25 / 30	P	JW
24/26	60T	11-12	17	CS	5189	11-15	10:38 / 30	10:43 / 30	P	JW

**Material Type Legend:**

60-Mil Smooth HDPE Geomembrane  
 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

207 MS 11-14

# GEOMEMBRANE PRODUCTION SEAMING AND CONTINUITY TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, AR

Project Number: 24-06949

Seam Welding Information						Seam Testing Information				
Seam Number	Material/ Material	Weld Date	Seam Length (Feet)	Operator ID	Machine ID	Test Date	Start Time/ Pressure	End Time/ Pressure	Pass/ Fail	CQA Monitor
26/27	60T	11-12	26	CS	<del>5189</del>	11-15	10:29 / 30	10:34 / 30	P	JM
24/27	60T	11-12	26	CS	5189	11-15	10:30 / 30	10:35 / 30	P	JM
23/24	60T	11-12	58	CS	5189	11-15	10:21 / 30	10:26 / 30	P	JM
24/25	60T	11-12	15	CS	5189	11-15	10:39 / 30	10:44 / 30	P	JM
23/25	60T	11-14	16	CS	5189	11-15	10:43 / 30	10:52 / 30	P	JM
20/25	60T	11-12	13	CS	5189	11-15	10:46 / 30	10:51 / 30	P	JM
20/23	60T	11-12	14	<del>CS</del>	5189	11-15	10:58 / 30	10:58 / 30	P	JM
22/23	60T	11-12	14	CS	5189	11-15	11:05 / 30	11:10 / 30	P	JM
22/23	60T	11-12	53	CS	5189	11-15	11:16 / 30	11:21 / 30	P	JM
21/22	60T	11-12	69	CS	5189	11-15	11:06 / 30	11:11 / 30	P	JM
1/21	60T	11-12	21	CS	5189	11-15	8:50 / 30	8:55 / 30	P	JM
20/22	60T	11-12	21	CS	5189	11-15	8:42 / 30	8:47 / 30	P	JM
21/28	60T	11-12	67	CS	5189	11-15	11:17 / 30	11:22 / 30	P	JM
1/28	60T	11-12	10	CS	5189	11-15	8:52 / 30	8:57 / 30	P	JM
31/32	60T	11-12	18	CS	5189	11-15	11:28 / 30	11:33 / 30	P	JM
30/31	60T	11-12	17	CS	5189	11-15	9:09 / 30	9:14 / 30	P	JM
29/30	60T	11-12	22	CS	5189	11-15	11:35 / 30	11:40 / 30	P	JM
29/30	60T	11-12	10	CS	5189	11-15	11:29 / 30	11:34 / 30	P	JM
29/32	60T	11-12	9	CS	5189	11-15	9:01 / 9:06	9:06 / 30	P	JM

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane



**APPENDIX K  
GEOMEMBRANE DEFECT, REPAIR, AND NON-  
DESTRUCTIVE TEST LOG**

## GEOMEMBRANE DEFECT, REPAIR AND NON-DESTRUCTIVE TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, Ar

Project Number: 24-06949

Panel and/or Seam Number	Approximate Location	Repair Information		Non-Destructive Test Data		CQA Monitor
		Repair Date	Repair Type	Date Vacuum Test Completed	Pass/Fail	
18	p37, p38, p39, p36 (30' top p37 + p38)	11-15	P	11-15	P	JM
19	p38, p39 (15' top p38 + p39)	11-15	P		P	JM
20	p38, p39 (10' top 38 + 39)	11-15	P	11-15	P	JM
22	p10, p9 21' top east side	11-15	P	11-15	P	JM
21	p34, p35 (DS-6) (15' top p35 + p34)	11-15	P	11-15	P	JM
23	p8, p9 (DS-2) (18' top east side)	11-15	P	11-15	P	JM
24	p6 + p7 7' top east	11-15	P	11-15	P	JM
25	p5 + p6 (DS-1) 4' top east	11-15	P	11-15	P	JM
26	p5, p4 50' top east	11-15	P	11-15	P	JM
27	p5 + p4 61' top east	11-15	P	11-15	P	JM
28	p1 + p2 6' top east	11-15	P	11-15	P	JM
29	p1 + p2 18' top east	11-15	P	11-15	P	JM
30	p31 + p32 0' SOUTH TOP	11-15	P			JM
31	p32, p28 (DS-5) 11' top south	11-15	P	11-15	P	JM
32	p31, p30 24' top east top	11-15	P	11-15	P	JM
33	p28, p32, p29 63' top south top	11-15	P	11-15	P	JM
34	p1 + p29 49' top east top	11-15	P	11-15	P	JM
35	p29, p28, p1 56' top east	11-15	P	11-15	P	JM

**Repair Codes:**

P = Patch B = Bead GW = Grind and Weld R = Reconstructed Seam T = Topping Along Fusion Seam

## GEOMEMBRANE DEFECT, REPAIR AND NON-DESTRUCTIVE TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, Ar

Project Number: 24-06949

Panel and/or Seam Number	Approximate Location	Repair Information		Non-Destructive Test Data		CQA Monitor
		Repair Date	Repair Type	Date Vacuum Test Completed	Pass/Fail	
36	P21, P28, P1 68' top south	11-15	P	11-15	P	JM
37	P21, P22, P1 70' top south	11-15	P	11-15	P	JM
38	P22, P23, P20, P1 53' top south	11-15	P	11-15	P	JM
39	P22 & P23 53' top south	11-15	P	11-15	P	JM
40	P25, P23, P20 66' top west	11-15	P	11-15	P	JM
41	P25, P20 (DS-4) 51' top west	11-15	P	11-15	P	JM
42	P23, P24, P25 58' top south	11-15	P	11-15	P	JM
43	P24, P26, P25 51' top west	11-15	P	11-15	P	JM
44	P24, P27, P26 26' top south	11-15	P	11-15	P	JM
45	P30, P29 21' EAST top	11-15	P	11-15	P	JM
46	P3 & P4 6' EAST top	11-15	P	11-15	P	JM
47	P19, P20 11' top west	11-15	P	11-15	P	JM
48	P18, P19 0' top west	11-15	P	11-15	P	JM
49	P17, P16 0' top west	11-15	P	11-15	P	JM
50	P1, P2, P19, P20 71' top west	11-15	P	11-15	P	JM
51	P2, P3, P18, P19 80' top west	11-15	P	11-15	P	JM
52	P3, P4, P17, P18 84' top west	11-15	P	11-15	P	JM
53	P5, P4, P17, P16 78' top west	11-15	P	11-15	P	JM

**Repair Codes:**

P = Patch B = Bead GW = Grind and Weld R = Reconstructed Seam T = Topping Along Fusion Seam

## GEOMEMBRANE DEFECT, REPAIR AND NON-DESTRUCTIVE TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

Project Location: Little Rock, Ar

Project Number: 24-06949

Panel and/or Seam Number	Approximate Location	Repair Information		Non-Destructive Test Data		CQA Monitor
		Repair Date	Repair Type	Date Vacuum Test Completed	Pass/Fail	
54	P5, P6, P15, P16 83' top west	11-15	P	11-15	P	JM
55	P7, P6, P14, P15 81' top west	11-15	P	11-15	P	JM
56	P14, P15 (DS-3) 39' top west	11-15	P	11-15	P	JM
57	P8, P7, P13, P14 85' top west	11-15	P	11-15	P	JM
58	P9, P8, P13, P12 83' top west	11-15	P	11-15	P	JM
59	P11, P12, P10, P9 76' top west	11-15	P	11-15	P	JM
60	P10, P11, P45, P33 78' top west	11-15	P	11-15	P	JM
61	P34, P50, 33 - 77' top west	11-15	P	11-15	P	JM
62	P45, P46, 50 69' top west	11-15	P	11-15	P	JM
63	P45, P46 0' top west	11-15	P	11-15	P	JM
64	P11, P45 D'TOP west	11-15	P	11-15	P	JM
65	EAST inlet pipe -, P40	11-15	P	11-15	P	JM
	VENTS P19 TOP	11-15	P	11-15	P	JM
	VENT P23 TOP	11-15	P	11-15	P	JM
	VENT - P28 TOP	11-15	P	11-15	P	JM
	VENT - P3 TOP	11-15	P	11-15	P	JM
	VENT - P7 TOP	11-15	P	11-15	P	JM

**Repair Codes:**

P = Patch B = Bead GW = Grind and Weld R = Reconstructed Seam T = Topping Along Fusion Seam



**APPENDIX L  
GEOMEMBRANE DESTRUCTIVE SAMPLE FIELD LOG AND  
LABORATORY REPORTS**

## DESTRUCTIVE SAMPLE FIELD TEST LOG

Project Name: City of Little Rock Class 1 Landfill Leachate Pond Improvements

**Project Specifications:**

Project Location: Little Rock, AR

Fusion Welds:

Extrusion Welds:

Project Number: 24-06949

Peel: 90

Peel: 78

Shear: 120

Shear: 120

Sample Number	Seam Number	Material/ Material	Date	Time	Seaming Machine Settings					Peel Tests					Shear Tests					Pass/ Fail Field	Pass/ Fail Lab	CQA Monitor	
					Ambient Temp (F)	Operator ID	Machine ID	Machine Temp or Ext. P.H.	Speed	Side	1 A/B (psi)	2 A/B (psi)	3 A/B (psi)	4 A/B (psi)	5 A/B (psi)	1 (psi)	2 (psi)	3 (psi)	4 (psi)				5 (psi)
DS-1	P-6+P5	60+	11-12		70	BK	5189	850	5.0	A	130	131	136	130	136	187	190	179	181	179	P		Jan
										B	126	135	124	127	127								
DS-2	P-8+P9	60+	11-12	4:11	69	CS	2089	850	5.00	A	136	127	141	140	130	200	196	189	190	201	P		Jan
										B	140	133	133	136	128								
DS-3	P14+P15	60+	11-13	9:44	60	CS	2089	850	4.5	A	130	137	134	140	137	201	190	202	200	199	P		Jan
										B	124	129	126	130	127								
DS-4	P-20+25	60+	11-13	2:58	65	CS	5189	850	4.0	A	126	129	129	127	126	179	187	190	184	191	P		Jan
										B	131	140	130	133	125								
DS-5	P28+32	60+	11-13	5:02	65	CS	5189	850	4.5	A	131	129	127	141	130	197	200	189	193	201	P		Jan
										B	125	131	130	132	129								
DS-6	P35+34	60+	11-14	9:30	61	CS	5189	850	4.0	A	146	129	140	136	131	200	201	197	190	189	P		Jan
										B	136	131	145	140	138								
DS-7	42+43	60+	11-14	10:50	61	CS	5189	850	4.0	A	129	127	126	125	123	187	190	189	190	194	P		Jan
										B	133	134	130	130	129								
										A													
										B													
										A													
										B													
										A													
										B													
										A													
										B													

**Material Type Legend:**

60S - 60-Mil Smooth HDPE Geomembrane  
 60T - 60-Mil Textured HDPE Geomembrane

40S - 40-Mil Smooth HDPE Geomembrane  
 40T - 40-Mil Textured HDPE Geomembrane

<b>SUMMARY OF DESTRUCTIVE TEST RESULTS</b>
<b>FUSION METHOD</b>
<b>ASTM D6392</b>
<b>OLSSON</b>
<b>CITY OF LITTLE ROCK LF</b>
<b>ARKANSAS</b>

SAMPLE NUMBER	SHEAR		PEEL (1)		PEEL (2)		REMARKS
	STRENGTH (ppi)	BREAK CODE (3)	STRENGTH (ppi)	BREAK CODE (3)	STRENGTH (ppi)	BREAK CODE (3)	
DS-1	159.2	BRK	138.7	SE 1	116.7	SE 1	-
	159.9	BRK	150.0	SE 1	118.0	SE 1	
	162.2	BRK	147.0	SE 1	118.1	SE 1	
	162.5	BRK	144.1	SE 1	120.4	SE 1	
	161.7	BRK	143.9	SE 1	119.7	SE 1	
DS-2	165.5	BRK	156.0	SE 1	138.2	SE 1	-
	165.8	BRK	156.9	SE 1	143.2	SE 1	
	165.2	BRK	147.6	SE 1	149.4	SE 1	
	167.1	BRK	158.7	SE 1	134.0	SE 1	
	168.4	BRK	147.0	SE 1	129.0	SE 1	
DS-3	149.4	BRK	129.2	SE 1	133.1	SE 1	-
	146.1	BRK	121.5	SE 1	119.9	SE 1	
	150.4	BRK	119.8	SE 1	124.1	SE 1	
	152.1	BRK	121.2	SE 1	124.3	SE 1	
	150.0	BRK	120.6	SE 1	109.2	SE 1	
DS-4	160.2	BRK	125.1	SE 1	146.5	SE 1	-
	163.7	BRK	128.0	SE 1	136.1	SE 1	
	161.6	BRK	127.1	SE 1	133.9	SE 1	
	164.4	BRK	111.8	SE 1	152.9	SE 1	
	161.7	BRK	116.2	SE 1	141.2	SE 1	
DS-5	151.5	BRK	124.1	SE 1	144.6	SE 1	-
	151.4	BRK	126.4	SE 1	137.3	SE 1	
	154.0	BRK	129.8	SE 1	141.7	SE 1	
	154.6	BRK	126.1	SE 1	142.4	SE 1	
	152.6	BRK	124.1	SE 1	136.6	SE 1	
DS-6	155.5	BRK	119.0	SE 1	152.7	SE 1	-
	159.8	BRK	124.0	SE 1	155.9	SE 1	
	158.8	BRK	150.8	SE 1	155.9	SE 1	
	159.4	BRK	151.5	SE 1	144.7	SE 1	
	158.0	BRK	126.0	SE 1	157.3	SE 1	
DS-7	150.9	BRK	124.2	SE 1	135.1	SE 1	-
	150.9	BRK	119.5	SE 1	35.3	SE 1	
	150.7	BRK	117.5	SE 1	130.3	SE 1	
	151.5	BRK	128.6	SE 1	142.4	SE 1	
	149.7	BRK	128.2	SE 1	128.9	SE 1	

(1) PEEL (1) represents outer track or top flap.

(2) PEEL (2) represents inner track or bottom flap.

(3) BREAK CODES BASED ON MODES ILLUSTRATED IN ASTM D6392.